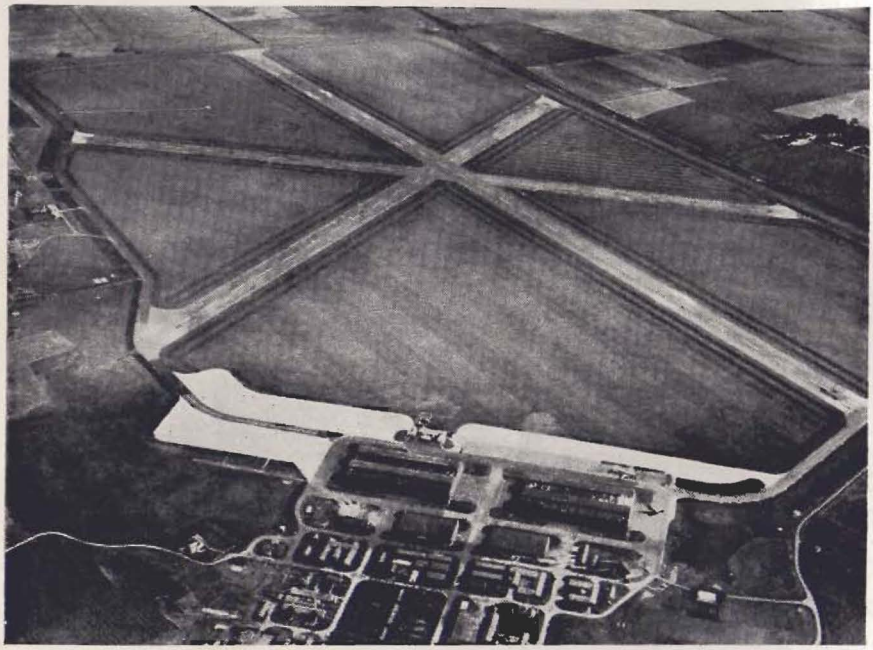
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1966 CHAMPIONSHIPS

By ANNE BURNS

A RUN of good luck, a glider with a superb performance, an absolutely first-class crew and a high degree of preparedness all contributed to my good fortune in winning this year. I put the luck first because there is such a narrow margin between failure and success, particularly when searching low down for thermals. I shudder to think how twice I struggled alone and twice was saved by other pilots. Luck was with me too in the weather: strong winds favoured the SHK's performance, nor were weak thermals too much of a handicap. Further, the absence of really good racing days suited my somewhat conservative type of flying — strong days had never been my forte. One such day at the end could well have put George Burton in the lead — more flying days, and John Willie and others would have had time to recover from a single misfortune; John Willie in particular was hard on my heels. So narrow and chancy is the margin.



John Williamson
(Courtesy "Flight")

I should perhaps mention that I had rather a special crew. At one time or another there were three meteorologists in our team — I don't quite know how London Airport managed those ten days but I was never in doubt about the weather. Then there was Chris Gasten with the eagle eye; radio was quite superfluous with such eyesight. But in particular I owe a big debt to "Mac" Mackenzie, a bit of a genius to my mind when it comes to gliding weather. On what did in fact turn out to be non-flying days he was completely imperturbable, refusing to surface at all. Hectic messages from a fraught pilot that we were about to set off with trailer for Upavon elicited the response it deserved.

A look at the score sheets for individual days shows that the contest was won by a steady, if somewhat pedestrian performance (pedestrian is not used here to imply "walking away"!). Other pilots were performing remarkable feats but all had one bad day. I still don't know how Humphry Dimock did such a brilliant time on the 3rd day, nor how Philip Wills got to Hereford. John Willie must have been flying on his own most of the last day when he showed such good judgment and was the only pilot to get back; a difficult feat, as thermals were

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far from easy to find. Ian Strachan, too, put up a gallant show, handicapped by only having a Skylark 4, and the same goes for Paddy Kearon in his Olympia 419 who, I thought — and I flew with him quite a bit — was flying courageously. I myself was trying as often as possible to take my own line, as the somewhat high thermalling speed, necessary to maintain lateral control if the thermals were at all broken, made the SHK difficult to fly with other gliders. Several times, however, on rounding a turning-point with the next leg into wind, the sky would be filled with beehive after beehive stretching to the horizon — a fascinating sight but one not conducive to lone flying. Ideally one would like to fly with, say, two other gliders of matching performance.

The only time that I had visions of failure was on the eve of Whit-Sunday when we fell into an ingenious trailer trap. Pilots of wooden aircraft and trailers beware! Could it be that the seemingly smooth relationship between the participants of the World Championships and the local inhabitants of Cirencester was not all that appeared on the surface? Did the Cirencestrians plan a deadly revenge on those long wooden boxes which had blocked their streets so effectively last summer? This is how the trap works: on approaching the entrance to the central car park at Cirencester the arm swings up invitingly, activated magnetically by the metal car. Gaily one drives through when clang, the arm, blind to the wooden contraption behind the car, descends on the trailer roof pressing down with a relentless grip, energised by a frustrated, angrily-buzzing, electric motor. In our case there followed a collapse of the crew in hysterical laughter, a slight peevishness on the part of the pilot and a strong smell of burning from the motor. Somewhat negative advice from the locals that we should never have tried to bring a trailer into a car park was only terminated by Denis muttering that he was fetching the saw from the boot and was going to saw the . . . . . thing off. At last by devious means we were in — but how to get out? A veil is best drawn on the structural modifications necessary to the car park to effect our escape. Suffice it to say that the onlookers thought we were going to extraordinary lengths to avoid paying a shilling to operate the exit arm.

And so we got back after all, if rather late, for the last day with its gruelling finish. Misjudging it to be a race rather than distance, I elected to let



George Burton
(Courtesy "Flight")

George Burton (only 23 points behind me) start first. Thus if I could catch him up and hold him I would be home. It would be difficult for John Cardiff lying third to make such outstandingly good time that he would pip George and myself. After some setbacks my plan succeeded and I caught up with George, although, as the task turned out to be distance rather than a race, it was a much more dicey plan than envisaged. In fact, John Willie nearly upset it.

Finally, I would like to thank all those behind, and not so far behind the scenes, who made the 1966 Championships one of the smoothest ever. To the tug pilots for their meticulous tugging, the observers and start-line judges who timed us so accurately and hardly missed a glider at the turn-points, those in the operations centre with their courteous and soothing manners, to the organisers who put in so much thought and hard work, to the task-setters who extracted the utmost from the somewhat inco-operative weather, to the meteorologists who kept our spirit up if nothing else, to the Fripps and Co. for working so many long hours bringing my glider up to tip-top condition and repairing others — to all these and many others who helped in ways unknown, my heartfelt thanks.

ABOUT ANNE BURNS

THIS remarkable girl has been making gliding history since 1955 when she broke her first record. Since then, and now that she is the first woman to become the British Gliding Champion, she has broken 31 gliding records. Seventeen of these were broken in this country, the others in South Africa. She has broken more World Records than any other pilot.

Anne comes from Chudleigh in Devon. She read Engineering at Oxford, where a friend of hers was the late John Parry-Jones, the man who found and developed Nympsfield as a gliding site. Ken Wilkinson first introduced her to gliding whilst at R.A.E. Farnborough during the war, when he carried out experimental glider snatching with a Hotspur and persuaded Anne to sit in the glider with her "black boxes" which she invented to measure the stresses and strains on the airframe.

After the war, that splendid Australian Rupert Page-Brown worked for Anne and was forever looking out of the window at the clouds. Anyone who has ever worked alongside a gliding type will know that it is easier to join them than to try to beat them—so Anne and her husband Denis joined Lasham. Denis, in fact, started gliding before Anne, and today has his Gold with three Diamonds as well as having broken a World Record in the past.

Anne learnt to fly aeroplanes in 1948 with the R.A.F. and, like her husband, is a Senior Principal Scientific Officer at the R.A.E., Farnborough. She has twice been awarded the Queen's Commendation for valuable service in the air for her work at Farnborough, and the Royal Aero Club awarded the Britannia Trophy jointly to Anne and Denis for their bout of World Record breaking five years ago.

She is a very quiet and unassuming girl, always helpful and friendly. We couldn't have a nicer National Champion, and I have certainly never kissed a prettier one!

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RAINBOW REELING
or Wendy Has Second Thoughts

By RICHARD WADE

"MEN of superhuman strength, capable of selfless devotion," that's how it should start. Add: "Will be required to read maps, rig gliders, comfort unhappy pilots, and become accustomed to driving through Basingstoke. Clairvoyancy an advantage." And, perhaps, to prevent the applicants killing themselves in the rush: "No flying, no lunches, and bring your own air cushion." And if you put that on the notice board, you may give your bright new crew some slight idea of what they're in for.

What amazes me still is how, every year, eighty pilots manage to find at least a hundred and sixty raving lunatics who are prepared to saddle themselves with the task of serving, following, and mothering their respective charges. Why do they do it? Perhaps the first time is understandable.

"What are you doing at Whitsun?"

A thoughtful smile from the club chairman to the innocent owner of a shining new C badge (small size, of course. You don't want to make a thing of it). Immediate dreams rush through your mind—he wants to try for a two-seater record, or he's noticed your flying and thinks you might deserve a little advanced coaching — he's looking for the right sort of chap to make up a select expedition to Portmoak. Whatever it is, a smile like that can only be an honour *and* he let you buy him a drink. Innocently you reply:

"Nothing special; in fact, I haven't fixed anything."

And that's the first boat burning nicely.

"I just thought you might like to take some leave and crew for me in the Nationals."

And that's you sitting in a lay-by opposite Little Rissington, listening to a radio that keeps on saying: "Rover Two — where are you?" fainter and fainter and keeps on getting no answer. The flies are buzzing round your head; you've run out of cigarettes; you've sat



on a tomato; there's an evil child with choc-ice all over its face watching you from just out of arm's length; and you haven't heard a word from your pilot in half an hour.

At last your call-sign! You lift the microphone to reply and, just as you draw breath, that clipped military voice starts again.

"Twelve to Twelve Mobile."

"Twelve Mobile to Twelve — go ahead Twelve."

"Twelve to Twelve Mobile, message, over."

"Twelve Mobile to Twelve, strength five, pass your message, over."

"Twelve to Twelve Mobile, you are also strength five; I am over a field with a glider in it, a mile north of my last position, which is about two miles south of the A4, climbing, over."

"Twelve Mobile to Twelve. Roger, understand you are, etc., etc., etc. A4, climbing, over."

"Twelve to Twelve Mobile, suggest you leave Hungerford and make for Kingsclere, out."

When all that's over, you call your pilot (against all your team rules) and get no reply. Your suspicions that he only wanted to tell you that he was about to land in a place just off your road-map, and would you come, two minutes ago are confirmed by the same familiar voice:

"Twelve to One Nine Seven, please repeat your message, and I will pass it

to your crew, over."

"Rover Two — this is Rover One, where are you?"

"Twelve to One Nine Seven. Roger One Nine Seven — understand you have landed at number 28 Lansdowne Terrace, Wokingham, out to you. Twelve to One Nine Seven crew, over."

You call him and thank him and set off through the holiday traffic over the road you came up an hour ago, back to the place you left three hours ago to pick up the pilot who is, by now, undoubtedly sitting down in Number 28 Lansdowne Terrace to a good spread of tea-cakes and anchovy toast and you hope it chokes him.

"Rover Two from Rover One, do you read?"

No reply. Funny that you can hear them both and yet they never seem to hear each other. Perhaps you could help by passing . . .

"Twelve for Rover One, I will pass your message, over."

Never misses a trick, that fellow.

Now you'd think, wouldn't you, that any sane man would see the error of his decision fairly early on in the competition, certainly by the time he realises that it's more than just chance that he always gets landed with the root end. And by the time the tent marked "Gentlemen" is making its presence felt and the bar has shut for the third time just as you rush in from a retrieve and you've run out of clean socks, you're just about ready for the crew of your deadly rival when they smile patronisingly at you and say:

"Your pilot slipped a bit yesterday, didn't he? Is it true he landed on a cabbage patch at Wokingham?"

"No it isn't true," you reply icily. The fact that it was broad-beans and the glider is now full of black-fly is none of their business.

The extraordinary thing about the whole ridiculous job is that it *is* worth it. You do care if the trailer is in the right place at the right time, and it is important that the wings are polished and the radio drill's correct and that One Nine Seven doesn't appear on the runway covered in cow dung. And if you needed any extra proof that gliding people are out of their minds, just take a trip to the Nationals next year. And



don't bother about the pilots, just look at the crews. They're the ones. Unbalanced? Well, who else but a madman would drive a hundred and fifty miles with an empty box thirty feet long on the back of his car and then drive all the way back again just so that he can be ready to do it all again the next day?

And as to "Rover Two, where are you?", I suspect he's the only sane one amongst us and he's probably in the nearest pub.

By the way, what *does* "Rainbow Reeling" mean?

* * *

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THE SCHLEICHER Ka-6E

By JOHN DELAFIELD

I can safely say that the latest version of the Ka-6, the Ka-6E, is the most pleasant glider I have flown. Even allowing for the fact that I am obviously biased in my opinion this still speaks highly of the machine!

Development and Specification

The 6E is a development of both the Ka-6CR and the Ka-10, the latter aircraft never reaching the full production stage. The wing is basically the same as the CR but has the leading-edge profile designed by F. X. Wortmann. The fuselage has a totally different line and is three inches lower. The wing-fuselage junction has received a lot of attention and the wing itself is mounted lower on the fuselage than on the CR. The back end of the fuselage and tail unit is the same as that on the later versions of the Ka-10. The tailplane is all-moving and has no trim or anti-balance tabs; feel, stick-free stability and trimming all being provided by a simple spring attached to the control column. The spring tension is altered by a lever on the control column and this simple device provides effective trimming up to speeds of about 70 knots.

The finish is very good by English standards, and the plywood surfaces are covered with microballoon before the machine is painted. This technique enables the manufacturer to achieve an accurate profile at relatively low cost.

The empty weight of the aircraft is 420 lb., which gives a wing loading of 4.6 lb. sq. ft. at normal all-up weights.

The price, ex works, is £1,165, and this includes competition numbers, variometer bottles, control locks, test-flying in Germany and a German C. of A. When its performance is related to other types, this offers extremely good value for money.



John Delafield shows Bill Slater the tail of his Ka-6E. (Photo Tony Marshall)

Performance and Handling

My impressions are based on some 50 hours in the machine at the Nationals, and during the practice week beforehand. Virtually all flying there was in effect comparison flying, and so my impressions are realistic.

Its low-speed performance is similar to the Skylark 4, although I frequently found I could outclimb these aircraft in thermals. Its circling speed is between 35 and 40 knots, which is a little slower than the CR. In the glide it is the same as the 419 at 45 knots, the same as the Dart 17 at 55 knots, but worse than the Dart 17 above about 65 knots, although much better than the Dart 17 in thermals, especially in weak ones. The machine has a significantly better overall performance than the Skylark 4.

The handling can only be described as delightful. The controls are better harmonized than on the CR and are very light and responsive. The all-moving tailplane has excellent feel and has no unpleasant characteristics. At high speeds it is a little sensitive, but since you cannot trim the aircraft hands-off at really high speeds, there is no problem because you have to hold the control column. There is no unconventional feel on the tailplane as some other aircraft which have all-moving tailplanes, without tabs, apparently have.

The aircraft is very docile in flight and is most forgiving. A stall in a turn, for example, merely results in the nose dropping gently. Aileron control is retained even when the aircraft is fully stalled. The aircraft will spin if forced to, but normally recovers into a spiral dive after one turn of the spin even with full pro-spin control applied.

The machine has one tow hook — the new E-Kombi which is approved by the B.G.A. This hook is near the C. of G. and enables good heights to be obtained from winch launches — 1,500 ft. being normal from a 1,300-yard run in a 5-10 knot wind.

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GOLD C HEIGHT LEGS

Name	*Club*	1966
R. F. Passfield	Phoenix	23.1
R. S. Kirkland	Eagle	10.2
D. M. Pillans	Derby & Lancs.	6.3
A. Beckett	Derby & Lancs.	1965 19.12
I. L. Smith	Laarbruch	14.2
R. G. Chubb	Devon & Som.	24.7

SILVER C CERTIFICATES

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1750	R. Wood	Doncaster	27.2
1751	D. E. Schofield	Swindon	28.2
1752	R. F. Passfield	Phoenix	29.1
1753	D. R. Wilcox	Northants	11.3
1754	W. M. Smedley	Moonrakers	27.2
1755	I. L. Napier	Kent	20.6
1756	A. F. Butcher	Swindon	1.3
1757	H. R. Sanderson	Bicester	28.3
1758	B. Walker	Bristol	24.3
1759	T. R. Garland	Bristol	24.3
1760	D. Gold	London	10.4
1761	M. C. Roberts	S.G.U.	20.3
1762	K. J. Nurcombe	Coventry	10.4
1763	W. R. K. Hooper	Heron	15.3
1764	W. Mason	Leicestershire	28.3
1765	D. A. Heathcote	Leicestershire	31.3
1766	J. R. Clark	Cheviots	3.4
1767	H. G. Hayes	Yorkshire	20.3
1768	G. G. Haslam	Lakes	8.8.65
1769	R. Kirkland	Eagle	11.4
1770	H. R. Cox	Mendips	20.4
1771	T. J. Goodwin	S.G.U.	3.4
1772	R. G. Jones	618 Gl. School	21.4
1773	C. D. Mackenzie	Redhill	29.4
1774	A. J. Middleton	Aberdeen	3.4
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1776	D. I. Paddison	Farnborough	7.4
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1783	M. B. Hill	Swindon	7.5
1784	T. G. Turner	Swindon	13.5
1785	A. S. Evans	Doncaster	15.5
1786	J. Caruana-Galizia	Bristol	7.5
1787	J. Wombwell	Clevelands	15.5
1788	W. G. Waller	Airways	15.5
1789	M. A. Horan	Midland	10.5
1790	F. Sillick	Surrey	15.5
1791	D. A. Collins	Bannerdown	15.5
1792	J. J. Mawson	642 Gl. Shcool	15.5
1793	M. Wilton-Jones	Fenland	15.5
1794	M. Horner	Doncaster	15.5
1795	P. L. G. Warren	Dev. & Som.	15.5

KITTIWAKE – The New Tug

By ANN PROCTER

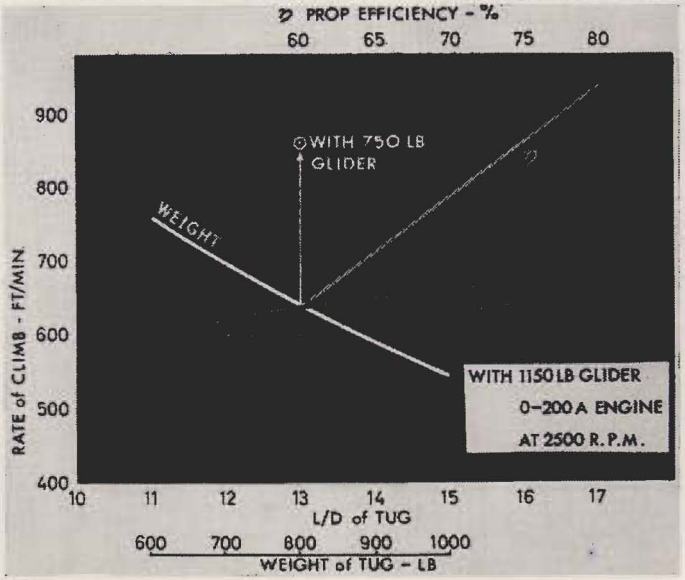
KITTIWAKE, whose three-view drawing appeared in the August, 1965, issue of SAILPLANE & GLIDING, is now progressing apace towards first flight. She is an all-metal single-seat monoplane, being designed and home-built by Kit Mitchell and Roy Procter.

Roy found that present aeroplanes used for towing were uneconomic because of the large amount of engine power being expended in lifting the aeroplane itself, and wanted to design one to launch gliders at the minimum possible cost. Kit had helped to design "Scamp" for the Rollason Midget Racer competition, and was placed third: he wanted to see a design of his actually fly. They met via their wives (who have since had their households taken over by the project), enlarged and altered the design of Scamp almost beyond recognition, and "Kittiwake" emerged.

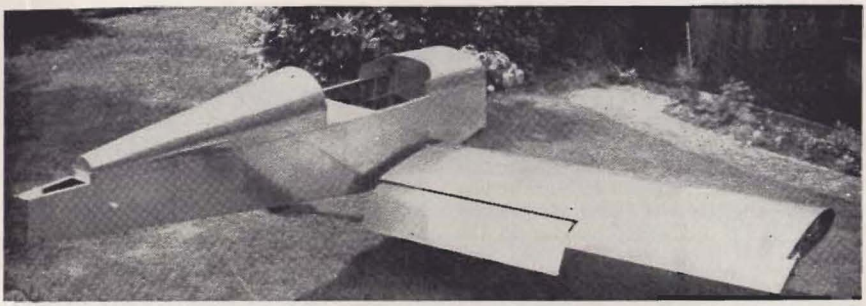
Kittiwake is of 23½ ft. span, has a wing area of 105 square feet, and is powered by the Rolls-Royce/Continental 0-200A, 100 h.p. engine. It is fitted with a 76-in. diameter McCauley metal propeller of 38-in. pitch which should give the best possible propulsive efficiency in climb.

Kittiwake has tricycle undercarriage, with steerable nosewheel and hydraulic disc brakes, to give the best possible handling characteristics on the ground, enable relatively fast taxying, good manoeuvrability, and above all good stopping. It will be possible to use the wheel brakes to shorten the landing run if necessary, and hence reduce taxying time, which of course will all help with reducing the cost of operation. The main landing gear is a single-leaf spring steel leg; the nose landing gear is a tubular affair, sprung by means of a rubber bush in torsion.

Kittiwake is also provided with an electrically actuated winch so that the tow rope can be wound up inside the aircraft during the descent, therefore avoiding the necessity for a high approach over the boundary of the field, in order that the tow rope does not get



Basic parameters of the Kittiwake.



caught up in the hedge or fence.

Generous flaps are being provided to enable a very high rate of descent, estimated at just over 1,000 ft. per minute at 90 m.p.h., and they will result in a power-off full-flap stall speed of 43 kts., according to estimates.

The cockpit has a sliding bubble canopy, which provides exceptionally good all-round visibility.

The aircraft is fitted with a generator and starter, and full electrical system which will be suitable for driving radios or any other equipment which it is thought desirable to fit in the future.

In order to improve the market potential of Kittiwake a two-seat version is also being designed, and will be built this year, using the same wings, tail, landing gear and engine as the single-seat version.

Progress at Mid-June

Virtually all the drawings and design of the aircraft are now complete.

All wing components and tools are made. One wing is complete, skinned, with flap and aileron fitted, and is awaiting the rest of the aeroplane. All sub-assemblies for the other wing have been made, and are awaiting assembly.

The fuselage looks complete (see photo taken mid-June), but an amount of "fumbling" is still required on it. Wheels and brakes are attached. As material for the main landing gear legs and nose leg has been a long time coming, non-airworthy bodges have been made to hold the aeroplane up meanwhile.

The engine mounts and engine have been fitted on to the fuselage and the propeller and spinner can be added as soon as required.

A tool has been made up for forming a proper bubble cockpit canopy and has been sent to a well-known firm in Yorkshire who will have one ready for the prototype to fly with.

The tailplane is complete, elevators in final assembly, fin and rudder details being made.

The tow-rope winch has been designed and is being built. The guillotine for emergency release of the tow-rope has been made and is being tested.

The majority of the instruments have already been purchased.

Virtually all the material necessary to complete the aeroplane is also at hand.

Due to work commitments, National Gliding Championships, family holidays and other time-consuming domestic matters, time for the first flight now looks like August, or September, rather than July. Although two apprentice organisations, and several splendid individuals, are helping to build the first Kittiwake, both Roy and Kit are only able to work on a spare-time basis, since they both have to earn a living, which takes a noticeable proportion of their waking hours and causes fluctuations in the project's schedule!

Arrangements have been made for a firm to build the second fuselage — i.e. the one with two seats in it—during the autumn, so that we hope to be able to fly the two-seat aeroplane, using the same wings, tail, landing gear and engine from the single-seater, towards the end of the year.

We would hope that certificates of airworthiness were obtained for both aircraft by the end of the year.

GLIDER HANDICAPPING

By TONY DEANE-DRUMMOND

MOST people used to believe that gliders which flew in competitions could not be handicapped because it was too difficult. It was also frequently stated that the big difference lay in the pilot and not the glider. This may well be the case when comparing gliders of closely similar performances, but this cannot be accepted for widely dissimilar types such as the 463 and the Dart 17R — let alone other more exotic creations.

Fortunately most types have now had accurate polar curves produced for them by independent organisations. If this has not been done, the manufacturer's polar curve can be quite easily checked at selected points, either by the normal partial glide method or in direct comparison with known types. This can be made to give a quite acceptable (though possibly optimistic) handicap for all gliders entered for a competition. In the case of new gliders, or types which have not had any independent tests, the manufacturer's estimate could be used instead. I have yet to see a pessimistic polar curve of a new type, and this may be a most powerful argument in favour of introducing a handicapping system. The manufacturer will be persuaded to produce a test polar before marketing his product.

Every other sport that encourages the development of different types, uses handicapping to even out results. The aim is, of course, to test the pilot's (or crew's) ability and not the length of his pocket book. When considering gliders, whatever factual handicap can be applied which is based on a performance curve, will not even out the stark reality of landing early on in a race (and losing all points), while another pilot in a higher performance glider arrives at the same place a little higher up and gets away with it. This is bound to happen whatever the system, and happens in other sports. The development of new types will therefore be encouraged as much as it has ever been in the past. Those who wish to put up new records will of course have a much better chance in the latest and the best.

Good handicapping should make competition flying in gliders much more fun. Nobody in his senses can think that a Skylark 2 can compete fairly in the same competition with an Austria SHK or a Dart 17R; but this has been suggested quite seriously. The advent of even more refined Sigmas or other types will make handicapping essential; otherwise the fortunate pilots may not try hard enough because life will be too easy for them. The controversy about Standard and Open Classes is also settled by adopting handicapping.

One of the many tasks of the B.G.A. must be to encourage competitive gliding amongst as wide a section of the gliding community as possible. Clubs who cannot afford better gliders than 463's — which in many ways is an ideal club glider — will be encouraged to enter in competitions knowing that allowance will be made for any lack of performance.

I am sure that there are plenty of mathematical wizards about who are also competition pilots. It is, therefore, with some diffidence that I put forward a simple scheme, which can produce handicaps for all gliders.

In England, I believe, there are two significant points in a glider's polar curve. One is at the normal thermal-soaring airspeed, and the second is at an average inter-thermal cruising speed. I suggest that the latter might be taken as 65 knots, but it should not prove too critical. The ultimate shape of the curve is usually settled by the time 65 knots is reached, which is within the normal range of airspeeds used in the U.K.

I also believe that each point is equally important in this country, although in other parts of the world greater emphasis could be given to one or the other.

Polar curves are taken in still air in straight glides, and there may be many who will say that this is the one condition which will rarely be encountered in soaring flight. In practice, gliders are usually circling at airspeeds slightly above the "min. sink" airspeed and also





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in turbulent air. The angle of bank will be changing and the airspeed altering as the pilot edges into a thermal. But the relative excellence of the glider at the low-speed end will still depend primarily on a combination of its "min. sink" and its airspeed.

The ability to fly slowly in thermals is comparatively important. If a glider can fly 3-4 knots slower, this will result in proportionately smaller circles, which can compensate for higher sinks. Anybody who has circled in a thermal with a T-21 flown by an instructor will know what I mean.

I suggest, therefore, that the low-speed end of the handicap should be primarily a comparison of airspeeds and only secondarily of minimum sinks. Nick Goodhart has proposed a mathematical proof in his paper on "Glider Performances" that about two-thirds of the relative importance can be attributed to airspeed and one-third to minimum sink. The high-speed end of the handicap is simple. It can compare relative sinks at 65 knots.

All comparisons must be related to a known glider, and I suggest that the Skylark 3 be taken for this purpose. Its handicap will therefore be 100%. A formula can now be produced translating the above paragraphs into arithmetical terms.

$$\text{Handicap } \% = \frac{100\left\{\frac{2}{3}\cdot\frac{Vg}{V_3}+\frac{1}{3}\cdot\frac{Sg}{S_3}+\frac{Sgg}{S_{33}}\right\}}{2}$$

Where Vg is the airspeed of the glider when thermal soaring
V_3 " " " " " Skylark 3 " " "
Sg " " sink " " glider " " "
S_3 " " " " " Skylark 3 " " "
Sgg " " " " " glider when flying at 65 knots
S_{33} " " " " " Skylark 3 " " " " "

Reference can now be made to the published polar curves in recent issues of SAILPLANE & GLIDING and a check made that these have been adjusted to maximum all-up weights.

Applying the Formula above the Ka-6CR comes out at 98%, i.e. the scores earned by a pilot flying a Ka-6 should be multiplied by 98% to bring it down to a Skylark 3. In a similar way other gliders are:

Olympia 2	119%	(A)
Olympia 460	116%	(B — original version. B Polar provided is very suspect)
Weihe	114%	(A)
Skylark 2	109%	(A)
Olympia 463	102%	(Manufacturers + tested points)
Dart 15 (old)	101%	(Wooden spar, original wing. Tested points at Cranfield)
Skylark 3	100%	(A) Scratch
Ka-6CR	98%	(A)
Olympia 403 (17m)	97%	(Manufacturers + tested points)
Skylark 4		(A)
Dart 15 (new)		(Metal spar, new wing. Airspeed for min. sink reduced by 3 knots) (Tested points at Cranfield)
Olympia 465 (Series 1)	96%	(A)
Austria SH	95%	(Manufacturers + tested points. Retracting wheel version)
Olympia 419	92%	(Manufacturers + tested points)
Foka 4	91%	(Believed to be A)
Edelweiss	88%	(Manufacturers + tested points)
Dart 17R	87%	("U" Polar by D. Carrow. Tested points at Cranfield)
Austria SHK (17m)	85%	(Manufacturers + tested points)
Phoebus	84%	(Manufacturers + tested points)
Diamant		(Manufacturers + tested points)
D 36	73-77%	(A few tested points. Interpolation of sink at 65 knots)
AS 12	69%	(Tested points. See SAILPLANE & GLIDING May/June 1966)

The handicaps of some modern gliders are given by only those which allege that selected points in the polar curve have been tested. Some of these gliders may have had independent polars but the information is not available to the writer.

As a matter of some interest the development of the 463 to the 465 is shown by a decrease in the handicap of some 6%. The same wing sections are used in both gliders.

The "U" polar published by David Carrow on his Dart 17R produces a handicap of 87%.

These figures seem about right, although those who fly the best types might complain. At least, they are based on facts, not opinions. The only "opinion" included in the handicap is the arbitrary division into two equal parts. I think most experienced pilots would accept this.

No allowance is made in this handicap system for all the features in a glider that may make life worth living for the pilot. This might include pilot comfort, visibility, good handling, simplicity in rigging and derigging, lightness of component parts, powerful variable airbrakes for landing in small fields, silent and effective ventilation systems, and finally price. There may well be others. But all these are very secondary to the glider's performance and contain a large element of opinion. As a matter of history it is surprising how pilots' opinions change over the years. On the other hand, manufacturers will not sell many gliders which have serious deficiencies in one or

more of these features.

I am quite sure that some form of handicapping in all gliding competitions is an essential pre-requisite for the encouragement of many pilots who are full of enthusiasm and skill, but may not be able to afford the latest types. It will also be welcomed by a great many of the smaller clubs. Pilots who fly the best types will have to try harder in order to extract the maximum performance from their aircraft. This is surely right and proper. It may then lead to success in World Gliding Championships later on. It should also be accepted by all thinking pilots as being essentially a much fairer system, and is long overdue for introduction in this country.

References

1. Paper read to 10th OSTIV Congress at South Cerney by Capt. H. C. N. Goodhart, R.N., on "Glider Performances—a New Approach".
2. Polar curves published in GLIDING, Spring 1951; SAILPLANE & GLIDING, October 1964, Feb./Mar. 1965, April/May 1966.

TWO-SEATER COMPETITION AT SWINDON

AUGUST Bank Holiday 1966 will be a holiday with a difference for the Swindon Gliding Club. The Competition which we are staging for two-seaters opens on 25th August with a practice day, with the competition days on the 26th to 29th, and a dance to round off on the evening of the 29th.

Tremendous interest has been shown, and entries that cover virtually all types of two-seaters flying in this country have been received, and it is even hoped to see a three-seater Schweizer. Competitors are coming to the event from far and wide, for this is a competition with a difference.

The background to the competition originated within the club last autumn, mainly to enable potential competition-minded pilots to gain experience. The idea was announced at the C.F.I.'s conference held at Lasham last year; it was received with much enthusiasm and so the project got under way. A questionnaire was sent out to all the gliding clubs in the country, and the response enabled us to form a committee to deal with "Project Two-Seater".

Swindon Gliding Club enjoys the facilities of the airfield belonging to Vickers Ltd. at South Marston, which is 1½ miles north-east of Swindon. The airfield boasts two excellent runways and is considered by the pundits to be in the midst of some very good thermal sources. The members have a comfortable clubhouse and bar which will be well equipped to withstand the holiday onslaught. Additionally there is a workshop and hangar, although there will not be sufficient cover for visiting aircraft.

The committee are hoping that support for the competition will justify the establishment of it as an annual event in the gliding calendar. A trophy will be awarded to the winning glider with certificates for the runners-up.

Extensive arrangements are being made with a local hotel to provide comfortable accommodation for visitors, and a temporary caravan park is being set up for the event at a farm adjacent to the airfield.

The Club will be delighted to receive further applications from prospective competitors,* and anyone wishing to know more about the event should write to the club secretary. As this is the first time Swindon Gliding Club have ever held a competition, we look forward to seeing you in August, and giving your support for this very special gliding event of 1966.

(We understand that types already entered include: Capstan, Eagle, Blanik, Bocian, Ka-7, Ka-2, Harbinger, Peak, and Kranich.—ED.)

*Write to Mrs. M. Davis, Summerside, Buckland, Berks.

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NATIONALS 1966

By ANN WELCH

THE changing face of gliding was strongly reflected in this year's Nationals, which have confirmed two things:

(1) That if we are to continue to have big annual Nationals, they will have to be run with fewer helpers, and less "special" organisation.

(2) That the Dart 17 and SHK's, flown by good pilots, combined with present airspace and traffic problems, appreciably affect task-setting policy, and the take-off system. To elaborate:

SPECIAL ORGANISATION.—If the Nationals had to be built from scratch on a clean flat field, the preparatory work would be infinitely greater than grafting them on to an existing organisation. This year the work was reduced because World Champs. equipment had been designed so it could be used in the future. Even so, work in terms of acquiring and erecting buildings, and arranging extra accommodation and washing facilities, takes a lot of time and energy. There is no doubt that a permanent lecture and class room block on a Nationals site, which during the event could be used as operations headquarters, plus adequate living accommodation, would reduce the organisational work considerably.

HELPERS.—It is unreasonable to expect volunteers to give up ten days or more to run the Nationals year after year—some helpers, such as the scorers, have been involved for some five years, and increasingly would like a sabbatical term! It is never easy to get enough helpers, and since the operational needs of the Championships come first, the shortage results in minimal arrangements for the public, which is a pity.

During the championships themselves, there are two ways of overcoming the helper shortage: (a) By the method we used this year, of borrowing one crew member from each pilot for one day. This scheme works well, but if fine weather had caused a levy every weekend, this might have become tough on some of the crews. In Sweden, where they have smaller Nationals, each pilot has to *bring* two helpers for the Organisers with him. (b) By pruning the operational side where it is heavy on manpower—turning-point observation (which is also costly) and the start line.



Should this be discarded?

By photographing turning-points, the preparatory arrangements to put in observers and markers is avoided; points, such as motorway flyovers, which are unsuitable as manned points, can be used, and there is no need to have the 1,000-metre height restriction. This would ease the thorny path of the task-setter on days of widely spaced thermals.

If the B.G.A. specified a standard camera mounting position which showed the wingtip in the top of the picture, and if it bulk-bought a standard camera for resale to competing pilots, photographic evidence could be introduced next year. The initial expense would be a small part of entering Nationals, and might be offset in due course by the reduced expenses of the organisers. Only a very small dark-room team would be needed, since only negatives showing a non-standard image would have to be studied. Film could be bought in lengths, and 5 or 6 exposure strips put in the cameras at night. Before installing the camera, a photograph could be taken of the glider's fin number.

START LINE.—If the start line were discarded, and take-off time taken, this

would not only eliminate the difficulty of seeing and timing gliders coming over the line in quantity, and save a whole team of observers, but it would to some extent reduce gaggling at least early in the flight. There is no doubt that gaggling is becoming increasingly dangerous, partly because the more it is done, the closer together people are prepared to fly; but also for another reason. Now that radio is almost universal, an almost conversational element has entered into flying, and people in conversation naturally close with each other more than those who have no communication. There are two disadvantages in discarding the start line: tug pilots will have to ensure that they fly to the agreed pattern, and a greater responsibility is put on the Director Ops. when deciding the moment for take-off. This, however, can be aided by the use of a radio-equipped thermal sniffing glider, and frequent ground temperature readings.

This brings me to the second lot of points — task-setting policy and the launching system. Briefly, England is now too small, in general, for free distance is only practical (a) when the weather is almost unsoarable but the day has to be used if at all possible, and (b) when conditions are such that there is a good chance of a mass 500 kms. in a straight line. Distance along a straight line and straight races are also fairly unpractical if the direction is largely downwind. For example, the Nationals milk run to Perranporth in a moderate and unstable north-easter is no longer a task which proves very much, but it provides some 16,000 trailer miles, of which nearly 5,000 miles would be produced by the strength of the wind alone! So, whether one likes it or not, the task-setter has to use the wind primarily to achieve enough flying time in terms of hours to produce a good contest day. Since flying only into wind is dull, there should be some change of direction, and this leads directly to out-and-returns and triangles. Of these, triangles, even if flat, are infinitely preferable, since they reduce the collision risk, particularly in cloudy conditions, and they reduce the chance of a big "step" in marks after rounding a corner.

It is inevitable, therefore, that Nationals flying must become increasingly closed-circuit flying. But it is wrong to translate this into round-the-pylons stuff. Although triangles must conform in both shape and size to the forecast weather, they can be varied deliberately from a little on the easy side so that close speed marking is obtained, to difficult so as to really bring out the best pilots, or endless (distance on a line starting with a triangular course). In this case the final line should be angled to the wind in such a way that a marking step is avoided but at the same time there is compensation for the weakening lift. This task brings out pilots who can extract the maximum possible from the day.

From the flying point of view, triangular courses tend to keep pilots over familiar country, and this can become dull if not varied as far as possible. This geographical limitation, however, can also be imposed because of controlled airspace, sea breeze, traffic and field



Lined up for Designated Start.

landing considerations. On this last point alone, flying to a goal is increasingly important.

STARTING SYSTEM.—It is impractical to have pilot choice of start time in a two-group competition, if both are to be set a race, for the simple reason that the first group will go on postponing their take-off times until the best part of the day approaches, and will thus run the second group out of day. In the past a distance task has been given to the first group, who would then want to get away early, and a speed task to the second, who would want to wait; but this is no longer so easy. With speed tasks for both, the period available to the first group has to be limited, and in the event of the weather brewing later than expected, the D. Ops. is left with the choice of either opening up the board to the first group for a complete new selection, or else maintaining the existing chosen order and postponing the block launch time. In either case Pilot Choice is in real life a bit of a misnomer. Designated start, with gliders ready, no last-minute rush or pushing, and no boardsmanship, is less wearing and in the long run fairer. Its disadvantages are: (a) it prevents the slow glider getting away early as soon as the pilot feels he can stay up; (b) the thermal sniffing aid to the D. Ops. must be effective so no time is lost, once the weather begins to brew. It is felt that the advantages of designated start outweigh these aspects.

The exciting thing about this year's Nationals was its aliveness, compounded of new gliders, newcomers, top quality equipment, and soaring technique on the up and up (no pun intended). On the organisers' side, I would particularly like to thank the Met. Office, without whose help our sophisticated sport would drop back several years. I would also like to thank the 3M's company for their loan of the indispensable overhead projector for briefing and, of course, W. D. & H. O. Wills for their support and the fine prize medallions. Within the organisation big thanks to Harold Drew, our indefatigable chairman, his committee, Les Creed, Lasham C.F.I., and in my own department, Met. men Peter Wickham, Pat Menmuir, and lastly Denis Corrick who brightened the task setting dawn.

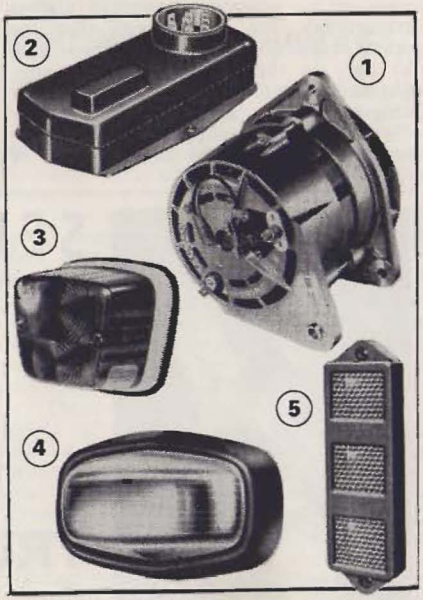


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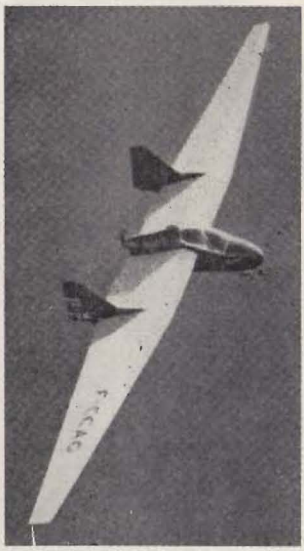
LEE WAVES ON MARS (II)

SAILPLANE & GLIDING for Oct.-Nov. 1965 (p. 409) had a summary of the views of Dr. R. A. Wells, of University College, London, who had collected many reports of stationary clouds over Martian desert regions bordering long dark areas. His suggestion that these were lee-wave clouds involved the assumption that the dark areas upwind of them are elevated ground, contrary to the popular view that they are depressions in which something resembling vegetation might be growing.

Now Clyde Tombaugh, famous as the discoverer of Pluto, writes to *Nature* (26th March, 1966, p. 1338) from New Mexico putting the case for the dark areas being lower than the bright ones. Some of his arguments involve gliding meteorology, for he suggests that the greater warmth of the dark areas is due, not only to their absorbing more sunlight and reflecting less, but also to their being at a lower altitude where the air is warmer, and in support of this argument he writes: "The temperatures of our dark mountain forests are certainly lower than those of the brighter lowlands."

One must doubt this argument. When the sun shines on high ground and low ground of the same character and slope, both get equally hot, despite the difference in temperature of the adjacent air. The reason for forests failing generally to send up good thermals has been attributed to the cooling produced by transpiration of water, or to the leaves being too thin to store much heat for transmission to the air in contact with them. Also, any thermals over woods can often be attributed to the hot surface air being given an upward push by the wind blowing it up over the windward edge of the wood.

We sent Dr. Wells a copy of the Oct.-Nov. SAILPLANE. Naturally, he did not much like the statement: "Martian clouds rarely appear to move faster than 15 m.p.h., so that astronomers ignorant of the fact that a cloud can remain stationary while the wind blows



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through it, took that as the typical wind speed." This is true of all the literature on the subject we have seen, which shows no evidence that the writers are aware that clouds can remain stationary in a wind. Here are some extracts from Dr. Wells's letter commenting on the SAILPLANE article:—

"As an astronomer, I must disagree with your statement that we are ignorant of the fact that a cloud can remain stationary while a wind blows through it. I worked under that knowledge with Martian 'Lee-wave' clouds. Wind speeds on Mars were not derived from clouds composed of dissolvable particles, however. The classification of Martian cloud types is complex, but basically they can be divided into white clouds and yellow clouds. Considerable evidence supports the view that the white clouds are composed of H_2O crystals . . . The yellow clouds, on the other hand, are almost indubitably dust particles. It is from these type of clouds that wind speeds approaching 30 m./sec. were derived. A cloud of dust would find considerable difficulty remaining stationary in a wind blowing through it. The initiation of a Martian dust cloud, though, depends not only on wind speed but also on surface roughness so that 'very strong' winds may not be a necessity if the ground is fairly rough, as it seems to be.

"I have, unfortunately, never been in a glider, though at some time hope to take up gliding. I became interested in lee-waves solely through the study of meteorological air disturbances. Afterwards, I learned that lee-wave gliding was a very popular sport, particularly in the competitive nature of trying to attain high altitudes riding them.

"It may be debatable that *few* scientists take interest in lee-waves. Scorer is a fine example in England. But the U.S. Weather Bureau has many scientists who have studied lee-waves — Fritz, Gifford, Hess, to mention a few. And weather satellite photographs of lee-waves are more numerous than you mention. With all of the TIROS and NIMBUS satellites circling the Earth, hundreds of pictures showing lee-wave trains of virtually all major mountain ranges are in existence. I have a dozen or so of the best examples in my files at the moment."

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AIRLINERS IN WAVES

"MAINLINER", in his regular column "Pilot's Point of View" in *The Aeroplane*, writes as follows on the question whether large civil aircraft have enough structural strength built into them:—

"The relation of the 'sharp-edged gust' to my seat is rather close for comfort on occasion. It is well established that vertical currents can be much in excess of that oft used design assumption. The standing wave, in association with a high mountain range and fierce upper winds, can produce up or down-draughts in excess of 120 ft./sec.

"There is often no warning of the onset of such a wave. Crossing the Andes, Alps, Rockies or other areas where the conditions occur regularly, the aircraft can suddenly accelerate or decelerate — the autopilot height lock maintains the selected height and the nose will lower or raise in sympathy. The correct drill is to disengage the lock and fly attitude within safe speed brackets, adjusting power if necessary. One must jettison the ATC situation, as separation from terrain is more important at this stage, but it is quite a thought that we have not really developed any co-ordinated methods to deal with the problem of ATC separation in conditions of mountain wave formation.

"Which brings us to the problem of the descending aircraft. There are few occasions that I can recall receiving any notification of the presence of wave formation before descent. We are now invited to make reports and it would be gratifying to know that such reports will be rebroadcast on the normal communications channels.

"The special problem of the descending aircraft should be given some more attention. There is no immediate warning for the pilot that he is in a wave, as is given by the speed variation with autopilot height lock engaged, and any slight variations in aircraft pitch attitude may well tend to mask the onset of wave conditions.

"We are told that if the pilot expects wave conditions he should plan to overfly terrain allowing at least 50 per cent of the height of the high ground above the surrounding terrain as clearance, and preferably higher. The U.K. Met. Office suggests the use of a formula to calculate the extra height margin necessary in wave conditions. For a windspeed of 100 kt. blowing across the Alps from the north in the region of Mont Blanc, and with an aircraft heading north having a groundspeed of 200 kt., at least 4,000 ft. additional terrain clearance would be essential to provide full safety.

"We should ensure that our carefully designed economic eggshells do not become exposed to known areas of danger. If we cannot avoid those areas we must beef up our structural margins."

"MAINLINER"

(In his last paragraph but one, "Mainliner" is evidently referring to the Civil Aviation Information Circular on "Detection and avoidance of mountain wave systems", reviewed in SAILPLANE AND GLIDING Feb.-Mar., 1965, p. 25.—ED.)

WIND AND THE GOAL-AND-RETURN

By H. DREW

WHEN selecting a goal for a goal-and-return flight, the pilot is often minded to select a turn point which, with the earliest possible start, will enable him to regain his starting point on his final glide from the last thermal of the day. Put another way, he wishes to select a goal which will permit him to achieve the maximum possible ground speed for the probable duration of soarable conditions.

Although there are many factors, topographical and otherwise, which will influence his choice of a distant goal, wind direction and strength are often important. The present article will deal only with thermal soaring, the wind and related factors. It will exclude consideration of wave or ridge or sea-breeze front soaring.

Let's first take a look at the choice between a downwind goal and an upwind goal. Clearly it is important to spend as little time as possible bucking the head wind. It is also important to fly the upwind leg when the wind is at less than its average strength for the day. The wind often drops towards evening. In the opinion of the writer, it is usually better to select a downwind goal on both counts.

The pilot will plan to start as soon as it is soarable. If he is bound upwind, he may spend an hour in the weak early thermals before achieving any distance at all upwind. In the meantime, his friend, who has elected to go downwind, has drifted miles away on course.

When sunset approaches, the first pilot will, it is true, have the feeble evening breeze to help him on his final glide. However, this same feeble breeze will be no great embarrassment for the pilot coming up from leeward. It certainly will not cost him the advantage which he gained early in the morning. Further, this lee-going character will have made quite sure that he reached the turn point with the maximum possible altitude. He will then have this altitude to burn off on the way home so effecting a welcome reduction in the time during which he is exposed to the headwind.

In practice the pilot is never con-

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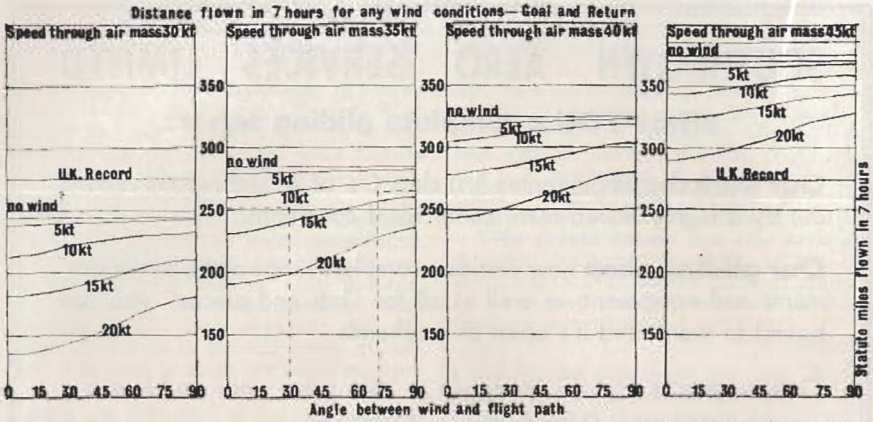
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fronted with a simple choice between an upwind and a downwind goal. The thing to remember is that a goal which lies to leeward, not necessarily dead leeward, is no bad choice provided that the wind strength is reasonable. If the wind is strong, nobody is going to do much good whatever goal he may select. There is a further advantage of the downwind goal. Thermals tend to string out in streets running in the direction of the wind.

In the selection of a goal, it is important to take advantage of any reliably forecast change of wind direction or strength. However, it is not easy to prepare charts which will help the pilot to select his goal if the wind direction or strength is likely to change significantly during the day. Fortunately it is possible to prepare charts which will help the pilot to determine whether a worth-while goal-and-return flight is on the cards on those days when conditions are expected to remain reasonably unchanged. These charts will also help him to make an advantageous selection of a goal. The charts will be of little value if conditions are expected to change materially during the day. The charts printed with this article are plotted on the assumption of unchanging conditions. They do not take into account the advantage of the downwind start and they predict the same mileage whether an upwind or a downwind start is chosen.

The pilot is asked to figure his expected average speed through the air mass, basing this only on the predicted thermal conditions and the performance of his ship. In doing so, he will of course ignore drift. He now figures the average wind strength and average wind direction over the altitude range and terrain of the contemplated flight. He will note the angle between his proposed flight path and the direction of the air-mass movement. The charts will then tell him his predicted mileage in statute miles on any selected flight path for a flight of seven hours' duration. He can, if he so wishes, go on to examine alternative selections until he arrives at one which promises the longest flight.

An example, rather oversimplified, will demonstrate how quickly the probable mileage for the day may be predicted and a suitable turn point selected. No slide rule, no vector diagrams and, in fact, no



appreciable figuring is involved. Few of us are in the mood for such exercises when the cumulus is beginning to show on the horizon.

Departure point	Lasham	——
Wind at 2,000 ft.	10 kts.	200°
Wind at 3,000 ft.	15 kts.	250°
Average wind	12.5 kts.	225°

Thermals are expected to be strong and to persist throughout the day.

Our pilot knows his ship and figures that on a still day, with the thermal conditions as forecast, he ought to average above 35 knots. He will therefore use the 35-knot chart.

A line towards Grimsby looks like a possible choice. This calls for a flight path of 14 degrees true. The average wind direction is 225 degrees; thus the air mass is moving at 45 degrees true and at an angle of 31 degrees to the tentative flight path. The chart shows that this flight path should yield a little over 250 statute miles. The present British record is 274 miles. (Note that we interpolate between the 10-knot wind curve and the 15-knot curve for our average wind of 12.5 knots.)

Let's try a line through Crewe, which is more nearly across the wind. This calls for a flight path of 337 degrees true. The air mass is moving at 45 degrees true and making an angle of 68 degrees to this tentative flight path. The chart shows that this choice will yield 265 miles. This is only nine miles short of the record. The pilot chooses Northwich for his turn point and, with a bit of luck, may beat the record by the necessary margin. On the other hand, he may be defeated by industrial haze and might have been better off on the line towards Grimsby although the chart shows a 15-mile penalty for this choice. The fact is that a 15-knot wind makes any attempt on the record a pretty doubtful proposition, whatever goal is chosen, even for a fast ship flown by an able pilot, unless he can expect more than seven hours' soaring.

In case we did not already suspect it, the charts tell us that wind strength is a vital factor. Looking again at the 35-knot chart, we can see that a 15-knot tailwind will cost us 284−232=52 miles. Even a cross wind of 15 knots will cost us 257−232=25 miles. If we are after the record, we cannot face with equanimity the loss of 52 or even 25 miles. The record has probably been missed many times by less than 25 miles.

If we look at the charts in sequence, we find that, given seven hours of soarable conditions, we have no chance of beating the record unless we can make better than 30 knots through the air mass, even if there is no wind. If we can make 35 knots, we have a bare chance on an almost windless day. If we can make 40 knots, we have an excellent chance even with considerable wind. If we can make 45 knots, we can hardly miss whatever the wind is doing. An eight-hour soaring day would give the 35-knot man a pretty good chance. If he has nothing worse than a 15-knot crosswind to cope with, he should be able to make 258×8/7=295 miles.



5 Days in a Ka-6

By PETER HANNEMAN — Winner of League 2

"YOU have got ten days," she said. "Oh!" said I, "What for?": then the light dawned: Rika was asking me for an article to go in S. & G.

This was the worst moment of the Nationals; I hate writing (my mother is lucky if she receives a letter a year — I'm lazy and use the telephone). Unfortunately, articles for S. & G. cannot be disposed of quite as easily and I have to resort to pen.

My memories of any Nationals are always the same; of the People, the Places and — the FOOD! This year was no exception and, together with my fine crew, I had several magnificent meals up and down the country. One that comes readily to mind was a night in Newbury when a policeman discovered a dozen 30-ft. long "boxes" obstructing his High Street and located the owners in a Greek restaurant which we had invaded and completely taken over. Our host was a very pleasant little chap and his wife a wonderful cook; I thank them both on behalf of all the pilots and crews that ate there — and recommend them to those who didn't!

Each task in a competition seems to hold its own individual set of memorable moments. These range from the sheer frustration of the first day to the quiet bliss of floating gently along in the late evening on the last two. On the first day, a race to Sywell, I spent over an hour within 3 miles of the goal unable to make any headway into a 30-kt. headwind combined with a patch of 6-kt. sink (which I am convinced stretched all the way from me to the finishing line), only to finally land short in a field which I could have landed in an hour previously!

The most satisfying task for me was the race to Little Rissington and, apart from nearly tumbling from the skies locked in mortal combat with George Collins's 419 at the first turning-point, until the final glide all was uneventful. Unfortunately poor belaboured "Peter the Met" was a fraction out with his forecast: "blue thermals to the turning point (Old Sarum) and up to Swindon, then you may get some small traces of Cu". What happened? Beautiful Cu down the first leg and up the second, the last one appearing over Swindon town — beyond was clear blue sky! The final 15 miles was, in consequence, rather difficult and resulted in some heart stopping — will he? won't he? will he? Oh dear, better luck tomorrow; final glides full of spectator appeal — providing you happen to be there already! The most unfortunate of these was Peter Goldney, who managed to coax his Skylark 3F to the end of the runway but hadn't got enough "steam" to roll over the line. Hard luck, Peter.

On the last day I remember I got a nasty sinking feeling inside of me which was, unfortunately, confirmed by the variometer as I sank rapidly below the hilltop near Stroud, but my spirits rose

considerably a few moments later when, looking down, I saw Ron Dunn in his Skylark pirouetting round a church steeple even lower than I was. It's a funny thing, confidence, but as long as there is someone below you things never look as black as they jolly well ought to!

These and a host of other incidents I shall remember about the 1966 Nationals, not least of course the fact that I was lucky enough to win! All credit for this must as usual go to my crew, who were with me within 10 minutes of landing on the first four days; radio is certainly a necessity and not just a luxury on a competition like this, even if you do have difficulty communicating with your crew whilst mentally plotting the progress of No. 12 and his crew across the countryside.

GLIDER TRAINING SQUADRON ANNIVERSARY

NUMBER One Glider Training Squadron, formed at Ringway in December, 1940, moved to Haddenham, near Thame, in January, 1941. The Squadron was responsible for developing glider training of Army pupils for the Glider Pilots' Regiment.

The original machines used by the Squadron were Slingsby Kites, with Tiger Moths as tug aircraft. When Hotspurs became available, these replaced the Kites with Hectors as tugs.

The majority of the original Squadron pilots were *ex* London Gliding Club. Many of the Army pilots who took part in the invasion and subsequent operations were trained at Haddenham.

The aerodrome is now being used by The Upward Bound Trust run by ex-members of the Glider Pilots' Regiment who give gliding instruction to the post-war generation.

H. E. HERVEY

To celebrate the 25th anniversary of the establishment of No. 1 G.T.S. at Haddenham, a reunion was held there on 7th May, 1966, and Upward Bound lent its hangar for the occasion.

H. E. "Tim" Hervey, a pilot of the First World War, who had been resident instructor-manager at the London Gliding Club, was in charge at Haddenham in 1941, and parties from there would sometimes revisit the club on a Sunday at its temporary clubhouse at Totternhoe. The idea of this reunion was conceived by "Buster" Briggs (formerly L.G.C.) and arranged in conjunction with Hervey, Lawrence Wright and Brig. Chatterton.

The ceremony on 7th May was opened with a Drumhead Service in the hangar, beginning with the "Last Post" by trumpeters from R.A.F. Halton and ending with the hymn "Onward Christian Soldiers". About 50 people turned up. Tim Hervey outlined the Squadron's early history — if they hadn't found Haddenham quite by accident, they might have settled on Newmarket Heath.

After a buffet lunch, Lawrence Wright showed films and slides of wartime activities — King George VI seemed particularly assiduous in visiting them. Many of these will illustrate his forthcoming book on the Gliderborne Forces, now in the press; and those who have read his previous books on the early history of bathrooms and lavatories, bedrooms and kitchens, will be assured that the new book will not be dull.

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O.S.T.I.V. NEWS

THE Board and the Sailplanes Development Panel of OSTIV met at the OSTIV International Gliding Research Institute at Calcinate del Pesce, Varese (Italy), in May, when important decisions were taken.

1. OSTIV Publication VIII, consisting of about 125 pages, will be published in the beginning of December, 1966. This will contain the first part of the South Cerney papers. The remaining South Cerney papers and other interesting articles will be covered in Publication IX which will appear in Spring, 1968.

2. The Sailplanes Development Panel has successfully completed definite OSTIV Airworthiness Requirements for Sailplanes, which will be published before the end of this year. It was decided that these requirements will be valid for at least five years. Meanwhile, the Sailplanes Development Panel will meet each year to study the further development in this field.

3. It is expected that the preparation of a new, third volume of "The World's Sailplanes" will start soon, and it is hoped that this volume can be produced before the next OSTIV Congress.

4. Steps will be taken to complete a Guide for Designers within a reasonable time.

5. An INTERNATIONAL STUDENT COURSE under the auspices of OSTIV will be held in Braunschweig (Germany) from 8th to 26th August, 1966.

6. A TECHNICAL GLIDING COURSE will be held at the OSTIV International Gliding Research Institute at Calcinate del Pesce (Aeroporto Paola Contri), near Varese, Italy, from 4th to 17th September, 1966. The object is to compare performances and handling characteristics of a variety of Standard Class sailplanes and some other modern sailplanes. Experienced pilots are invited. For those without test-flying experience, lectures and practical instruction will be arranged. The number of participants will be limited to 15. Dipl.-Ing. H. Zacher and Cap.Pil. P. Rovesti will be in charge.

The total fee for the course, including accommodation and meals, is $210 (U.S.). This includes all flying, but no personal insurance. From this amount, an entrance fee of $50 (U.S.) is to be paid in advance, and the rest upon arrival. The entrance fee is not returnable.

Applications must be sent, with the entrance fee, before 1st August, 1966, to OSTIV, N.L.M. Atoomgebouw, Schiphol Airport, Holland. Participants must understand and speak English, French or German. Those who wish to take part are asked to send the following information: Name and address, age, glider pilot licence valid till . . . . , details of gliding/power flying experience, etc. Please confirm that you know that there is no personal insurance. Those accepted will be notified immediately after receipt of their application. Those not accepted will also be notified and returned their entrance fee as soon as possible.

A COURSE for GLIDING FORECASTERS will be held in the OSTIV International Gliding Research Institute at Calcinate del Pesce from 16th April to 7th May, 1967.

A. STIRNEMANN

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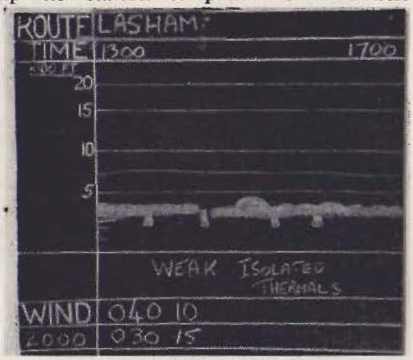
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CHAMPIONSHIP WEATHER

By PETER WICKHAM

THE weather during this year's Championships fell into two very sharply defined periods. The first five days were wildly cyclonic, with depressions and fronts chasing each other across the country at high speed. There seemed to be only the briefest of pauses between one rain-belt clearing and the next one arriving. And all the time the west winds blew — often at speeds of up to gale force. There was only one contest day in this first period.

The second five days were, by contrast, anticyclonic, and in this period a further four contest days were achieved. The anticyclone was not entirely friendly, however. Sitting for most of the time over Scotland, it exchanged the earlier westerly gales for rather persistently fresh and cool easterlies, and difficult cross-wind legs still turned up in all the tasks. The first day that the high took up its station it produced a classic



The anticyclone moves in . . .

example of "anticyclonic gloom", and never was that phrase so apt as at Lasham on 27th May. The day dawned so bright and sunny, but by mid-morning had relapsed into a complete unbroken cover of stratocumulus. But thereafter we got something approaching the sunny anticyclonic weather we have come to expect for the Nationals, although thermal conditions never really became very good. There were wide areas, difficult to spot in the predominantly blue thermal conditions, where there were few good



Peter Wickham commits himself

thermals. These areas were probably either low-lying ground that was still moist after the rain early in the week, or lying to the lee of hills and influenced by downdraughts from weak wave systems which were quite common throughout the whole period. All in all the weather did not produce very easy flying conditions for this year's Championships.

CHAMPIONSHIP AWARDS, 1966

LONDONDERRY CUP.—Anne Burns, winner of Individual Championship, League 1.

FURLONG TROPHY.—Peter Hanneman, winner of Individual Championship, League 2.

PAN AMERICAN TROPHY.—John Delafield, winner of Standard Class Championship.

FIRTH VICKERS TROPHY.—Roger Neaves and Ken Wilkinson, winners of Team Championships, League 2.

EON CUP.—Simon Redman, entrant of the highest-scoring British built glider of the type most strongly represented. Skylark 4.

KEMSLEY CUP.—Surrey Gliding Club, entrant of highest placed club glider in either League: Skylark 4 flown by David Kerridge and Peter James.

CENTENARY TROPHY.—Peter Hanneman, competitor in League 2 under 28 years of age at the start of the Championships, scoring the most points on any two days.

L. DU GARDE PEACH TROPHY.—No award.

SLINGSBY TROPHY.—No award.

The National Championships Lasham, May 21st - 30th, 1966



Sir Stanley Rous opens the Championships.

NOTE.—*We are indebted to Peter Wickham, who, with Pat Menmuir, gave the meteorological briefings at the Championships, for the daily weather charts, and for the accompanying notes on each day's weather, which are printed in italics.*

WHEN the usual humming of voices in the marquee had subsided and many pilots had sought out the same seats as they occupied last time, Harold Drew, Chairman of the Organizing Committee, was introduced to the assembly by Ann Welch. She also warned drivers there were more children on the airfield than ever before.

Any questions? Simon Redman wanted to know if one could round a turning-point "backwards" and was suitably answered. Philip Wills asked that all heights should be reckoned above sea level, so as to give more accurate separation levels over the radio if pilots proposed to use the same cloud; this was agreed.

On the question of codes over the radio, Ann told pilots that all messages should be in the clear. Peter Scott was against this, as coded messages were much shorter and could be published; but George Burton pointed out that codes are not allowed by law. Mike Bird wanted to know if the rule about turning left within 5 km. of the aerodrome had been decided by a member of the Labour Party.

Sir Stanley Rous, Chairman of the Central Council of Physical Recreation, was then introduced to perform the opening ceremony. His anecdotes showed he was no stranger to the art of speech-making. In Iceland he was told not to apologize for a lengthy speech as "it does help to pass away the winter here." At a scientific conference an equally unscientific neighbour thought copper nitrate was the pay of a policeman on night duty. And in South Africa he was asked to pass a note to another speaker with the letters "KISS" on it — this meant "keep it short, stupid".

The Championships having been duly opened by Sir Stanley, Peter Wickham gave the met. briefing, saying he would

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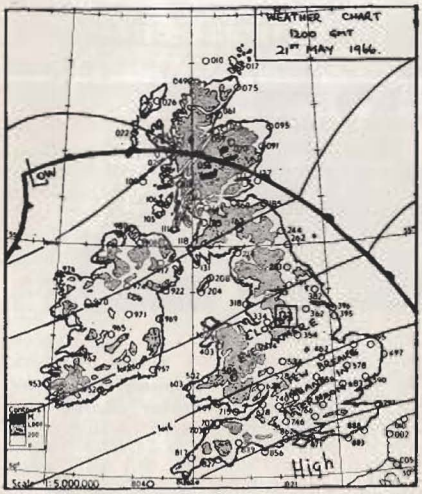
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Saturday, 21st May



SATURDAY, 21ST MAY. — *The whole country was covered by a cloudy S.W'ly airstream. The cloud was very low over the coasts, but inland the base was higher and the cloud layers more broken. It was forecast that some isolated moderate thermals would develop in the afternoon where the cloud broke up inland and the sun could get through. In the event these sunny periods were all too brief and the thermals too weak to enable much progress to be made with a strong cross-wind.*

Ann Welch postponed the briefing till 12 noon, when she gave a task for League 2 only: 42 miles north to Thame airfield and then Free Distance beyond — not an easy first leg with a 25-knot W.S.W. wind blowing at 3,000 ft. and the thermal prospects none too good.

As the course involved skirting round London T.M.A. Zone, as well as crossing Green One, Nicholas Goodhart gave a talk about Airway rules.

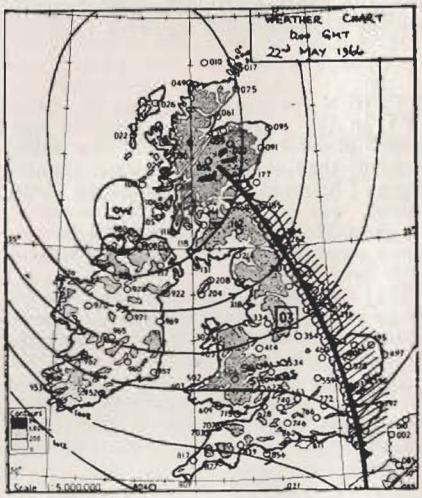
Stuart Waller (Ka-6) was first off, followed by Ed. Meddings (Skylark 3). But the only pilot to get beyond X was Ken Wilkinson (Skylark 4), who reached Basingstoke at 1,000 ft., climbed to



Chairman Harold Drew

1,800 ft., descended again to 1,000 ft. at Reading, and decided it was useless going on, so made for the nearest aerodrome at Woodley, 20 miles from start. Only two others landed out — Pete Martin and Roger Barnett. So it was not a Contest Day.

Sunday, 22nd May

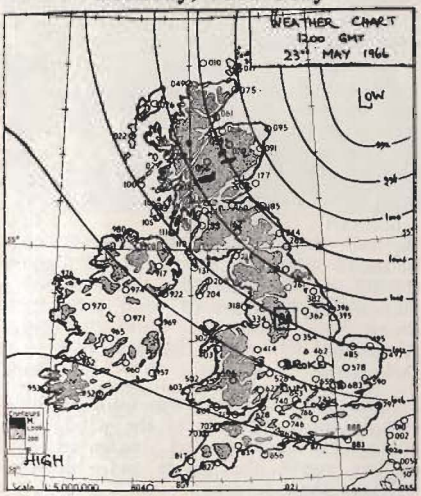


SUNDAY, 22ND MAY. — *A cold front over Ireland in the early morning swept across the country much quicker than was at first anticipated. Early hopes of a possible task before the arrival of frontal cloud were soon confounded. With the passage of the front came an afternoon of rough blustery showers and surface winds gusting to gale force. The day had perforce to be cancelled because of the rough conditions.*

A task was set for League 1: a three-legged race, first to Thame, then 34 miles N.E. to Biggleswade, then eastwards to the coast at Ipswich, 141 miles in all.

A patch of blue sky passed overhead at 13.30, but at a second briefing at 14 hrs. the task was cancelled because of a prospect of winds gusting up to 35 kts. on the ground, which would be too much for the tugs.

Monday, 23rd May



MONDAY, 23RD MAY. — *With a deep low now in the North Sea, the winds over the country were still strong but moderating slowly. Over Southern England convection was expected to be good with small Cu developing between 4,000 and 7,000 ft., thermals being strong-cored but narrow and disorganized by the strong winds. The main problem of the day was the time at which the wind would drop sufficiently, both on the ground and at flying heights, to allow the initial cross-wind legs of the tasks to become reasonably possible. In the event, with many gusts and lulls, the wind moderated sufficiently by 1 p.m. for both Leagues to be launched. Thermals were quite good during the afternoon, with lots of streets. A most interesting convergence zone, having all the characteristics of a text-book sea-breeze front, developed in situ in the upper Thames Valley during the afternoon.*

The wind *appeared* to be blowing as hard as ever, in spite of a B.B.C. forecast and Peter Wickham's assurance that "in the south the isobars are getting further apart even if the wind isn't". At the moment, he said, it was gusting to 32 knots.

This time the tasks given were flyable in spite of the strong westerly cross-wind:—

LEAGUE 1: Triangular Race—51 miles N. by W. to Bicester, 26 miles S.S.W. to Grove (nr. Wantage), then 34 miles S.E. to Lasham — total 111 miles (178 km).

LEAGUE 2: Race to Sywell (Northampton), 79 miles (127 km.) N. by E.

LEAGUE 1: Within 38 minutes of the first take-off by Vic Carr at 13.01, the whole 40 of League 1 had been launched by eight civilian and eight R.A.F. tugs; only six came back for re-lights.

First across the start line was Ian Strachan at 13.30, and he was also first to reach Bicester, in spite of being down to 1,000 ft. near Reading and finding that weak lift was unusable because one would have drifted to the edge of the control zone before gaining appreciable height. Wally Kahn found the first few miles even worse, taking nearly two hours to Basingstoke; then from 5,500 ft. at Oakley he expected to round Bicester, but struck heavy sink and had to land there. Rocky Stone did better, reaching Bicester at high speed from a 7,000-ft.



Peter Scott

climb near Oxford. Peter Scott's first few miles brought him to earth, and his relight at 15.44 was too late for getting any further than Aylesbury after ridge-soaring among League 2 at Chinnor Hill.

The wind on this first leg was less "cross" than expected, so the alignment of cloud streets was that much more favourable, enabling John Cardiff to go some distance under each one, though he had to cross from one to another repeatedly.

John Williamson was second at Bicester, but found heavy sink while crossing from one street to another directly instead of diagonally, and was down to earth 3 miles S.E. of Bicester.

On the second leg, while Ian Strachan stuck to track where the thermals were not very good, Nick Goodhart gained 20 minutes on him by deviating north where the thermals were better.

A strange phenomenon met the pilots on their return across Oxford on this second leg. To John Fielden it looked just like a sea-breeze front — and he ought to know — stretching as far as he could see, with blue sky beyond it. But it couldn't have been because Ian Strachan, though noting that the cloud base suddenly lowered by 500 ft., found just as good soaring on the other side of it. He and Humphrey Dimock both climbed to 9,000 ft. in it; Nick Goodhart reached 8,000 ft. with 10 knots lift, and George Burton and Derek Piggott 7,000 ft. Peter Wickham suggested it might have been formed by the reconvergence of the two branches of a wind stream which had been split by the Welsh mountains. George Burton wanted to call it a "land breeze" because of the soggy ground beneath.

On the last leg, David Carrow reported, the streets became decayed and he had to use very weak thermals from Greenham Common to a landing at Odiham; of the three who passed Grove after him, only John Delafield made it back to Lasham.

Although every pilot scored, only eight completed the task, Nick Goodhart winning at 33.5 m.p.h. As Paddy Kearon remarked, those who completed the course *either* got away early *or* were on "hot ships". Their speeds were:—

Pilot	*Sailplane*	*km./h.*
Goodhart	Dart 17	53.9
Burton	Dart 17R	49.0
Strachan	Skl. 4	49.0
Cardiff	Dart 17R	45.2
Garrod	Dart 17	42.1
Stone	Skl. 4	39.5
A. Burns	Austria SHK	38.1
Delafield	Ka-6E	33.8

LEAGUE 2: The task was quite as difficult as for League 1, as the wind blew across the course and increased the further north the pilots got, blowing stronger than forecast.

Simon Redman was first off at 13.45 after League 1 were finished with. Those



John Cardiff (Dart 17R) flew exceptionally well in his first nationals to come fourth in League 1 (Courtesy "Flight")



"Osprey Experimental" declares the nose inscription. In the cockpit, pilot Derek Piggott. Alongside, wing-designer/builder Keith Chard (Courtesy "Flight")

who managed to stay up were quickly across the start line, but the majority did not bother. Re-lights included some who came back from a few miles out. Although pilots generally wanted to stay well west of track, the wind prevented most of them from doing so.

Peter Hanneman kept west as far as Bicester but his final glide from Wolverton landed him short of Sywell. David Kerridge also fell short after a straightforward flight to Wolverton. Simon Redman, after low points at Basingstoke and Henley, got up to 6,300 ft. near Oxford and was thus able to stay high and make the 12-mile glide-in to Sywell from Wolverton. Ken Wilkinson was also for staying high, with short glides, and this paid off as he also reached Sywell.

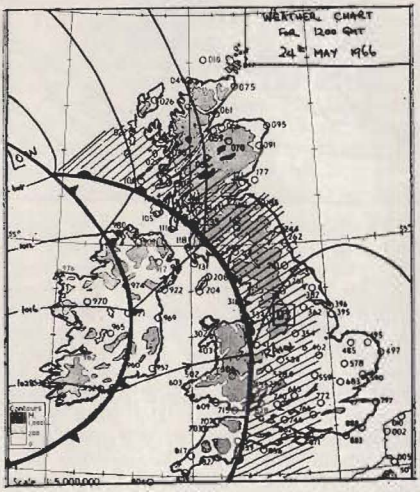
Keith Aldridge, though starting from a re-light just before 15 hr. without crossing the line, made the best speed to Sywell, 25.35 m.p.h. He found 4-knot thermals only enabled him to glide back to where he started climbing, so he needed 6-knot thermals with inter-thermal speeds of 65 knots.

Only four reached the goal; their speeds were:—

Pilot	*Sailplane*	*km./h.*
Aldridge	St. Austria	40.8
Wilkinson	Skl. 4	36.8
Redman	Skl. 4	34.2
Donald	Dart 17R	30.4

The five gliders which did not score included the three with handicaps. Of the *hors concours* entries, the A.T.C. landed half a kilometre short of Sywell, beating all but those who actually got there.

Tuesday, 24th May

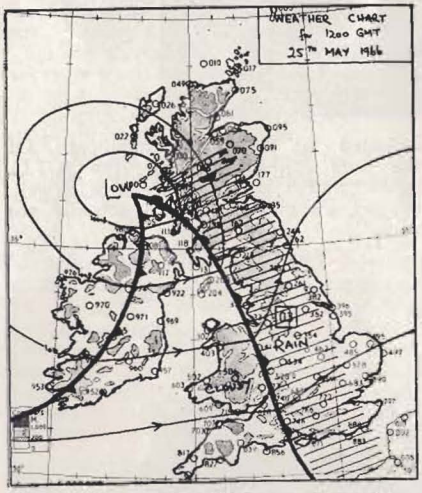


TUESDAY, 24TH MAY. — *The morning dawned with a warm front to the west approaching steadily. High cloud cover had spread across most of the country by breakfast time. This was thin enough to allow some weak thermal activity*

ahead of the approaching rain-belt. However, with light rain starting at 11 a.m. and becoming heavier after lunch, there was no possibility of flying any tasks and the day was scrubbed.

Announcements at briefing were: (1) Wally Kahn's birthday, and (2) an aeroplane would be put up to patrol the boundary of the control zone (presumably in case of further west winds). At a second briefing it was admitted that a race to Shoreham for League 2 had been thought of but scrubbed.

Wednesday, 25th May



WEDNESDAY, 25TH MAY. — *The situation was very similar to yesterday — only somewhat worse if anything. Another low and another set of fronts were depositing their quota of rain upon us, almost before the previous lot had moved away. The one faint hope was that the cloud in the warm sector would break up and allow thermal development in the warm air. As the cold front accelerated it became very evident that this would not occur, so another day was washed out — but fortunately some very positive hopes of better weather to come buoyed us up.*

A scheme for launching from Upavon had been worked out in case of strong west winds and weak thermals, so as to give pilots room to climb before drifting as far as the control zone boundary; the convoy of 82 trailers plus camp-followers would take a congestion-avoiding route worked out by the police and the A.A. However, it never had to be used, either today or thereafter, which was just as well.



Four-upmanship: (*l. to r.*) *Bernard Ippy, Wally Kahn, John Terry.*

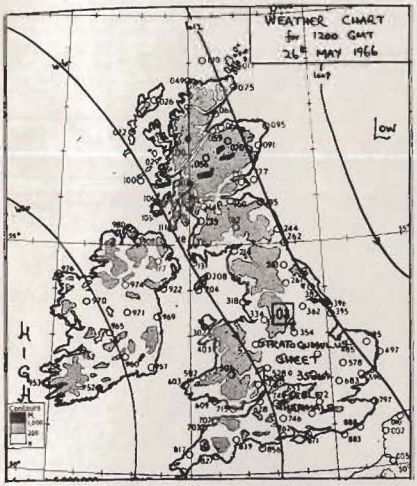
Philip Wills introduced "our new Parliamentary Secretary", Mr. Julian Snow. Making himself heard above the pattering rain, he explained that he had come down "to see how you are enjoying yourselves". But everything was under cover, and there was little to show him but the inside of the bar.

It was Pete Dawson's birthday.



Putting it on record.

Thursday, 26th May



THURSDAY, 26TH MAY. — *No fronts — no lows — and a high approaching from the S.W. But the N.W'ly airstream that covered the country on this day was not entirely without its difficulties. With all the moisture from the recent rain still hanging about, and a very pronounced inversion at about* 4,000-5,000 *ft., there was a distinct risk of convection cloud spreading out into a sheet of Strato-cu. The N.W. winds were rather strong, but were expected to veer and weaken slowly. After a cloudy morning it was expected that thermal activity would be moderately well organized by* 2 *p.m., and that after that the day would gradually improve, with good breaks in the thin convective cloud sheet, the breaks being determined to a great extent by weak wave activity and often tending to lie across the wind. As it turned out, the thermals were weak indeed, and no-one was able to finish the task.*

Another birthday to announce — Philip Wills.

Denis Corrick asked for some of the teams to offer helpers, preferably with experience, which he defined as "what tells you when you've made the same mistake again". Ann Welch, saying that this definition applied to task-setters too, set the same task for both Leagues.

Triangular Race: 30.4 miles N.W. to Ramsbury (Hungerford), 24.2 miles N.E. to Shillingford Bridge, 31.1 miles S.S.E. back to Lasham; total 85.7 miles = 138.0 km. X = 25 km. for League 1, 20 km. for League 2. League 1 to be launched first.

Announcement of this task was delayed till second briefing at 11 a.m., and even then the prospects were not too good; but something had to be attempted, as the first five days had produced only one contest.

LEAGUE 1: George Burton, who was first off at 13.45, got to Ramsbury without trouble, but the first leg must have then deteriorated temporarily, because Paddy Kearon, launched at 14.03, got stuck a few miles out at the Wheatsheaf among several pilots who found the thermals too weak for making progress against the wind — till suddenly the clouds organized themselves into streets and all was well; a single street took Andy Gough from Whitchurch to the end of the leg. John Williamson, launched at 14.13, noted a similar change: the streets at first lay across wind, then suddenly became orientated downwind — or rather, upwind.

The change happened at 15.30 according to Ian Strachan, who had a second launch at 15.06 at a time when Wally Kahn had already reached Ramsbury, and 1 hr. 20 mins. later got to Ramsbury to find Wally still there; others who had late launches also caught up there with the earlier starters.

Indeed, getting any distance beyond Ramsbury along the next leg was pretty difficult. Not only had a northerly veer in the wind, reported by Burton, made it an into-wind leg, but the streets deteriorated, the cumulus diminished, and the thermals became poor. Derek Piggott's height at Kingsclere was about 10 ft. above the wireless mast, and he found that narrow broken thermals do not mix well with the Osprey.

George Burton was down to 300 ft. near Welford, and at Blewbury he had to land after trying to locate a young thermal which Anne Burns and John Williamson used five minutes later, when it had grown, to make jointly the longest distance of the day, half a kilometre short of Shillingford Bridge.

Nick Goodhart did well enough to retain his overall lead with 1920 points.



Task routes for the five Contest Days.

Anne Burns reached 2nd place with 1900, George Burton 3rd with 1813, John Cardiff 4th, Ian Strachan 5th, and John Delafield 6th as well as retaining first place in the Standard Class.

LEAGUE 2: Roger Neaves made the longest distance in this League, 72.5 km. to Hampstead Norris, putting into the overall lead the Skylark 4 which he shared with Ken Wilkinson. Colin Donald was second and Peter Hanneman 3rd both for the day and overall. Inkpen ridge was at one stage occupied by a mass of slope-soarers and, Rika Harwood reported, looked like Dunstable on a Sunday afternoon.

Taking both Leagues together, the starting line was crossed 165 times by 82 pilots. The furthest actual (not scoring) distances were:—

LEAGUE 1

Pilot	*Sailplane*	*Km.*
A. Burns	Austria SHK	87.5
Williamson	Dart 17R	87.5
Dimock	Dart 17R	86
Dunn	Skl. 4	86
Goodhart	Dart 17	82.5
Jerzycki	Dart 17R	81.5
Kearon	Oly. 419	78.5
Burton	Dart 17R	78

LEAGUE 2

Neaves	Skl. 4	72
Donald	Dart 17R	71.5
Hanneman	Ka-6	70.5
Neumann	Skl. 3F	69
Dorman	Oly. 463	68

Did not score: 6 pilots in League 1 and 9 in League 2.

Friday, 27th May



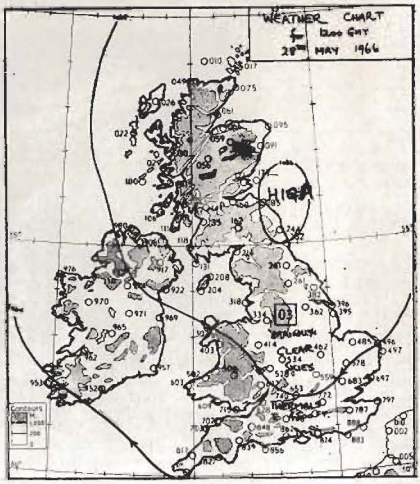
FRIDAY, 27TH MAY. — *The high had now moved to the north of Scotland and a N.E'ly airstream covered the country. In the early morning Lasham basked in sunshine, but a sheet of stratocumulus which covered E. England advanced relentlessly upon us and reached Lasham soon after 9 a.m. It continued its progress E. and over all of Southern England there was no break in the cloud-sheet until quite late in the evening. The few faint thermals below this cloud were of no significance or use to anyone.*

At first the idea was to trek to Upavon where the weather might be better, but Lasham's weather moved on there too, so eventually it was decided to try Free Distance from Lasham, League 2 to start first. They took up position on the grid soon after the noon briefing, and waited there in the cold east wind. League 1 was cancelled at 14.45 and then Rocky Stone, the volunteer "snifter", reported some lift here and there under a cloud base varying between 1,700 and 2,000 ft.

At 15.13 Gordon Camp was launched, followed by Rika Harwood, who found it too murky at 2,000 ft. to see other machines and they only became visible on descending to 1,800 ft. Nevertheless, all League 2 were launched, but only seven could stay airborne. Just after 16.30 the sun could be seen through thin cloud and many got themselves launched again. Of these, 13 eventually landed out, mostly in the area between Alresford, Winchester and Romsey, but nobody passed 2X.

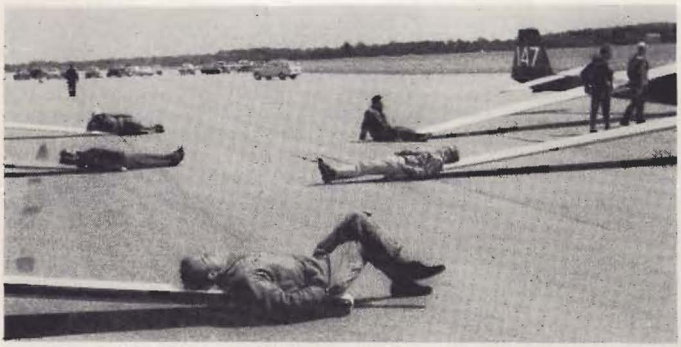
There were 67 launches.

Saturday, 28th May



SATURDAY, 28TH MAY. — *The high was still situated over S. Scotland and the N.E. airstream over S. England was far less cloudy than yesterday. Broken stratocumulus spread over Lasham during the morning and showed a very regular pattern of streets. During the afternoon this cloud slowly burned off, eventually leaving blue thermals to about 4,000 ft. The thermals were quite strong and, on the whole, plentifully distributed. The wind was still strong enough to be a considerable problem on the cross-wind legs.*

Streets of cloud were forming as early



Heavy sleepers



Mick Kaye in relaxing surroundings.



The Wills Family in Conference

as 9 a.m. at Lasham, and for an hour after noon there were still streets of small flat cumulus with individual durations of 3 to 3½ mins. before they finally died out. The two Leagues had different tasks, of which that for League 1 proved the easier — partly, no doubt, because they started earlier, though they could have got off earlier still if the "snifter" had not been sent up twice.

LEAGUE 1: Triangular Race, 41.6 miles N.W. to South Marston (nr. Swindon), 23.6 miles N.E. to Blenheim Palace (nr. Oxford), and 47.8 miles S.S.E. to Lasham: total 113 miles = 182 km.

LEAGUE 2: Dog-leg race via Old Sarum (33.2 miles W.S.W.) to Little Rissington (54.1 miles N.); total 87.3 miles (140.5 km.).

LEAGUE 1: Launches began at 11.50 and went on till 12.27, including four relights. David Carrow was first across the line at 12.12, and found good soaring with good cloud streets all the way to the second turning-point. Others who agreed the first two legs were good included Mike Riddell, Paddy Kearon and Ian Strachan, who observed that Dart 17's and Austria SHK's went ahead of the others on the second leg, though George Burton found this leg a little more difficult than the first.

But on the third leg Kearon soon got low and had to waste time using any lift he could get, and Riddell was scraping at 500 ft. over Wantage, while Derek Piggott arrived at Basingstoke at only 900 ft. and was saved by a thermal core which lifted him to 1,300 ft. and enabled him to dash to Lasham at 65-70 knots.



Humphry Dimock at the helm.

The outstanding performance was Humphry Dimock's win at 58.6 km./h. (36.4 m.p.h.); he got round in 3 hrs. 6 mins., which was nearly 20 minutes less than the next best. The last leg took 1 hr. 7 mins. and he was first back at 15.43¾. Last back was Jerzycki at 18.52½, after 6 hrs. 8½ mins. in the air. (An even later landing was by Hugh Mettam in League 2 who was airborne till 18.55.)

League 1's triangle was completed by 34 pilots. Fastest speeds:

Pilot	*Sailplane*	*km./h.*
Dimock	Dart 17R	58.6
Williamson	Dart 17R	52.6
Burton	Dart 17R	52.2
Cardiff	Dart 17R	52
Piggott	Osprey	50.9
Strachan	Skl. 4	50.8
A. Burns	Austria SHK	50.7
Kearon	Oly. 419	50.6
D.-Drummond	Oly. 419	50.5
Goodhart	Dart 17	50.3

Overall, Goodhart still led with 2,745 points; Anne Burns had 2,725, Burton 2,672, Cardiff 2,595, Strachan 2,511.

LEAGUE 2: The first leg was almost downwind, and 33 pilots rounded Old Sarum without much trouble. After that, they were going north against a strong north-easterly wind, and the going became more difficult after Swindon, when thermals weakened and the wind freshened. Several were stuck there, and around Upavon and Marlborough, for quite a time. Another hold-up, due to weak thermals, occurred along the last seven miles before Little Rissington, where eleven came down but 17 reached the goal between 16.42 and 17.36 and one, Mettam, at 18.55.

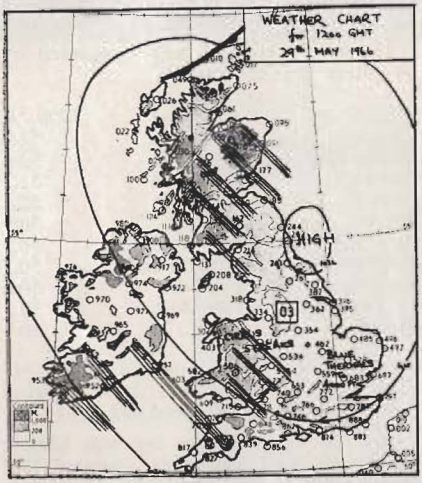
David Kerridge was only one field short of Little Rissington; he had put on speed crossing the last valley with the idea of hopping over the aerodrome boundary, but this field suddenly revealed itself as crossed by power cables, which he had to pass under, leaving himself with insufficient speed for the final jump.

Fastest speeds:

Pilot	*Sailplane*	*km./h.*
Barnett	St. Austria	38.9
Kaye	Dart 15	37.1
Redman	Skylark 4	35.8
Hood	Ka-6	35.8
Hanneman	Ka-6	35.1

Overall, Neaves and Wilkinson still led with 2,841 points, followed by Donald, 2,785; Hanneman, 2,656; Wheeler, 2,482; Redman, 2,424.

Sunday, 29th May



SUNDAY, 29TH MAY. — *The high had moved south very slightly, but on the whole conditions were very similar to yesterday, with a fresh E. wind, blue thermals to 4,000 ft. after the early morning stratus had burned off. One difference from the previous day was the presence of cirrus streaks forming over the Welsh hills and blowing along the high-level wind ahead of a weak warm front over N. Scotland. However, this cirrus largely dispersed during the day as the upper winds veered and caused little trouble.*

Round a triangle, followed by distance along a set line, was the task for both Leagues: 68 miles N.W. by N. to Broadway Tower, 23.6 miles S.E. by E. to Blenheim Palace, 47.8 miles S.S.E. back to Lasham, then N.W. along a line through South Cerney. Total distance as far as South Cerney was 191.4 miles (308 km.).

League 1 had first selection of times, and most pilots started as early as possible, John Williamson being first off at 10.30½, followed by Brennig James. All League 1 had been launched before League 2 started at 11.37½ with Roy Procter.

The League 2 pilots all booked their starts as early as possible in the order in which their numbers were called, so virtually they had "designated" starts.

The first leg was not too easy at first and several bad patches brought some pilots low, e.g. Bill Tonkyn at Welford, David Carrow near Wantage; Charles Ellis said that, if you got low, the thermals were poor and broken, though some had a strong core if you could find it. Gordon Camp found the best going between Newbury and Little Rissington, with occasional 10-knot thermals. But Nick Goodhart, after keeping company with John Williamson, found himself alone and, striking a bad patch before reaching Broadway, sank so low that he was unable to recover height; meanwhile the wind drifted him off course nearly to Cheltenham, where he had to land at 13.20, too late to return for a second start.

Ceilings were reported by Ellis as 2,500 ft. at first, increasing later but never any higher than 3,500 ft. — presumably above take-off, as Ken Wilkinson found the ceiling 3,000 ft. a.s.l. early, 4,000 ft. at 13 hrs., and 4,300 ft. at 17 hrs.

Colin Pennycuick of League 2, launched at 12.15, went ahead so fast that he caught up with League 1 at the first turning-point.

Gaggles were used to good effect on the first leg by George Burton, but Ian Strachan decided to ignore them, and this policy, he admitted, brought him to earth near the end of the second leg. Burton also, flying alone on the second leg, dropped to 800 ft. but recovered.

First to round Lasham and set off on the 4th leg, after completing the triangle in 5 hr. 42 mins., was John Williamson at 16.12, followed at 16.26 by Anne Burns, who had taken 5 hr. 16 mins. Anne had preceded John at the Broadway turn by seven minutes, but he was first at Blenheim. The two eventually

landed close together near Cirencester, sharing 5th place after flying 200 miles all but 250 yards.

Nine pilots passed Lasham before 17 hrs. and another nine in the following hour. Altogether, in League 1, 19 passed it and one landed there, while three League 2 pilots got past it — Pennycuick going on to South Cerney and making the best distance in his League; the other two were Hanneman and Donald.

In League 1, four exceeded Anne and John. George Burton got his last good thermal at Swindon and used it to get back on track, 7 miles beyond them. David Carrow, another 8 miles further, reported the thermals weakening but still good from towns. After drifting past Aston Down he hit a 3-knot thermal from the "Golden Valley", which took him to 3,000 ft. for a glide to Gloucester. Two went further still: Tony Deane-Drummond was nearly down when he made for a thermal being used by Philip Wills, who had also found the best ones in the lee of towns and had been proceeding from town to town. Eventually Tony landed at Ledbury and Philip went 4 miles further to Hereford, having made the longest distance of the day, 231 miles.

Furthest distances in League 1:

Pilot	*Landing*	*Km.*
Wills	19.45	347
D.-Drummond	19.45	341
Carrow	19.35	320.5
Burton	19.30	307
A. Burns	18.15	296.5
Williamson	17.45	296.5
Kahn	18.35	296.0

Leading totals: 4 days

League 1		League 2	
A. Burns	3580	Donald	3515
Burton	3557	Hanneman	3495
Cardiff	3383	Neaves	3262
Carrow	3159	Redman	3090
Williamson	3063	Wheeler	2918
Delafield	3049	Collins	2823
Kearon	3004	Meddings	2661
Wills	2998	Pennycuick	2527
Bird	2998		
Goodhart	2912		
Strachan	2879		
Stone	2073		



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Monday, 30th May



MONDAY, 30TH MAY. — *On the last day the general situation was still much the same, but with the promise of rather lighter winds, together with warmer and drier air, the prospects for strong thermal activity seemed good—even though they would be blue thermals.*

In the event, they were somewhat disappointing in that they took rather a long time to get organized, and with a somewhat delayed take-off the task proved to be rather too ambitious.



Air Chief Marshal Sir Theodore McEvoy (right), with Lorne Welch.

Instead of the usual short task on the last day, to bring everyone back in time for prizegiving, a really long one was set to make up for all the flying lost by bad weather; the prizegiving was deferred to a later date at the Kronfeld Club, and the usual speeches were made at briefing instead. First, birthday presents went to Andy Gough and Paul Minton, and a belated one to Arthur Doughty.

Then the Chairman, Philip Wills, after saying "most of us spent about four life-years in the cockpit yesterday", thanked "all those who have enabled us to have enormous fun here." He introduced Air Chief Marshal Sir Theodore McEvoy, "our favourite Vice-President", and John Ware who "directs the enormous firm whose name I always forget".

Sir Theodore presented such awards as could be presented. These included the Churchill Award, which went to Keith Chard for his work in designing and building the Osprey wings.

Mr. Ware, on behalf of William Day Wills and Henry Overton Wills, handed Philip Aubrey Wills a cheque for the Instructor Scholarships for the coming year. He apologised for being an even worse after-breakfast speaker than an after-dinner one.

Ann Welch then announced the task, a 300-km. Triangle Race (cheers): 65.6 miles W.N.W. to Keynsham (nr. Bath), 58.1 miles N.E. by N. to Long Marston (nr. Stratford-on-Avon), then 72.7 miles S.E. by S. back to Lasham; total 196.8 miles = 316 km. League 1 to start first. Aero-tow retrieves allowed.

After information from the "thermal snifter" overhead, launches began at 11.39 — more than an hour later than yesterday, and thermals were subsequently reported to be not as good; so it would be necessary to go much faster round the triangle, especially as there would be speed marks today. Large gaggles hung around the sky over Lasham like bunches of grapes. Now and again they would fall apart and the remains could be seen racing to catch the gaggle in front. Ahead of the gaggles, Nick Goodhart and Tony Deane-Drummond were already reporting from over Upavon before all of League 2 had been launched.

Humphry Dimock reached the first turning-point just after 14.00 hrs., but Nick Goodhart had to land there through trying to go too fast — his second bad day after the first three which had kept him in the lead. Forty pilots passed this point between 14 and 15 hrs., another 23 between 15 and 16 hrs., four between 16 and 17 hrs., and the last at 17.34 and 17.39.

The first leg, difficult at first, picked up west of Devizes according to some pilots, one of whom, Goldney, said he "went like a bomb" from there to Keynsham.

The second leg was a lot more difficult, with a lot of scraping; David Carrow got below 1,000 ft. at least four times. The gaggles slowly became smaller but there were more of them.

Derek Piggott found that on the whole he was outclimbed in thermals but caught up again on the inter-thermal glides. In one gaggle everyone was climbing so slowly that he left them to it, but promptly ran into trouble and soon had to land. The trouble was that the Osprey, at its present stage, is not so good in very narrow thermals.

Though this second leg was the shortest, it was also the most difficult, and at one time there were about 65 gliders spread out along it. George Burton was reduced to slope-soaring near Cheltenham, enabling Anne Burns to catch up with him soon after.

At last John Williamson got round the second turning-point at 16.59, having taken 2 hr. 39 min. over the second leg; shortly after, Tony Deane-Drummond completed it in 2 hr. 26 min. Philip Wills took 2 hr. 49 min., David Carrow 3 hr. 7 min., George Burton 3 hrs. and Anne Burns 2 hr. 32 min. over this leg.

Nearly all the landings on the last leg were in its middle third, between 238 and 277 km. from start; they included two League 2 pilots, Don Snodgrass and Peter Hanneman. (Two more in this League, Rika Harwood and C. Donald, just passed the 2nd turning point.) John Williamson avoided this fate by keeping well downwind of all the woods to catch their lift. He was down to 300 ft. at Greenham Common when a faint tremor became a good final thermal to 3,000 ft. — enough to reach Lasham at 19 h. 28 m. 13 s. after 7 h. 50 m. in the air. He was greeted there with loud cheers and was the only one to make it; so he won the day at 45.8 km./h. (28.46 m.p.h.).

After this the main excitement concerned the duel between Anne Burns and George Burton. She was only 23 points ahead of him in the total scores, and her obvious tactic was to find him and then stick beside him for the rest of the flight so that, when the last thermal let them down, they would be let down together and she would still be ahead. This she succeeded in doing, and the Austria's final-glide angle was just superior enough to the Dart's to carry her another kilometre-and-a-half to Didcot.

So Anne Burns became the first feminine British Gliding Champion.

Furthest actual distances in each League (30 km. more than scoring distances) were:

LEAGUE 1		
Pilot	*Sailplane*	*Km.*
Williamson	Dart 17R	316
D.-Drummond	Oly. 419	276
A. Burns	Austria SHK	270.5
Burton	Dart 17R	269
Carrow	Dart 17R	266
Delafield	Ka-6E	264
LEAGUE 2		
Snodgrass	Skl. 4	252
Hanneman	Ka-6	248
Meddings	Skl. 3	198
R. Harwood	Skl. 3B	197.5
Donald	Dart 17R	197.5



R.A.F. Camp. (Championship photos by A. E. Slater and Peter Smith.)

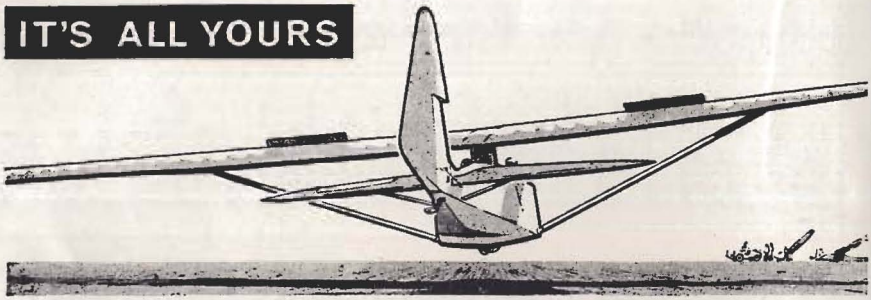
NATIONAL CHAMPIONSHIPS RESULTS 21st to 30th MAY 1966
LEAGUE 1

Final Place Open Standard	Pilot(s)	Contest Day and Date. Daily place in brackets. 1 23rd	2 26th	3 28th	4 29th	5 30th	Total Points	Sailplane	Comp. No.
1.	Anne Burns	900 (7)	1000 (1=)	825 (7)	855 (5=)	672 (3)	4252	Austria SHK	19
2.	G. E. Burton	965 (2=)	848 (8)	859 (3)	885 (4)	668 (4)	4225	Dart 17R	367
3.	J. S. Williamson	343 (26)	1000 (1=)	865 (2)	855 (5=)	1000 (1)	4063	Dart 17R	349
4.	J. Cardiff	940 (4)	800 (10=)	855 (4)	788 (11=)	632 (13)	4015	Dart 17R	272
5.	D. D. Carrow	759 (9)	680 (21)	797 (13)	923 (3)	660 (5)	3819	Dart 17R	20
6. 1.	J. Delafield	879 (8)	800 (10=)	582 (27)	788 (11=)	655 (6)	3704	Ka-6E	372
7.	P. A. Wills	523 (14=)	776 (13=)	699 (17)	1000 (1)	634 (12)	3632	Dart 17R	1
8.	I. W. Strachan	965 (2=)	720 (20)	826 (6)	368 (22)	636 (11)	3515	Skylark 4	233
9.	N. W. Kearon	475 (20=)	856 (7)	823 (8)	850 (9)	453 (22=)	3457	Olympia 419	86
10.	M. P. Garrod	922 (5)	728 (17=)	795 (14)	365 (23)	641 (10)	3451	Dart 17	261
11.	A. J. Stone	908 (6)	400 (27)	765 (15)	768 (14=)	591 (15=)	3432	Skylark 4	411
12.	A. W. Gough	360 (25)	776 (13=)	680 (21)	775 (13)	648 (8)	3239	Olympia 419	87
13.	M. J. Smith	497 (17)	568 (25)	572 (28)	854 (7=)	646 (9)	3137	Skylark 4	240
14.	M. Bird	750 (10)	728 (17=)	739 (16)	701 (18)	210 (38)	3128	Dart 17R	68
15.	H. C. N. Goodhart	1000 (1)	928 (5)	817 (10)	167 (35)	213 (37)	3125	Dart 17	6
16.	H. R. Dimock	455 (23)	976 (4)	1000 (1)	231 (33)	422 (28)	3084	Dart 17R	366
17.	W. A. H. Kahn	315 (27=)	576 (24)	808 (11)	854 (7=)	418 (30=)	2971	Dart 17R	4
18. 2.	P. Dawson	607 (12)	728 (17=)	529 (32)	716 (17)	386 (33)	2966	Ka-6	420
19. 3.	P. G. Burgess	119 (36)	784 (12)	603 (25)	768 (14=)	625 (14)	2899	Dart 15	404
20.	E. Jerzycki	457 (22)	904 (6)	479 (34)	575 (20)	471 (21)	2886	Dart 17R	966
21.	A. J. Deane-Drummond	315 (27=)	0 (35)	819 (9)	982 (2)	689 (2)	2805	Olympia 419	72
22.	R. A. E. Dunn	475 (20=)	984 (3)	634 (23)	144 (36)	440 (26)	2677	Skylark 4	16
23. 4.	A. D. Piggott	490 (19)	768 (15)	828 (5)	276 (31)	273 (36)	2635	Osprey	450
24.	C. W. Bentson	523 (14=)	808 (9)	540 (30)	244 (32)	453 (22=)	2568	Skylark 4	361
25.	A. H. Warminger	615 (11)	384 (28=)	802 (12)	216 (34)	450 (25)	2467	Dart 17R	44
26.	D. S. Innes	262 (31=)	0 (38)	696 (20)	825 (10)	591 (15=)	2374	Skylark 4	258
27.	J. D. Jones	279 (30)	640 (22)	584 (26)	334 (28)	421 (29)	2258	Skylark 3F	180
28.	P. M. Scott	193 (34)	0 (40)	698 (18)	768 (14=)	500 (19)	2159	Olympia 419x	10
29.	M. C. Fairman	523 (14=)	376 (31)	135 (36=)	343 (25)	591 (15=)	1968	Skylark 3	177
30.	D. A. Smith	122 (35)	384 (28=)	697 (19)	341 (26)	418 (30=)	1962	Skylark 3B	42
31.	D. M. R. Riddell	71 (39)	232 (33)	657 (22)	340 (27)	564 (18)	1864	Skylark 3F	173
32.	D. H. G. Ince	46 (40)	592 (23)	135 (36=)	332 (29)	650 (7)	1755	Skylark 4	30
33.	C. A. P. Ellis	439 (24)	168 (34)	111 (39)	559 (21)	453 (22=)	1730	Skylark 3	9
34.	A. D. Purnell	79 (38)	384 (28=)	532 (31)	358 (24)	371 (34)	1724	Skylark 3F	147
35. 5.	J. S. Fielden	597 (13)	0 (31)	554 (29)	43 (40)	491 (20)	1685	Dart 15	200
36.	J. B. Jefferson	86 (37)	416 (26)	134 (38)	587 (19)	418 (30=)	1641	Skylark 3B	37
37.	D. B. James	315 (27=)	752 (16)	80 (40)	288 (30)	147 (40)	1582	Skylark 4	103
38. 6.	R. A. Sandford	495 (18)	256 (32)	282 (35)	76 (38)	425 (27)	1534	Olympia 463	401
39.	V. C. Carr, D. Cunningham	262 (31=)	0 (37)	627 (24)	138 (37)	193 (39)	1220	Skylark 3B	176
40.	A. W. Doughty	206 (33)	0 (39)	522 (33)	63 (39)	329 (35)	1120	Skylark 3F	91

LEAGUE 2

Final Place	Open Standard	Pilot(s)	Contest Day and Date. Daily place in brackets. 1 23rd	2 26th	3 28th	4 29th	5 30th	Total Points	Sailplane	Comp. No.
1.	1.	P. Hanneman	777 (5)	962 (3)	917 (5)	839 (2)	982 (2)	4477	Ka-6	350
2.		C. C. Donald	911 (4)	980 (2)	894 (9)	730 (3)	755 (4=)	4270	Dart 17R	140
3.		S. J. Redman	940 (3)	552 (18=)	932 (3)	666 (7)	703 (8)	3793	Skylark 4	267
4.		R. A. Neaves, K. G. Wilkinson	962 (2)	1000 (1)	879 (11)	421 (21=)	495 (21=)	3757	Skylark 4	197
5.	2.	J. H. Wheeler	732 (7)	848 (7)	902 (7=)	436 (18)	674 (10=)	3592	Ka-6	405
6.		G. T. Collins	430 (19)	810 (8)	912 (6)	671 (6)	638 (12)	3461	Olympia 419	171
7.		E. J. Meddings	624 (10)	743 (9=)	863 (14)	431 (20)	757 (3)	3418	Skylark 3G	73
8.	3.	K.R. Aldridge, R. C. Barnett	1000 (1)	0 (14)	1000 (1)	440 (15=)	685 (9)	3125	Std. Austria	57
9.	4.	R. S. Waller, C. J. Pennycuick	625 (9)	0 (27)	902 (7=)	1000 (1)	532 (20)	3059	Ka-6CR	125
10.		D. C. Snodgrass	612 (11)	552 (18=)	441 (32=)	419 (23=)	1000 (1)	3024	Skylark 4	189
11.		D. C. Kerridge, P. W. James	755 (6)	657 (14)	548 (20)	375 (29)	624 (16)	2959	Skylark 4	327
12.	5.	D. M. Kaye	471 (18)	428 (23)	958 (2)	433 (19)	534 (19)	2824	Dart 15	60
13.		L. P. Goldney	512 (16)	705 (11=)	550 (19)	562 (11)	484 (22)	2813	Skylark 3F	52
14.		F. W. L. Shephard	568 (13)	629 (16)	545 (21)	419 (23=)	626 (14=)	2787	Skylark 3F	190
15.	6.	P. H. Lane	284 (23)	381 (25)	860 (15)	578 (10)	635 (13)	2738	Ka-6 (mod.)	278
16.		C. R. Simpson, P. A. Martin	564 (14)	0 (29)	774 (16)	662 (8)	730 (6=)	2730	Dart 17R	108
17.	7.	L. S. Hood	183 (27)	638 (15)	931 (4)	613 (9)	358 (30)	2723	Ka-6	402
18.		Rika Harwood	602 (12)	362 (26=)	515 (23=)	354 (32)	755 (4=)	2588	Skylark 3B	65
19.		G. S. Neumann	202 (25)	934 (4)	762 (17)	414 (25)	261 (33)	2573	Skylark 3F	317
20.		E. Stark	306 (22)	457 (21)	470 (31)	495 (14)	572 (17=)	2300	Dart 17	58
21.		R. Rutherford	0 (—)	705 (11=)	520 (22)	362 (31)	674 (10=)	2261	Skylark 4	41
22.		P.Minton	187 (26)	695 (13)	873 (12)	387 (28)	104 (35=)	2246	Skylark 4	239
23.		F. G. Irving	657 (8)	0 (26)	515 (23=)	540 (12)	466 (24)	2178	Dart 17R	466
24.		G. W. Mackworth-Young	0 (—)	743 (9=)	498 (27=)	700 (4)	104 (35=)	2045	Skylark 3G	13
25.		W. N. Tonkyn	97 (33)	0 (39)	871 (13)	675 (5)	383 (28)	2026	Skylark 4	296
26.=	8.	C. G. Dorman	15 (35)	915 (5)	885 (10)	104 (38)	41 (40)	1960	Olympia 463	12
26.=		D. P. L. Scallon	82 (34)	210 (28)	498 (27=)	440 (15=)	730 (6=)	1960	Skylark 4	328
28.		P. Pozerskis	411 (20)	448 (22)	441 (32=)	410 (26)	228 (34)	1938	Skylark 4	260
29.	9.	J. A. Evans	553 (15)	410 (24)	301 (38)	260 (35)	390 (26)	1914	Olympia 463	348
30.	10.	J. G. Croshaw, G. McA. Bacon	501 (17)	0 (31)	515 (23=)	421 (21=)	475 (23)	1912	Ka-6	354
31.		J. G. B. Daniell, P. R. Philpot	176 (28)	895 (6)	127 (39)	102 (39)	572 (17=)	1872	Skylark 4	81
32.	10% H'cap	R. G. Procter	0 (—)	554 (17)	487 (30)	438 (17)	322 (32)	1801	Bocian	196
33.		G. Camp	127 (30)	362 (26=)	494 (29)	334 (33)	412 (25)	1729	Skylark 3B	64
34.		H. S. Mettam	105 (32)	190 (29)	706 (18)	293 (34)	356 (31)	1650	Skylark 3F	160
35.		R. T. Willbie	254 (24)	0 (36)	411 (35)	514 (13)	388 (27)	1567	Skylark 4	368
36.		S. M. Morison, R. C. Pick	112 (31)	476 (20)	505 (26)	92 (40)	365 (29)	1550	Skylark 4	98
37.	11.	J. A. Findon	310 (21)	29 (31)	306 (37)	408 (27)	72 (37)	1125	Dart 15	48
38.	12.	T. S. Zeally	157 (29)	0 (37)	60 (40)	256 (36)	626 (14=)	1099	Ka-6	22
39.	10% H'cap	W. E. Malpas	0 (0)	136 (30)	285 (39)	364 (30)	69 (38)	854	Sky	46
40.	20% H'cap	R. D. Dickson	0 (—)	0 (—)	349 (36)	169 (37)	49 (39)	567	Gull 4	34
Hors Concours Below 5		E. G. Hart	796 (b4)	820 (b7)	515 (b23=)	615 (b8)	730 b6=)	3476	Skylark 4	228
Below 40	10% H'cap.	J. Everitt & others	0 (—)	0 (—)	175 (b39)	0 (b40)	337 (b31)	512	Capstan	

IT'S ALL YOURS



WITH the top of gliding racing apart from the bottom, there is an ever-widening space for the training side to fill. Dart 17's, retractable undercarriages, and almost universal radio, has moved the top into a realm of sophistication far further removed from T-31 circuit-bashing than the downwind Gold-C-in-a-Skylark-3 era of only a few years ago.

C.F.I.s have a problem because, however willing, many of their clubs are unable to get their hands on either the money or the skilled instructional assistance to provide the comprehensive training now necessary. More often than not, the result will be that the C.F.I. has to accept that his club can only offer limited training, and after this the pilot must look after himself. Although he knows that this is unsatisfactory, particularly when an inexperienced ex-pupil buys himself an SHK or a Dart 17R (rather like a learner driver with a Morris 1,000 launching out on the roads in a new Ferrari), there is little he can do about it.

Since many clubs will be able to cope with only a part of the training programme, might it not be a good idea to formally divide training up into nationally recognised stages? A club could then state which stage or stages it wishes to offer to its members. As it grew, it could decide which, if any, further stages it would incorporate into its club flying, and when it would do so. Large clubs and centres could provide training at all stages, but might also wish to offer one or more stages to members of other clubs, or to some named neighbour club. In some cases it might be practical for two clubs to have a reciprocal arrangement with each other, one doing elementary training and the partner club carrying out one or more of the advanced stages. Dividing the training with stages would be helpful to the pupil as well as the club, as he would know what it could offer him, and how and where to obtain more advanced flying.

There would always be the risk that when a pilot went on to another club for more advanced flying, he would not return, and clubs which offered only the basic stage would lose their experienced members. But this happens now anyway, and it is one of the reasons why small clubs have such a struggle to get on. Frankly, I think the risk of this sort of brain-drain would be less if the club helped and encouraged its pilots officially to go elsewhere for advanced flying, rather than have them leave out of frustration. If two clubs mutually divided the training, pilots from the advanced site would be more prepared to return to the basic site to help, than if they felt that it was just a small club with which they were not concerned.

At present, members of a small but growing club are not sure what it is going to be able to offer them in terms of more advanced flying, and the club itself is often divided on future policy; e.g., should it become composed entirely of private owners, or should it try to get a club Skylark 4, which may then be under-utilised, because in the meantime a new private syndicate has been formed? If, instead, a club stated that during the following year it would extend training to take in the complete next stage, it would be clear to members what would be available to them.

As a basis for discussion, the range of pilot training could be divided up as below. Instructor training, which is largely done by the National Coach, is not included, but any club able to do so could obviously offer instructor training courses as well.

Clubs could advertise which stages their operations cover.

Suggested Divisions of Training Stages

Stage 1 to cover elementary gliding training and local soaring up to and including the Bronze C. Ground training to cover elementary principles of flight, knowledge of Air Law and B.G.A. operational regulations. Pupil to receive instruction on how to drive winch or tow car, and how to do a D.I.

MINIMUM EQUIPMENT. — One two-seater, preferably at least a T-21. One solo glider not less than Swallow performance and characteristics.

REMARKS.—A new club should be discouraged from starting unless it can be sure of achieving this minimum of equipment within its first six months.

Stage 2 to cover elementary soaring up to and including Silver C, including practical instruction in field landings. Ground training to include de-rigging, map reading, elementary meteorology.

MINIMUM EQUIPMENT. — One two-seater, not T-31, but preferably T-49, Ka-7, etc.; two single-seaters, including one of Olympia 463 to Skylark performance, parachute, barograph. Launching by aero-tow available on demand, if no local slope.

REMARKS. — No cloud or instrument flying required.

Stage 3 to cover practical task-flying, instrument and cloud flying. Use of electric variometers, speed-to-fly rings, calculators and radio. Ground instruction on glider performance and further meteorology.

MINIMUM EQUIPMENT. — One two-seater, T-49, Blanik, Bocian; three single-seaters, two at least Skylark 3 or 4, Dart 15 or 17, Olympia 463 or Ka-6. Full instruments, ground and air radio, parachute, barograph. Towing aeroplane.

REMARKS. — Clubs offering this stage would be expected to keep pace with new methods, equipment and ideas.

Auxiliary Stages

1A. Powered trainer flying on elementary exercises.

2A. Aero-towing, high, low, and if suitable twin and short rope towing.

3A. Aerobatics: loops, chandelles, full spins, not necessarily rolls.

ANN WELCH.

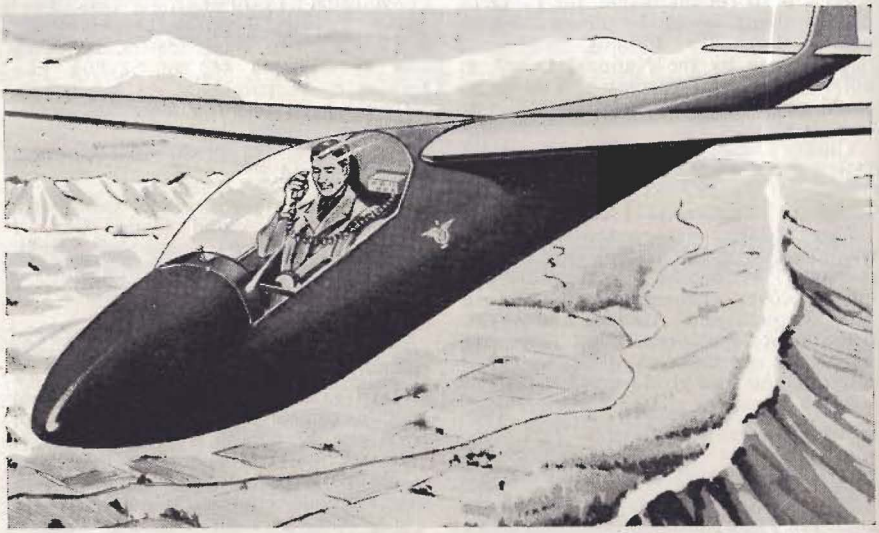
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TOST RELEASES AND LAUNCHING RINGS

THE Technical Committee of the B.G.A. have now approved the use of the Tost Ekombi Release for use with Ottfur launching rings. This release is a development of the original Kombi Release, and can be differentiated from the latter by the fact that the Ekombi has an "E" stamped on the frame of the release, and an "E" stamped on each side of the ring carriage.

The original Kombi release does not function correctly with Ottfur rings and must not be used with them.

Following consultation with Messrs. Ottley Motors and sundry tests, the use of Tost launching rings in all types of Ottfur hooks is approved.

The Technical Committee are most grateful to Messrs. Tost and Messrs. Ottley Motors for all the work they have done in connection with these hooks and rings.

R. C. STAFFORD ALLEN
for Technical Committee

Messrs. Tost, commenting on the above announcement, add the following information:—

The Tost Safety Release 53 (without ring) can be modified to Kombi 54 or Ekombi 66 by the Tost firm at Munich, or it can be exchanged for the difference in price.

The Kombi and Ekombi can both be fitted at the glider's normal home base in the same position as the old Tost safety release 53 without any alterations.

As from 1.1.67 the Tost Kombi and Ekombi will replace the Tost Safety Release 53 in accordance with the German safety regulations. All old releases still in use must be modified to the new type of Kombi. (For aircraft operating on B.G.A. Certificates of Airworthiness this must mean the Ekombi.)

A booklet containing useful information in English is available free from: Tost Flugzeugbau, 8 München 15, Thalkirchner Str. 62, W. Germany.

TO FLAP OR NOT TO FLAP

By J. C. WARD

Reproduced from "Flight Safety Bulletin"
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IN the conclusions of a recent Ministry of Aviation aircraft accident report on a Terrier which broke up after a glider tow was the following:—

"The port wing main spars failed in up load as a result of the wing having been overstressed with the flaps 20 deg. down."

There exists a considerable divergence of opinion among experienced tug aircraft pilots on the desirability of using half flap for towing on Auster variants. The main reasons given for using flap throughout the climb are:

(a) it increases the rate of climb,
(b) it increases the gradient of climb,
(c) there is a bigger margin over the stall, and
(d) visibility is improved by a reduction in nose-up attitude.

The first two statements are fallacious. In Terrier Tugmaster types half flap causes an increase in drag as well as lift. This increase in drag needs power to overcome it. Consequently less power is available for the climb. The rate of climb, therefore, is reduced.

In most flapped aircraft, the take-off setting will improve the gradient of climb, the horizontal distance covered for a given increase in height. This is because a lower climbing speed is possible with the optimum flap-setting so that, although the rate of climb is reduced, the horizontal distance is reduced in a more favourable ratio. When towing a glider, however, the speed is kept

constant at around 55 knots for most gliders, whether the tug is clean or flapped. Therefore there is no reduction possible in forward speed and the gradient is reduced when flap is selected.

Using flap for take-off gives a lower unstick speed and consequently reduces take-off run and improves the distance required to clear an obstacle. When established in the climb, flap only reduces climb performance.

In the case of (c) above, there is an increase in the margin over the stall because of the improved lift coefficient with take-off flap. But, in the case of the Auster, the full-power clean stalling speed is around 40 knots I.A.S. So, at a minimum towing speed of 52 knots, necessitated by engine cooling considerations, there is quite a large margin of speed in hand.

That the visibility is improved ((d) above) there can be no argument because the use of flap will reduce the fuselage incidence for a given speed. This, perhaps, is the best reason for using flap when towing.

If flap is used, however, there is a very real danger that it may be forgotten when the glider releases. With a flap limit speed of 61 knots on the Tugmaster (higher on a Terrier), the point where structural damage is likely due to speed can be reached easily. Further with 20 deg. flap selected, the ultimate "*g*" loading is approximately halved. Therefore, wing failure could occur on the pull out from the dive following release or if significant turbulence existed.

If, in spite of the foregoing, it still is thought desirable to use flap throughout the tow, then a post-release check, such as the following should be used:

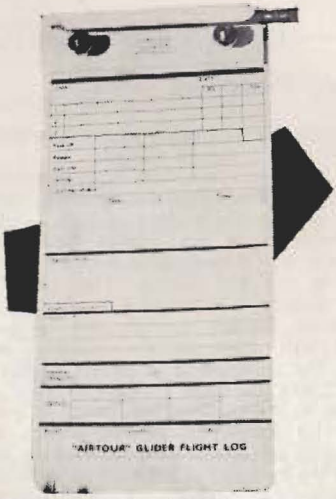
TOW ROPE — Check released.
FLAPS — UP.
CARB. HEAT — HOT (if applicable).

In view of the heavy penalty for forgetting to retract the flaps, it is recommended that, unless the operating instructions for the aircraft indicate otherwise, when towing a glider the flaps should be retracted after take-off as soon as a safe height is reached.

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DIRECTIONAL CONTROL ON THE GROUND

By DEREK PIGGOTT

MANY pilots have commented on difficulty they have experienced during take-off and landing in the Darts, 460s and Ka-6s. There have been numerous cases of serious swings, ground loops and wing tips digging into the ground which have tended to give all these types a reputation for being tricky.

Whereas our Skylark designs and most of that era had a substantial front skid and the wheel mounted close to or slightly behind the centre of gravity, the modern trend has been to move the wheel well forward and so do away with the front skid and the need for a heavy keel structure. This arrangement has many advantages, but two major problems: one, the excessive tail loads during ground handling, and the other is the added difficulty in getting good directional control on the ground. Whereas a small ground trolley solves the ground-handling problem, we have to learn to live with the new swinging characteristics if we want simple retracting undercarriages and light-weight gliders.

The newer arrangement is very similar in dynamics to a tail-wheel light aircraft. Once a swing has started, the mass of the aircraft being centred behind the wheel accentuates the swing and a ground loop can occur. This is particularly likely to occur in calm conditions when the glider is rolling quite fast, and when the glider is on a smooth surface so that the tail skid can slip sideways more easily.

This is in contrast to the Skylark 3 and 4 arrangement where the C. of G. is ahead of the wheel helping to damp out the swing, like a modern tricycle undercarriage.

Furthermore, when the wheel is further forward there is a greater tendency for the aircraft to swing into wind on the ground because the fin and rudder have a larger moment arm about the wheel, so increasing the weathercocking tendency. This means that directional control in a cross-wind, i.e. the power of the rudder to prevent the glider weathercocking into wind while it is on the ground is considerably less on the modern machines. In the air, the rudder control on all these types seems quite adequate.

It has been suggested that the use of a towing hook mounted well back in a position suitable for winch launching is a disadvantage for aerotowing in cross-winds because the tow rope loads do little to help to pull the glider straight. (The problems of swinging on take-off are worse when the acceleration is poor as on aerotowing.) Obviously a nose hook would be of some benefit, but once the glider is moving, the tow rope loads are not very high and a very serious swing must occur before the pull of the tow rope would be at sufficient angle to influence things much. At flying speeds, the rope loads are only about 50 lbs. However, in a strong cross-wind this effect can be taken advantage of by positioning the glider on the upwind side of the tug so that this side load is available at the start of the take-off run when the rope loads are very much higher.

We know from experience that all these gliders can be operated in very severe cross-winds and that the effectiveness of their ailerons is little different from the previous generation of machines — many pilots would say they were better. Why, then, do so many pilots have difficulty?

One of the main reasons, it would seem from observing pilots taking off in cross-winds, is a reluctance to anticipate what may happen by starting with *full* rudder applied. If we start with no rudder and apply it as soon as the slightest swing has started, this swing will be into wind and only a limited rudder power will be available to stop it. However, if we start with full rudder applied, if it is too much and causes a swing out of wind, this is far less critical and is easily stopped by a reduction in the movement.

Similarly with keeping the wings level, it is important not to get into a position where the into-wind wing is up or at low speeds the aileron control will be marginal in preventing a wing-tip touching the ground. Unfortunately, in all our flying except cross-wind take-offs and land-

ings and side-slipping, we are conditioned into co-ordinating stick and rudder and into steering by means of banked turns. If we observe inexperienced pilots it is common to see them attempting to steer on the ground by using bank, and this is the usual reason for the wing-tip to touch the ground prematurely. By the time that the pilot realises that the glider is banked, the speed is too low for effective control. It is a vital part of training to teach steering on the ground and to ensure that the pilot is using the right technique, or he will be unable to avoid collisions on the ground and will have difficulties in cross-winds. This is by no means obvious to a pilot under training, and since occasions for steering on the ground are usually few and far between, it is easy to assume that he is doing the right thing.

Most experienced pilots consider that they have this all buttoned up, but on the few occasions when they have a completely unexpected swing, they are quite likely — having applied full rudder — to help it with aileron. A few seconds later if the rudder does take effect, the yawing movement causes a rapid rolling and the wing-tip is on the ground. (I have caught myself doing this on occasion.)

Provided that there is a completely clear space available, the swinging is relatively unimportant and can be held with the rudder, or if the pilot prefers, he can release, in which case the glider will run into wind (except after landing in calm conditions when special care should be taken to avoid a swing starting).

It is keeping the wings level or the into-wind wing down in a cross-wind which is the vital point.

All this adds up to the need for more anticipation on the part of the pilots and the need for special care to allow enough room at the launch point for the occasional swing or ground loop to happen without the glider running into another parked aircraft or obstruction.

From time to time this will happen, and it will be considerably more frequent than with the earlier breeds of gliders, so that it just is not good enough to rely on piloting skill to avoid what could be a very expensive accident.

If we apply the same kind of arguments to cross-wind landing techniques it will be seen that it is better to touch down with an over-correction of the drift than to fail to correct enough. This is particularly so with the "wheel well forward" set-up when touching down with drift due to the cross-wind—*particularly in light winds*—gives the perfect set-up for a ground loop.

It looks as though wheels will stay in their present position, fuselages are still getting slimmer and wing-tips lower. All these things plus the general trend towards heavier machines (compared with Tutors!) make control on the ground at low speed more critical.

DUNSTABLE AIR DISPLAY

28th and 29th August

THIS year the London Gliding Club is holding an AIR DISPLAY AND BALLOON MEET at Dunstable Downs on Sunday and Monday, 28th and 29th August.

The Display is being sponsored by the *Daily Express.*

Members of other Clubs will be very welcome at the Display. The Club can only allow visitors to arrive by air on the following conditions, however:

POWERED AIRCRAFT: P.P.O. from the Club Manager, John Jeffries, telephone Dunstable 63419.

GLIDERS: Only if permission to enter the circuit has been given by "Dunstable Control" on 130.4 m/cs.

Visitors should note that it is likely they will be refused permission to land after 13.30 hrs. The Club regrets that these restrictions have to be imposed. They are necessary, however, as the circuit will be full of man-carrying balloons, a Whirlwind helicopter and gliders from early in the morning until dusk. The Display itself will start at 14.30 hrs. on each day.

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THE KRONFELD CLUB

THE inaugural meeting of the Kronfeld Aviation Art Society took place in the club on the 29th April. The Society has 9 founder and 30 associate members to date, all of whom are active aviation artists. The Society's first exhibitions were at the Biggin Hill Air Fair, the National Gliding Championships and the Royal Aeronautical Society Centenary Flying Display at Wisley. Twenty-one works were sold and thousands of members of the public had the opportunity of seeing aviation art for the first time. The Society plans to hold quarterly get-togethers in the Kronfeld Club and the first of these was on the 8th July. The Society's annual exhibition and competition will be held during the month of November as usual. Anyone interested should contact the Hon. Secretary, Mrs. Bonham, at 14, Little Brownings, London, S.E.23.

The list of forthcoming lectures contains two feature films. "Giddup" on the 3rd August is an extremely funny Edwardian comedy. "Wild Wings" on the 7th September was filmed at the Severn Wild Fowl Trust.

Anyone attending Regional Gliding Contests is invited to come along and tell us about them and bring slides, films or photos if they have them; the date is the 10th August.

On 24th August, Derek Piggott is coming to tell us about his experiences of film making; recently he was con-

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cerned in the making of the "Blue Max".

There will be a club outing to this film in September when it will be shown in Victoria. Details will be found on the Notice Board.

A Wine and Cheese Party will be held at the Club on Wednesday, 5th October.

Y. C. B.

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

July	27	Hawker-Siddeley films.
Aug.	3	Feature film: "Giddup" (see above for details).
„	10	Regional Competitions. Informal reports.
„	17	Aviation Films: U.S.A.F. Highlights of 1965 and B.A.C. Mach Two Plus.
„	24	Talk by Derek Piggott (see above for details).
„	31	A Busman's Holiday, by Roger Neaves, B.E.A. Pilot.
Sept.	14	Osprey, by Keith Chard.
„	21	Aviation films: 1. Concorde Progress; 2. Concorde Flight; 3. The End of a Tank.
„	28	Gliding on the Equator, by Mike Garrod.

B.G.A. NEWS

Trailer Insurance in France

French legislation on insurance of trailers attached to the tow-car differs from that of other European countries. Most pilots have cover under their Aviation policy operative whilst the trailer is detached. Their car policy usually covers liability when it is attached. But in France an addition is required to the car policy and an extra charge may be made. The above also applies to Germany and Denmark.

B.G.A. Competitions

At the May Council meeting it was confirmed that entry to any National Championships held in 1967 will be based on the present rating system with one modification, viz., instead of the competitions which count for rating being the two *highest rated* ones, they will now be the two competitions which give a pilot the *best rating*.

EXAMPLE.—If a pilot flew in three competitions as follows:
1966

Nationals League 2, valued at 80%
1964

A Competition now devalued to 45%
1963

A Competition now devalued to 53%

Under the *old* rules the 1966 and 1963 contests would *have had* to be taken for rating purposes.

Under the *new* rules the combination of two contests which gives the pilot the highest rating will be taken (in this case they might be 1966 and 1964).

Any contest held in 1966 which is recognised by the B.G.A. as a "Qualifying Competition" will count for rating purposes. Contests will be devalued according to the rating of the top-rated pilot competing. (See following notice.)

A new Rating List will be published in the autumn of this year.

QUALIFYING COMPETITIONS IN 1967 AND AFTER.—Details of the organisation of contest flying which will apply after 1966 and which will affect the method of entry to any National Championships in 1968 will be announced later this year.

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Rating List for 1967

The following rating scheme is to operate in 1966 to produce a list for 1967.

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 shall be those which give a pilot the best rating.

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 1966 COMPETITIONS FOR 1967 RATING:

National Champs.—League 1 ... 100%
National Champs.—League 2 ... 80%

Qualifying Regional Competitions, according to the top pilot flying:

Top rated pilot 602 or more 70%
Top rated pilot 527 to 601 ..... 60%
Top rated pilot below 527 ..... 50%

VALUE OF COMPETITIONS PRIOR TO 1966 FOR 1967 RATING: A table showing values for National and Regional Competitions from 1959 to 1964 inclusive can be obtained from the British Gliding Association.

U.K. RECORDS

200-km. Triangle

The B.G.A. announces the re-introduction of the 200-km. triangle U.K. records. (These records were originally abolished when the 500-km. triangle records were introduced.)

The existing 200-km. U.K. records are as follows:

SINGLE-SEATER: J. Firth, 20.8.64, Skylark 3F, 71.9 km/h, 44.66 m.p.h.

TWO-SEATER: F. A. O. Gaze and Rosemary Storey, 30.4.60, Eagle, 43.5 km/h, 27.03 m.p.h.

WOMEN'S SINGLE-SEATER: Anne Burns, 22.8.64, Std. Austria, 69.3 km/h, 43.04 m.p.h.

400-km. Triangle

Also announced is the introduction of 400-km. triangle records for Single-Seaters, Two-Seaters and Women's Single-Seaters. These are *new* records.

200 and 400-km. Triangles

Any new 200-km. triangle records must exceed previous records by 2 km/h. This ruling will also apply to 400-km. triangle records after the first records have been established.

400-km. Goal Speed

A reminder that 400-km. goal speed U.K. records are recognized by the B.G.A. for Single-Seaters, Two-Seaters and Women's Single-Seaters, but no claim has ever been received for these.

BRITISH NATIONAL RECORDS

As from June 8th, 1966, the definition of "British National" for B.G.A. record purposes has been altered from "A pilot entitled to hold a British passport who pays taxes in the U.K." to the following:

"British National records may be set up in any country by any British citizen entitled to hold a British passport, ex-

cept that British citizens holding dual nationality shall not be elegible to hold British National records for flights that started in the country of their second nationality."

R. Q. BARRETT,
Chairman, Flying Committee.

LIGHTNING STRIKES

ON several occasions in the past, gliders have been damaged by lightning strikes (see SAILPLANE & GLIDING, October 1963). Until recently, pilots had only suffered from minor electrical shocks or from shock in the medical sense. But on 6th May, 1966, a pilot flying a Skylark 4 in a Cu-nimb died as a result of a lightning strike.

The precise sequence of events is not yet clear, but there is no doubt that a direct lightning strike on a glider can cause such serious damage as to cause partial or complete loss of control, and may incapacitate or kill the pilot. With suitable electrical bonding, these effects can be largely avoided, but very few gliders in this country, other than those of Polish origin, are fitted with adequate bonding.

It is now apparent that flying in or near thunderstorms in unbonded gliders is very dangerous indeed. We do not normally take steps to discourage enterprising flying, but we must now warn pilots that they should not approach or enter thunderstorms.

As a matter of urgency, the B.G.A. Technical Committee is considering the protection of gliders against atmospheric electricity.

F. G. IRVING,
Chairman,
B.G.A. Technical Committee.

OBITUARY

PETER HILL died on Friday, 6th May when his Skylark 4 crashed into a field near Easingwold in the North Riding of Yorkshire.

Peter was towed off to a small cumulus that afternoon. He joined it and it built up very quickly. At 4.30 he called his partner, Jack Speight, on the radio to say it was very rough at 5,000 ft. Jack called him at 4.45 but there was no response.

We reconstructed those last moments. Lightning appears to have struck the port leading edge some 9 ins. inboard from the pin fitting. The lightning travelled along the spar and vapourised part of the airleron cables. The aircraft spiralled down and the damaged tip broke off. As speed built up the wing disintegrated. The fuselage bunted, throwing the pilot out, too low to use his parachute. With one wing severed, the aircraft would have barrelled, the centrifugal force preventing the pilot getting out — although the straps were undone.

Peter Hill was 40 years of age and was married with three children. He was educated at Bradford Grammar School. He joined the R.A.F. and flew as a Sergeant Pilot. He had a P.P.L. and 400 hours to his credit in power aircraft. Peter had that attractive combination of energy and enthusiasm often found in the West Riding. In 1953 he founded his own Company — P. H. Thermal Products Limited — in Shipley where he had lived all his life.

Our deepest sympathy has been conveyed to his wife Judy, his two daughters and his son.

J. C. RIDDELL

WESTERN REGIONALS

IN order to publish the results of these Regionals in this issue, only brief notes on tasks (set by John Fielden) and weather (forecast by Bruce Bishop) follow.

SATURDAY, 18TH JUNE. — Distance along a line via Shillingford Bridge and Sutton Bank. Distance to Sutton Bank 291 km. Wind 15 kt. S.W., good cu, but showers especially near first turning-point. "Tug" Willson won the day by landing at Doncaster, followed by Ralph Jones and Ralph Ismail a few miles behind. No one reached Sutton Bank.

MONDAY, 20TH JUNE. — Free Distance in a light westerly with low cloud base after rain in the morning. Launching

commenced at 14.00 hrs. Siegfrid Neumann 1st, landing at Bourn airfield in Lincs. 2nd, Ralph Jones after re-light at 18.00 hrs., landing at Dunstable. 3rd, "Tug" Willson.

TUESDAY, 21ST JUNE. — Out-and-return Moreton-in-the-Marsh, total distance 103.4 km. Strong S.W. wind with patchy cumulus and strato-cu with large areas of "nothing" at start and finish. Launching at 13.30 hrs. Ralph Jones arrived back first with "Tug" Willson only four mins. behind. Chris Simpson was the only other pilot to return airborne.

THURSDAY, 23RD JUNE. — Race to Lasham via Farringdon Folly, total distance 113.5 km. Good cu and a 15-kt. westerly changed rapidly: over-convected, and the wind backed S.W. 25 kts. There were heavy showers in the airway. Only Siegfrid Neumann and Ralph Jones managed to reach Lasham.

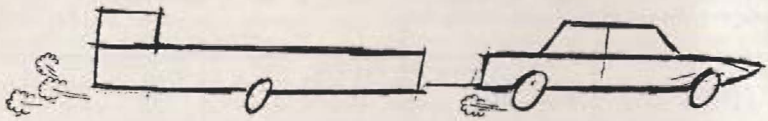
SUNDAY, 26TH JUNE.—Triangle: South Marston, Broadway Tower, Nympsfield, total distance 134.9 km. A 5-kt. westerly increased to 15 kt.; low base, becoming overcast, and eventually it rained before anybody finished. Chris Simpson landed only four miles short of base. 2nd, "Tug" Willson; 3rd, Ralph Jones, both landing near Cheltenham.

T. R. GARLAND

Final Place	*Pilot(s)*	*Contest Day and date* 1 18th	2 20th	3 21st	4 23rd	5 26th	*Total Points*	*Sailplane*
1	R. Jones	936	692	986	939	739	4292	Olympia 403
2	B. J. Willson	1000	653	1000	389	778	3820	Skylark 4
3	D. S. Wigglesworth, G. S. Neumann	111	1000	613	1000	513	3237	Skylark 3F
4	R. Ismail, J. Cochrane	916	428	698	208	626	2876	Skylark 4
5	M. P. Seth-Smith	849	587	587	104	733	2860	Olympia 463
6	C. R. Simpson, P. A. Martin	327	0	915	389	900	2531	Dart 17R
7	M. Pope	193	605	717	457	186	2158	Dart 17R
8	R. H. Prestwich	210	595	698	457	0	1960	Skylark 4
9	L. Redshaw	362	236	727	95	533	1953	Skylark 3F
10	N. O. P. Hughes, D. Paddison	735	112	0	244	533	1624	Olympia 463
11	R. H. Perrott, G. Fisher	631	76	300	313	104	1424	Skylark 2x
12	M. Westwood, D. Cameron	193	0	475	0	500	1168	Olympia 463
13	J. Docherty, G. A. Glennie	735	73	358	0	—	1166	Dart 17R
14	R. C. Stoddart, B. W. Brighton	321	20	460	244	10	1055	Dart 15
15	J. Webster	182	457	0	0	378	1017	Skylark 2
16	A. J. Watson	478	25	426	0	0	929	Ka-6CR
17	J. V. Inglesby	193	11	415	208	—	827	Olympia 465
18	W. Mason, M. J. Smith	166	185	320	59	94	824	Ka-6CR
19	J. Hancock, R. Trott	625	92	0	0	0	717	Dart 15
20	F. W. Fay	251	7	0	190	94	542	Dart 15
21	L. C. Booth, B. A. Davies	386	0	0	0	0	386	Olympia 463
22	F. L. Fitchett	0	0	320	0	0	320	Ka-6CR
23	B. Walker, E. Chubb	0	0	300	0	—	300	Blanik
Hors Concours								
Below 13	D. W. Corrick	746	413	0	—	0	1159	Std. Austria
Below 18	J. New, J. Heeson	97	—	517	104	0	718	Skylark 4 and Olympia 465

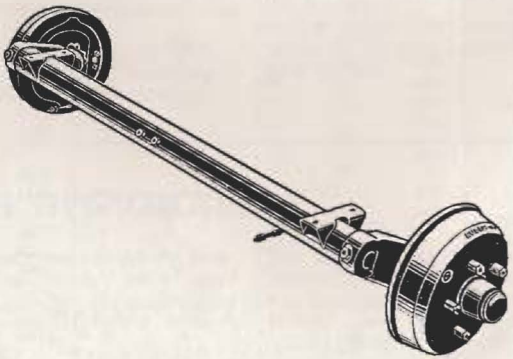
*Asterisk: Pilots changed sailplanes, putting themselves hors concours. — Dash: Did not fly. 0 Zero: Did not score. The Skylark 2, 2x and Blanik received 10% handicap. These scores have not been checked by the Flying Committee.





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DUTCH NATIONALS

By SJAAK VAN ECK

THE Championships were held at Terlet from the 23rd May to 3rd June. During the first week the weather was influenced by some cold front passages which gave some very fine days. The second week a persistent high gave pretty stable air with a northerly (cold) airstream. However, tasks were set on eight days, seven of which resulted in contest days.

Ed van Bree now has the distinction of being National Champion for the third time in succession.

Eighteen of the twenty-five competitors flew Ka-6's; four flew Sagittas and the rest was made up of one Ka-7, one Hütter Libelle and one Phoebus, the latter belonging to a German guest.

TUESDAY, 24TH MAY.—Out-and-return to Stadlohn, total distance 127 km. Of the nineteen pilots who completed this task, Ed van Bree was the winner with 63.6 km./h. Four pilots arrived at the turning-point before the observers and had to wait until they came with the markers; however, their points were adjusted to cover this mishap. One pilot had barograph trouble and was disqualified.

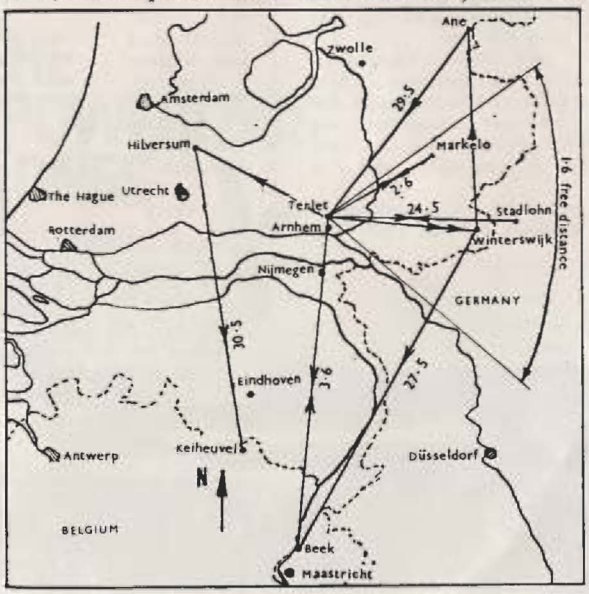
FRIDAY, 27TH MAY.—Owing to the weather no tasks were set on the two previous days. Race to Beek via Winterswijk, total distance 188 km.

Fourteen pilots reached Beek with van Melzen making the best speed, 63.3 km./h. Again one pilot had to be disqualified because of barograph trouble.

SATURDAY, 28TH MAY.—A 100-km. triangle was set, but the day turned out to be a no-contest.

SUNDAY, 29TH MAY.—Triangle: Winterswijk, Ane, Terlet; total distance 207.5 km. If the shape of this triangle had conformed with the F.A.I. Code Sportif, Arie Breunissen would have been able to claim a new National record, as he won this task with 60.9 km./h. Huberts and Sillen, flying the Ka-7, set up a new local two-seater duration record; they were airborne for seven hours. Twenty-one pilots completed the task and one was disqualified — yes, barograph trouble.

MONDAY, 30TH MAY.—Race to Keiheuvel via Hilversum, total distance 168 km. Only eight pilots managed to finish this task, which was won by van





Left: Ed van Bree, Dutch Champion third time running. Below: The Phoebus, from Germany, fully rigged on its trailer.

Steinfoorn at 57 km./h. Three pilots landed at Hilversum, 56 km. away, and the rest landed within 50 km. from Terlet.

TUESDAY, 1ST JUNE.—Under marginal conditions Free Distance was set with first launch at 14.00 hours. The day was won by Kater with 109 km.

WEDNESDAY, 2ND JUNE.—Out-and-return to Markelo, total distance 77 km. With the same difficult conditions as the previous day, no one completed the task, but van Steinfoorn made the best distance, 64 km. Eleven pilots did not score.

THURSDAY, 3RD JUNE.—Out-and-return to Beek, total distance 257 km. Only van Bree (209 km.) and van Melzen (192 km.) rounded the turning-point, the rest landing along the first leg.

Final Leading Results

Pilot	*Sailpl.*	*Pts.*
E. F. van Bree	Ka-6	5889
J. van Melzen	Ka-6	5730
E. T. Réparon	Ka-6	5279
C. Rab	Ka-6	4423
J. J. van Steinfoorn	Sagitta	4335
A. Breunissen	Ka-6	3955
A. Dekkers	Ka-6	3869
R. A. Breunissen	Ka-6	3762
A. van Gurp	Ka-6	3756
H. L. G. van der Salm	Ka-6	3672



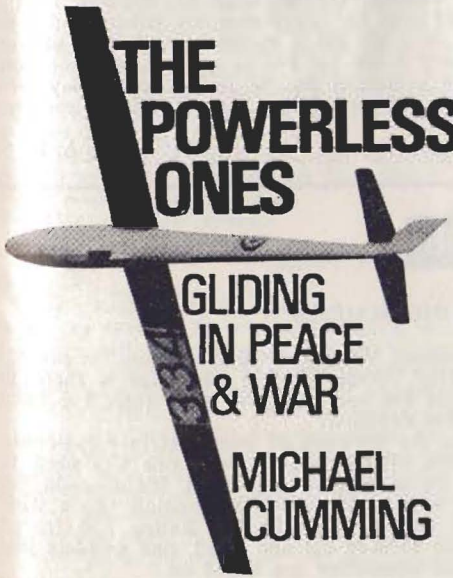
BOOK REVIEW

The Life of a Genius, by GERARD FAIRLIE and ELIZABETH CAYLEY. Published 1965 by Hodder and Stoughton, London. Price 25s.

THIS biography of Sir George Cayley, inventor of the first man-carrying glider, is based on a great amount of authentic material (one of the authors being married to a descendant of Cayley), though it contains some imaginary conversations and guesses at people's thoughts. It includes, of course, his many inventions, though these have been more technically discussed in Laurence Pritchard's "Sir George Cayley" and C. H. Gibbs-Smith's "Sir George Cayley's Aeronautics".

The book is well worth reading by those interested in Sir George's personality. It is clear that he should have married his cousin "Miss Phil" — Philadelphia Frances Cayley — but unfortunately he was bedazzled by the beautiful but hot-tempered Sarah, who became Lady Cayley. Not content with being rude to nearly all his friends and relations, this woman had to write them offensive letters as well. The authors discuss the question whether Sir George gave so much time to his scientific investigations as an escape from Sarah, or whether, if he had married Miss Phil, her encouragement and her saving him from distractions would have enabled him to bring more of his inventions to complete development in his lifetime. They favour the second view.

Of the large Cayley family, the only one to get on with their mother was Digby, who had no interest in science and despised his father's aeronautical ambitions, but developed into a very capable farmer and estate manager, and eventually, on Sir George's death in 1857, took over the baronetcy. He ordered the remains of one of the flying machines to be towed into a disused barn, where it was re-discovered, with hens roosting in it, in 1928. A. E. S.



The fascinating story of gliding from the pioneer days to the present high-calibre competition including engrossing well related accounts of the military uses of unpowered flight and the little known Atlantic crossing.

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The Powerless Ones: Gliding in Peace and War, by MICHAEL CUMMING. Published 1966 by Frederick Muller. Price 30s. Obtainable from British Gliding Association.

"THE POWERLESS ONES" is better written and of greater interest to glider pilots than one might expect from the rather affected title and the author's lack of soaring experience. Michael Cumming, a journalist, brings thorough research and professional skill to this varied picture of gliding as a sport and as a means of waging war. Historical passages outlining the growth of gliding alternate with dramatic accounts of outstanding flights, from Klemperer's 1921 duration record at the Wasserkuppe to Paul Bikle's height record at Bishop in 1961. The purist might disagree with the author's priorities; Kronfeld is virtually unmentioned while Atger's 56-hour duration record takes up 11 pages. The fascinating story of the goalbird "Colditz Cock" — which never took the air because of the progress of the war — is more a war thriller than a chapter of gliding history.

However, the enjoyment of this book comes from the freshness of the author's departures from well-trodden paths. As for the layman, he will find "The Powerless Ones" a great stimulus to visiting his local gliding club. Mr. Cumming will prove a persuasive recruiting-sergeant for the movement. MICHAEL BIRD

The First Book of Flight, by JEANNE BENDICK. Published by Edmund Ward Ltd., London. Price 13s. 6d. in U.K. only.

THIS book, written in simple language for young people, and first published in America, starts well with two maps: one, on Mercator's projection, shows the sea route from New York to Tokyo via Cape Horn 100 years ago; the other, a circle with the North Pole in the centre and Antarctica round the rim, shows the short, straight air route from New York to Tokyo over the Pole. In a section on simple aerodynamics the authoress does not say *why* a faster airstream exercises less pressure, but nor do the writers of aerodynamic textbooks.

Many kinds of engines including ramjets, the workings of airports, instruments and radio, and a great variety of uses for aeroplanes are briefly and well described, helicopters and lighter-than-air craft get a mention, and the author's drawings are on almost every page. Only flying for fun is omitted, and the sole mention of gliders is in a paragraph on Lilienthal. So the young reader may well get the idea that the object of aviation, and perhaps of life itself, is to perform tasks of practical utility.

This is an excellent book for its purpose. A. E. S.

CORRESPONDENCE

THE RATING SCHEME

Dear Sir,

I heard with horror of the recent Council Meeting decision to adopt the present rating scheme for yet another year, 1967. What possible advantage is there in writing off the following year in May of the previous year when there has been one competition from which to assess the situation?

Already looming on the horizon is the problem of oversubscribed regionals. How can this be solved with the present system frozen? Soon one will need to be on the Rating List before one can fly in competitions at all. It's all right for those sitting pretty on the Rating List with a mere 10% devaluation and a wide choice of competitions from which to choose, but with the Rating List frozen for the whole of last year and next year already cut and dried, one wonders just what the conclusions of the investigation committee are based on.

Perhaps someone would like to explain before all us aspiring competition

pilots get the impression that we are not wanted.

I hope that a loophole has been left so that after all the competitions have been flown this year, at least minor modifications can be made if required while a more comprehensive and elastic system is found.

Cheltenham, Glos. JANE WARTER

ROGER BARRETT, Chairman of the B.G.A. Flying Committee, writes:—

Jane Warter's letter raises a number of points which will be fully dealt with when the details of the new structure for B.G.A. Competitions are announced later this year.

As far as timing is concerned Council decided when it set up the Competitions Committee in October, 1965, that any alterations to the present arrangements would not come into force until 1967 (see S. & G. Dec. '65-Jan. '66, page 486). Council confirmed this decision in May this year. It was felt that it would be very unfair for pilots to compete in Qualifying Contests this year without knowing what new regulations would apply (retrospectively) for entry to the next Nationals.

As a "holding" operation, therefore, the present Rating Scheme — with one modification (as detailed on page 303) — will apply for entry to any National Championship held in 1967.

"STATELESS CITIZENS" OF BRITISH GLIDING

Dear Sir,

May I ask the B.G.A. to reconsider the present regulation governing British National records?

According to other glider pilots, who are British citizens resident overseas, their applications for British National records are still being turned down because they do not live in the United Kingdom. This is contrary to the generally accepted practice throughout the gliding world. Other countries are happy to recognize and acclaim the achievements of their citizens overseas, no matter where they live.

Under the present restrictive ruling a vast body of British pilots become "stateless citizens" from a gliding point of view. As a result of this and the poor weather in the United Kingdom, a glance at the current list shows that British National Records are limited to a handful of U.K. residents who are able to travel extensively abroad for their high-performance gliding. This "closed-shop" stultifies competition, and the achievement level must be much lower than it would be if open to all British pilots.

There may have been some justification for the ruling in the days when British residents in former colonies enjoyed dual nationality. This is now virtually non-existent, however.

Please, B.G.A., in the interest of keener competition and good sportsmanship, reconsider your regulations on this subject. [See page 303.—ED.]

East London, Cape Province, TED PEARSON
Republic of South Africa.

MORE PROFESSIONALISM

Dear Sir,

The letter in your June issue from D. J. Carey strikes a chord of sympathy here as I seem to fit into the category of members that he describes. However, I can give him an answer in one word. Money! Gliding is not the cheapest sport, needing, as it does, large areas of land, hangars and expensive aircraft. My own club is capitalized to the extent of approximately £130 per member; and while this may not sound a great deal of money thus expressed, it is doubled if syndicate aircraft are taken into account; while for the type of organization which could give anything approaching "flying when you want it" I suggest this figure would need to be doubled again, since the ratio of members to aircraft and launching facilities would have to be very different from that obtained in clubs today. Furthermore, with professionals to do the work the running costs would be such that launch fees might be prohibitive for most members. Thus, setting aside the question of whether a commercially run club would retain the club spirit which I believe

means nearly as much to some of us as the flying, such a club would mean vastly more expensive flying.

It should not be forgotten that for the gliding movement to operate even as it does today (in a position of perpetual impecuniosity — well, we are here, anyway!) is due in very large measure to the generosity of various bodies and individuals who have loaned or donated money to the movement generally and to individual clubs.

NIMMO.

TO HELP OR NOT TO HELP

Dear Sir,

It was very interesting to read the "It's All Yours" article in the April issue of SAILPLANE AND GLIDING, although I did not agree with the conclusions.

In my opinion skiing is much more enjoyable than gliding because one can just pay and ski. There is no question of getting freezing cold greasing a ski lift!

Because of the way gliding has evolved, it seems to me that the sport today is confined to the small number of people who are prepared to devote to gliding almost the whole of their spare time. It is all very well to say this is just a function of enthusiasm; in my experience it may also be a question of just how selfishly one is prepared to treat one's family.

Ted Warner, our C.F.I., says gliding members are divided into three categories: those that work because they like it, those that work because they feel they have to, and those that don't work. As everyone at Cambridge knows, I fall squarely into the last group. If I was not allowed to, I would simply have to give up gliding; I cannot give more time to the sport, and in view of the money I spend, I am not prepared to do less soaring. Nevertheless I feel very guilty about the amount of voluntary work done by other members which keeps me flying.

Obviously there will always be a demand for clubs run entirely by voluntary labour with expenses kept to a minimum. Surely, however, the time has come for the British Gliding Association to try and establish a proper soaring centre within reach of London where work done by members is kept to a minimum and private owners are encouraged, not just tolerated. At such a site, expenses would clearly be somewhat above the present level. If however winch launching was abolished, so eliminating most wasted effort, I am convinced that prices need not be exorbitant.

It seems incredible that even now there is only one main club as far as I know providing hangarage for private owners. In America they have electrically operated hangar doors to save the members pushing!

Sandy, Beds.

SIMON REDMAN

[We understand that the proposed centre would come under Ministerial, not B.G.A., control.—ED.]

NATIONALS 1966

Dear Sir,

May I make the following comments on the 1966 Nationals, in the hope that some of the points will be of value in improving future events?

I would like to congratulate the Competition Director on the excellence of her task-setting. For example, Contest Day No. 4, 29th May, Distance through South Cerney: Broadway Tower, Blenheim Palace, Lasham, South Cerney and on. An excellent task with pilot skill being fully extended, and yet how much better to be passing over Lasham again after 5-plus hours in the air than, as on Free Distance, to be 200-odd miles from base with the prospect of a costly and tiring all-night retrieve. And how much better it is to have lead-in chevrons to turning-points. After all, the object is to fly a sailplane round a given course as fast as possible, not to carry out a pin-point navigational exercise at each turning-point.

My other comments run very closely with the views expressed by American team member "Dick" Johnson in a letter to SAILPLANE & GLIDING, October, 1965, page 398, after the 1965 World Championships.

Broadly, my observation is that the Contest Director is directly affecting the results of the Championships in the following ways:

(i) Not setting tasks on all but impossible days.

(ii) Cancelling tasks when it is just possible a contest day could be flown.

(iii) Not starting launching on designated start days *as soon as it is reasonably soarable.*

(iv) On Free Distance day, declaring a designated start instead of pilot-selected take-off.

(i) In view of the British weather every opportunity to fly must be exploited, but this is just not being done.

We ended the 1966 Nationals with three good days, but on 27th May we were in great danger of having a "no-contest" as we had only achieved two contest days out of a possible seven. Tasks should be set and not cancelled unless the weather is *really* impossible. We have all assembled at great expense to do one thing. Soar in competition! Most competitors would prefer to at least attempt a task rather than sit in the clubhouse talking about it. There seems to be a great fear of setting the machinery in motion on a task, and not achieving a Contest Day. This is, however, preferable to the other thing, a declaration of No Contest followed by stagnation.

It is the considered opinion of several League 1 pilots that we could have had Contest Days on two or possibly four of the cancelled days. For example, on 24th May a warm front was due with rain at Lasham by 11.30 a.m. This transpired. Briefing was at 9.30 a.m., when no task was set, and whilst we were being entertained to a recording of "The Archers" it was most definitely soarable outside. Surely the system should have been flexible enough to advance briefing to 9 a.m. with gliders on the grid by 10 a.m. It ceased to be soarable at Lasham only after 11.30 a.m., and club gliders were soaring at Booker after midday. These observations are not hindsight but were opinions formed at the time in question.

(ii) and (iv) 27th May was declared Free Distance but with designated start. We were left frustrated on the runway when many of us would have been airborne if it had been, as it should have been, pilot-selected take-off. I can only say I agreed fully with our most eminent pilot when he observed that it could have been a fascinating Free Distance day had we been allowed to get airborne in our own selected time.

(iii) On designated starts, competitors should be launched as soon as it is reasonably soarable (see letter by Tony Deane-Drummond, SAILPLANE & GLIDING, December, 1965, page 526); not when observers, airborne or on the ground, think the moment is right.

On the first League 1 contest day we waited on the grid for 40 minutes for word to launch. It was cracking overhead. Only eight pilots completed League 1's task. How many could have got round had we been launched earlier? The decision to launch should be taken as soon as it is reasonably soarable, and the decision to cross the start-line be left, with adequate time in hand, to the pilots.

I do appreciate how difficult it is for the Contest Director to assess the often delicate situation presented to her by the met. men, and I would like to say again I think she is a first-class task-setter; but please when it is a go—no go decision let's GO.

I for one will never complain if I come crashing down, or even get soaked on the grid.

Glasgow, Renfrewshire A. J. STONE

NOTE FROM CONTEST DIRECTOR.—Perhaps "Rocky" Stone would like to say where he was during all the occasions when briefing was postponed, or re-postponed, in order to take every possible opportunity of using the weather, or on 27th May (free distance) when League 2 in fact went off, but failed to achieve even a minimum de-valued contest day because of the absence of lift.

There are still people who think that championships are simply an extension of their own personal soaring, instead of comparison flying to a set of rules.

There is a vast difference between giving the maximum fair flying to 80 pilots (all of whom have paid the same entry fee) and one individual using the weather as he wants.

Of course the Contest Director affects the results of the Championships; so do the tug pilots, the scoring system, and the drains. A competition, however, has to be directed by someone, otherwise it would be a chaotic free-for-all, with far from fair results. The Contest Director is not just an individual happily playing competitors like fish, but a team (met. men, co-task setters, etc.) who, with far more overall information available to them, are doing everything possible to give *all* competitors a fair chance of winning.

If Rocky would like ulcers and grey hair he could have the job next year. I am sure we would all be delighted.

ANN WELCH

ARMY CLUBS OPEN TO ALL REGULAR ARMED FORCES

Dear Sir,

In his article "A better deal for the solo pilot, please" in the June/July issue, Alan Purnell mentioned that "Soldiers join the Army Soaring Association, Poles join the Polish AFA and the remainder join the Surrey Gliding Club". This is not quite true.

Whilst in no way wishing to detract from the Surrey Chairman's excellent article by picking up what to him is a side issue, may I use your columns to point out that in fact all members of the regular Armed Forces (not only soldiers) are very welcome to join the Army Soaring *Club* which operates high-performance sailplanes at Lasham.

Indeed, it would be as well to take advantage of this letter to explain that the Army Gliding Association embraces six clubs in the U.K. Membership is open to the regular members of the Armed Forces on a reciprocal basis with R.N. and R.A.F., as is our Country Membership for those living more than 50 miles radius from any of our sites, and our Overseas membership for those outside U.K. Further details are available to Service personnel in D.C.I. (Army) 58/66 or from me at the address below, or c/o British Gliding Association.

Ministry of Defence, Signals 6 (Army),
Whitehall, London, S.W.1.

DONALD SCARFE
Hon. Secretary, Army Gliding Association

CAN VULTURES SMELL THERMALS?

Dear Sir,

A recent article posed the question "Can vultures smell thermals?" My experience would suggest that this is very probable. I have found that thermals here are frequently accompanied by the unpleasant smell that is typical of Aden. The light dawned one day recently during a dual soaring trip when I commented to the pupil that we must be approaching a thermal as I could smell a nasty smell. I suddenly realised that this was not as stupid or as funny as it sounded. Smells cannot originate in the air at, say, 2,000 feet, but must have originated on the ground. Therefore the only way the smell can have reached that height is by the air having risen from the smell source, i.e. in a thermal. We must all have had similar experiences in England in smoke thermals.

Aden Services Gliding Club

JACK HARRISON

[We have had no other recent reports of human detection of thermals by smell, but there were some in the pre-war SAILPLANE & GLIDER. An R.A.F. plane on a meteorological flight over Tochi Valley in Waziristan (India) flew into a thin patch of cumulus at 6,900 ft. and the observer, R. G. Veryard, immediately had symptoms of hay fever — watery eyes, itching nose and sneezing. He noticed that, on the hillside directly below the cloud, a party of villagers were winnowing (Jan. 1934, p. 10). Hugh Bergel on a Silver C flight was saved by flying to a burning rubbish dump, which he smelt as he climbed to cloudbase at 3,800 ft. (Aug. 1935, p. 122). But don't jump to conclusions. The late "Willie" Watt, after

casting off at 3,000 ft. from an aero-tow at Welburn (by Slingsby's) smelt manure; so, having heard about the hay, he started circling his Kite without bothering to look at the variometer. After several circles he looked at it and found he was in a downdraught. He wrote: "The mystery was solved soon after landing, for Major Shaw occasionally grazes sheep at Welburn and I must have been a little careless before entering the cockpit." (July, 1937, p. 161).—ED.]

Change of Adress.—Alan E. Slater, Editor of SAILPLANE AND GLIDING, has moved to: 26 Station Road, Cambridge.

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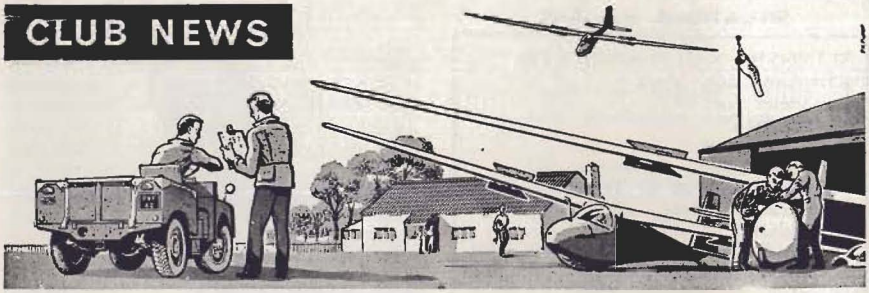
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CLUB NEWS



IN this issue we welcome two new clubs, the Albatross Gliding Club, flying at present from a site at Bigbury near Plymouth, and the Wrekin R.A.F. G.S.A. Club flying at Cosford.

Some reports have suffered again from heavy pruning as they contained lists of names which we really feel are of little interest to readers generally outside the club concerned.

Reports and photos for inclusion in the October-November issue should reach me, typed double-spaced, by Wednesday, 17th August, and for the December-January issue not later than 19th October at 14 Little Brownings, London, S.E.23.

YVONNE BONHAM (MRS.),
Club News Editor.

15th June, 1966.

ALBATROSS (Plymouth)

WITH almost 500 launches logged, we feel that we can now regard ourselves as an established club, and announce our presence more generally in the world of gliding.

The club was formed in February, 1964, by a group of about twenty officers and instructors of Plymouth and Cornwall Wings of the Air Training Corps. All had at least A and B qualifications, and among these founder-members were several who had served on A.T.C. Gliding Schools as powered pilots.

It was after almost eighteen months of meetings, plans, and many bitter disappointments that the club made its maiden flight in November, 1965, from the present site about two miles N.E. of Bigbury. We are operating from farm land owned by David Cundy, himself a wartime pilot, whose first experience of gliding has been through the club. It is fitting that he was our first pilot to qualify for his A and B.

Our present site is very limited, and our main reason for starting there was the existence of several disused farm buildings which were readily converted into storage space for the aircraft and equipment. We have also converted an old cow-shed into a club-house.

David Cundy has offered us a most promising site on another farm near Salcombe, where the launches will take us over a cliff edge, and plans are under way to evaluate this site in the near future. Unfortunately this site is devoid of any accommodation, which means we once again face the universal problem of finance. However, we have several irons in the fire, and many fund-raising ventures under way.

Naturally, as a new club, our equipment is very limited. We own one T-31B, one winch, one tractor and numerous bits and pieces. We have been exceptionally fortunate, however, in securing the services of Frank Mares as our C.F.I.

Frank is a former Czech Spitfire pilot, who has been flying since 1935, and he has impressed us not only with his airmanship, but also with his ability and efforts in the repair and maintenance of the equipment. Largely due to his efforts we were able to secure the services of a large garage, where we were able to spend a week on an extensive overhaul of the winch.

We have also been fortunate in receiving several visits from Ann Welch and John Everitt, who have been most helpful in advising us on our problems and our future aims. Perranporth and Dunkeswell have also helped us in various ways to get started.

During 1966, we hope to obtain a second aircraft and establish ourselves at the new site, where we are sure, we will be able to offer excellent soaring facilities to visiting clubs. F. C. S.

BATH AND WILTS (Keevil)

WHEN our club was started a little over three years ago by a very small band of enthusiasts it was decided to name the club after our own very beautiful city of Bath.

Times have changed — not Bath in its unique setting — and our present membership draws upon an ever increasing area.

Our "home" is at R.A.F. Keevil in Wiltshire, a large percentage of our membership are Wiltshiremen, and we are administered by Wiltshire County Council. As a token of our appreciation to the latter for the support they have given to us (from sympathetic de-rating to support for grants, etc.) it was decided almost unanimously at our recent A.G.M. to rename the club Bath and Wilts.

In a year when the fair sex have shown us the way home in more ways than one; a member of that set achieved something which none of the mere males in our club have so far succeeded in doing. Joy Lynch completed all three Silver legs in one flight; she has decided to claim duration and distance.

We are not at present allowed to keep a tug on the airfield under the terms of our license although tugging is permitted by visiting private aircraft. Application has been made and it is hoped that in the very near future this ruling will be changed in order that aero-tows will be available whenever required.

For the past two years we have operated very happily under Group Captain Mackie and it was with sincere regret that we said goodbye to him upon his promotion to Air Commodore and posting to Ministry of Defence. K. N. S.

BRISTOL

WE might have known, after our remarks concerning Lasham in the last issue, that we would soon be eating humble pie. Within a week of Whitsun three of the club's solo fleet were put out of action.

There was a noticeable increase in cross-country flying before the Nationals and an equally noticeable increase in the talk about Darts afterwards. 500 hours were flown from the site in May, not including courses. 72 hours over one week-end alone.

With two-way R.T. installed in the clubhouse it should be possible for anyone calling "Nympsfield Base" to get a reply and/or observation if they require it; certainly at week-ends. We have found this installation extremely valuable and regularly hear the chatter of our friends at The Mynd and Lasham.

The pundits are climbing their way up the ladder with Ron Sandford at the top. Further Silver C legs show no diminishing of the members' enthusiasm.

R. G.



Retrieving the Prefect at Nympsfield.
(Courtesy "Gloucester Citizen")

COVENTRY

RECENT flights of interest include three Silver distances — Ken Haines to Henlow, Les Crawford to Bickmarsh, John Williams to Bristol; Ron Gardner's trip to Castle Coombe, Alwyn Findon's out-and-return to Nympsfield landing at Rugby on the way back, Bill Fay's climb to over 12,000 ft. missing Gold height by a narrow margin due to a 3,000 ft. tow, and Keith Nurcombe's trip to Wattisham, gaining his five hours and Silver C distance at the same time. This trip was particularly notable for the very interesting sea breeze finger effects.

After much pushing and goading by us we are pleased to say that at long last Camphill have bestirred themselves to fly down for the trophy, which was gathering a lot of dust on our shelves. We hope it will soon be back to gather more!

At the time of writing John Everitt has arrived with the Capstan for the first of several Instructor Courses, and these coupled with our own ab-initios should provide an almost continuous flow of flying until the Autumn, which we hope will be the predecessor of continuous all-the-year-round flying next season.

F. W. F.

DERBYSHIRE AND LANCS.

BERNARD Thomas, J. B. Jefferson, F. M. Newboult and D. M. Kaye, remain in office as Chairman, Secretary, Treasurer and C.F.I. respectively.

We now have a new Steward and Stewardess, Mr. and Mrs. A. Bennett, who have adapted themselves very quickly to the ways of gliding people, and are coping well with the summer courses, and working their way up to the Northerns which are held here this year.

The winter was long but not hard at Camphill and flying although often limited to high-performance machines, took place on most weekends. On four weekends in the spring, heights of over 10,000 ft. were recorded, with many more in the 7,000-8,000 ft. band. The waves have been kind to us this year. On 7th May seven machines left the site, covering a total of 550 miles. One of these flights brought back the Camphill-Husbands Bosworth Pot. Three Gold C legs and seven Silver C legs flown completes the flying round-up for now.

We are sorry to have to report the death of Cyril Kaye, who will be remembered by many as one of the first members of the club and a pioneer winch builder. Our sympathies go to Dorothy, his wife, and to Mick, his son.

We hope to see many of you at the Northerns and take this opportunity to welcome anyone who finds time to visit us when in the district any week-end.

E. R. B.

LAKES

THE A.G.M. on 22nd May was notable as marking the official transfer of the duties of C.F.I. from Ron Reid to David Millett. Ron, as founder-member of the club, relinquishes the post at his own request, he is succeeded by one of his own protegés. David Millett is already developing one of Ron's pipe dreams by starting flying from Lowther Park, and although weather has not been helpful, the results are extremely promising. Another base for advanced training seems assured.

A party from the Kendal Youth Council has visited us at Walney and several youngsters had their first experience of the sport. F. G. R.

LINCOLNSHIRE

THE A.G.M. was held on the 5th May and it was encouraging to see so many members attending, thanks go to the retiring Chairman and Secretary, Jack Nicoll and John Cheeseman respectively, the new Chairman being Ted Barker, and Secretary, Dennis Fincham.

We are eagerly awaiting delivery of a new Swallow, and it is hoped it will be doing its maiden flight within the next month.

A most successful children's party was held on the 12th June. R. J. R.

LONDON

SOMEWHAT above normal rainfall, coupled with the determined efforts of local contractors to fill up the gully alongside the clubhouse, have made Dunstable rather squelchy until the early



The London Gliding Club copes with a traffic problem. (Photo by Tony Marshall)

summer. Progress across the ground might have been somewhat hampered, but in the air it's been a different story. A considerable crop of C and Silver C legs have been harvested, culminating just before the Nationals with an attack on the Bury St. Edmunds-Leicester East 300-km. triangle. This was completed by Mike Fairman (Gold C and several bars), Macdonald in the M-100s (to confound his critics!) and we hope, Tom Shepard in his Dart. Tom is trying hard to convince himself and everyone else that his first turning photo is Bury St. Edmunds, but there are mutterings that he went round Haverhill! After this effort one wonders if the Plymouth milk run is going out of favour. Indeed, some of the more ambitious types have even got 500-km. triangles drawn on their maps, any thoughts of covering Diamond distance in a straight line having been put aside. There have been several outstanding days this year (weatherwise), though the boat was missed on one or two occasions. One such date was 28th April, which produced powerful thermals in spite of saturated and waterlogged fields. Another good day was 10th May, when John Jeffries had a marathon 8½ hours in the Dart and covered well over 300 km. The Nationals are covered elsewhere in this issue, but one cannot omit to congratulate John Cardiff for his fine effort in League 1.

The Club management and catering now has a new look, John Jeffries having taken over the C.F.I./Manager post, and the Harmandians the kitchen and bar. John's efforts are already bearing fruit, while the members are appreciating an excellent variety of cooking.

Apart from courses most weeks between March and October, several special courses are being run as well. We have had the Young Ornithologists, a Maintenance Course by Ray Stafford Allen, and regular evening visits by parties from local schools. We have also been visited by a well-known Mersey beat group, the purpose of which was not to entertain the members!

We have had close on sixty entries for our Regional contest, whereas we are unable to accept more than forty. We regret having to decline entries by so many people, but we will be stretching ourselves to the limit to operate this number of gliders from our site.

M. P. G.

MIDLAND

AT the A.G.M. Wilbur Wright, John Anstey and John Knotts retired from the Committee and earned our thanks for the many years they have served the Club. Their successors are Marjorie Hobby as Treasurer, and Paul Hurwitz and Ron Miers as General Committee members. The other members of the Committee were unchanged.

"Coals to Newcastle" with Rick Prestwich achieving a better than Diamond height gain in wave. He has set a very difficult mark for anyone else with designs on the height trophy. Bob Swift

BOOK RIGHTS—CHAIRMAN'S GIFT

Since Philip Wills gave ON BEING A BIRD to the Gliding Association in 1951, we have sold over 20,000 copies of the paper-backed edition.

He has now given us the future rights of WHERE NO BIRDS FLY, and the first edition is on sale at 10s. 6d. from the B.G.A. This is hard-backed as the original edition.

BEAUTY OF GLIDING is now unfortunately out of print and unobtainable.

BRITISH GLIDING ASSOCIATION
Artillery Mansions,
75 Victoria Street,
LONDON, S.W.1.

flew a 115 mile triangle in an attempt to keep the out-and-return trophy in his syndicate.

New aircraft on the Mynd are the Club's second Olympia 460 and a Dart 15R owned by Ken Rylands and Tony Caveen. The Club fleet now comprises two Capstans, two Swallows and two 460's. Privately owned aircraft are three Skylark 4's, three 460's and two Darts.

K. R. M.

NORTHAMPTONSHIRE

THIS report is for a period of six months which saw two extremes in the club's fortunes.

At the end of November we took delivery of a T-49 and this was flown all through the winter with the help of the Wilcox-Luddington Tiger when ground conditions prevented winching. Everyone liked the T-49 and eagerly looked forward to the soaring season when advanced training could be given.

On the day of the A.G.M. the blow fell. After flying harmoniously alongside the College of Aeronautics Club for over 22 months, the College authorities decided that as from next September only one club could fly from Cranfield.

The A.G.M. gave the Committee a mandate to retain the club's individuality and find an alternative site. We are now desperately looking for a site but this is no easy matter.

On the social side, the Club held its Annual Dinner and Dance this year in Bedford, and this was enjoyed by all present.

Soaring this year has so far been quite successful with a number of cross-country flights attempted, and a number of Silver C legs gained.

R. N. W. K.

NORTHUMBRIA

MOST important news for the Club lately has been the acquisition of a long lease on the site from the National Coal Board. Wrangling with planning authorities over the siting and design of a hangar has now begun and is already starting to look like a long term project.

On the flying side, the Club's activities have been going very well indeed, and some excellent soaring flights have been achieved. Whit-weekend was remarkable with blue thermals to 4,000 feet and almost every flight managed to contact. The newly revitalised Kite I syndicate has now fitted a PZL vario and has already chalked up a C, a Bronze leg and a near miss for Silver height.

The Ridge at Cross Fell has at last been tried out. The lucky few who actually were there reported that, despite the light wind there was lift everywhere miles up and down the ridge and miles out into the valley.

P. W. L.

OXFORD

WITH five groups of four people now operating the Skylark 3F No. 168 enthusiasm runs high to experience simulated private ownership.

Recent unintentional visitors, but nevertheless welcome, have arrived from Tibenham, Swindon, and club member Bernard Fitchett's father in his Ka-6 on the return leg of an out-and-return from Rearsby to Marlborough. Following the Championships this year was made interesting on several days when many competitors were seen and heard

on VHF in the vicinity of Oxford. One day Anne Burns was seen to disappear into cloud plumb over the city. Someone hinted of a winner there! Congratulations.

We anticipate inspiring stories from the Dart 17R No. 330 syndicate when they return from their expedition to the Austrian Centre at Unterwössen.

The programme to receive two C.C.P.R. members every Saturday has worked well to stimulate interest to those who normally take part in earth bound sports.

Finally we were pleased to witness the start of operations with a T-21 and winch by a group from the Bicester Centre for the benefit of service members stationed at Weston on the Green.

C. J. T.

PERKINS

WE commenced 1966 flying at Spanhoe on January 29th with the T-21B; Phil Cracknell's Eagle giving additional training facilities in February; and Ray Stafford Allen's T-49 in April.

Part of the main runway was cut about a bit during the winter to provide a basis for the road construction programme the Government has in hand. Fortunately for us this was not extensive and we are still able to obtain good launches on this runway.

The Club fleet now consists of four aircraft, one T-21B, EoN Baby, Olympia 2B and a Skylark 2. The Skylark which was obtained by the Baker Perkins group joined the fleet in late May, and managed to clock over 10 soaring hours on its first operational weekend with us.

Thanks to the co-operation of a local farmer we are able to include a field landing in the syllabus of the flying report by the C.F.I. for the Bronze C. The EoN Baby will be used for this exercise, and it will normally take place during adverse soaring conditions. This will be carried out by a team of four pilots, who will fly and retrieve in turn. (With an instructor to observe and enter suitable comments in the appropriate logbooks.)

So that expeditions to other sites can take place, the three solo machines are now available for hire by club members for periods between Sunday evening and Friday evening at a nominal daily sum which includes one hour soaring.

J. V.



R.A.E. (Farnborough)

WITH our Olympia plus its new trailer and another trailer being made for our 460, we are all set for cross-country flying. The strain on our faithful T-21 has been relieved a little by the arrival of a Kranich, not the latest of gliders but we are very thankful.

We welcome Fl.-Lt. Harry Shaw as our new C.F.I. and thank Peter Dale for all his efforts over the past two years. We now have five Categorised Instructors and three very experienced assistants, and as our membership is slowly rising, we can use them all. This year's plans include detachments to Swanton Morley and Portmoak and a crack at a Regional plus as many cross-countries as we can get in, as we are tucked between two airways and boxed in by the London Control Zone to the East, this task is considerably limited.

We now boast two launch cars and occasionally sample the delights of aerotowing by the use of a Tiger Club aircraft.

With a marked area in our backwoods our Bronze C contestants are getting field landing practice in their own back yard which helps a lot. As names are taboo in future in these columns we finish by hoping that Dennis Paddison beats his 49.5 km. record and that Tony Gee and Keith Turner show their way in Competition this year. Thanks to Pat Pottinger, our Technical member, for keeping our fleet going and to Doug Watts for keeping our Social life alive.

SCOTTISH GLIDING UNION

LITTLE flying took place at Portmoak during the first two months of the year, owing to attrocious weather, and large areas of the field were under water for much of the time. However, the March breezes both dried up the puddles and restored our faith in the site, as the waves which they brought proved to be the best we have had for some time.

A total of three, possibly four, Diamond heights and six Golds were flown by members of visiting groups from the B.E.A. and Leicestershire clubs. Our own members were not idle: on 11th March Ansgar Sambale gained his Diamond. This was his second trip to over 18,000 ft. in a fortnight, but the first was from an aero-tow, and the gain was not sufficient. The following day, Jim Duthie, flying the 460, broke off a steady climb at over 16,000 ft. because it does not yet carry oxygen, but this did not deter Charlie Ross, a week later. Flying the same machine, he reached 19,000 ft. for his Diamond and suffered no ill effects.

Most of the privately-owned aircraft and the R.A.F. expedition machines were above 10,000 ft. at various times, as were the T-21 and the T-49, while the Swallow pilots have been particularly active. On his first wave flight, Colin McDougal reached 12,000 ft., while congratulations are due to Alistair Dick for his Silver distance in wave and to George Peddie and John Goodwin for similar flights in thermals. B. M.

SOUTHDOWN

OUR most interesting news is undoubtedly that our long cherished ambition to erect a proper Clubhouse is nearing fruition. The "Cottage" has done duty for a long time now, but is gradually bulging at the seams. We hope to erect its successor in the spacious garden.

How does one placate one's recently solo'ed members when it is learned that "Club News" readers don't wish to know of their achievement? To appease the wrath that descends on a hapless publicity bod, the following are no longer to be found pulling the two-seater about —Ray Funnell, John Wilson and Mike Dutch (aged 16). Fairly painless, wasn't it?

Chris Hughes and Ian Agutter recently made extremely interesting flights at Firle in a lee wave induced by a 15 knot W.S.W. wind. Launched through cloud, a maximum height of 3,600 feet (in clear air) was attained. The approach to land was made on instruments down to 400 feet above the site. We know it's not up to Portmoak standards but the highest ground to windward is only 600 feet.

At our A.G.M. recently, the following awards were made: Southdown Sky Sailing Club (distance challenge cup) to Peter Henderson. The John Lawford Trophy (height challenge cup) to Derek Holland, and the Yorke Gliding Cup (most meritorious flight) to Ian Agutter. They were of course all filled (and emptied) later in the bar.

E. M. K.

SOUTH WALES

WHILE our T-31 was down for C. of A. we hired a T-21 which proved not only suitable for our undulating site, but so successful for soaring instruction the club decided to acquire one of its own. Our own T-21 flew here for the first time on Whit-Saturday.

Our first Whit-Competition was reasonably successful. The high pressure system kept events to local soaring, nevertheless one Silver duration leg was gained. Also for the first time we will be running a Members' Course during August.

Our annual visit to the Long Mynd was as usual very enjoyable—including the "midnight revolt". Some tasted the joys of the 463 for the first time.

H. E.

STAFFORDSHIRE

A CAPSTAN was delivered on May 7th just in time to be used on our annual course. The course this year coincided with the visit of John Everitt and his Capstan, so there were three two-seaters flying at once. The weather again was excellent for most of the week and a great many hours of soaring were obtained. Most notable was one of 5 hrs. 22 min. in thermals.

John Everitt put the four instructors on his course through a pretty rigorous

programme, all of them claiming to be better for it.

A visit by the Press during the course brought us some welcome coverage in the local newspaper.

A. W. H. L. W.

SWANSEA

AFTER a period of frustration, lack of funds, members and enthusiasm, I am happy to report that the club has had a new lease of life. We now have a qualified C.F.I., membership is increasing and "life blood" is in the Bank.

Congratulations to Sqn.-Ldr. H. Thomas, D.F.C., who qualified recently at Lasham as C.F.I.

Our T-31 has a new stable mate—a recently acquired Tutor, and a Kranich which has been rebuilt is to be C. of A.-ed and we hope to see it fly soon at Fairwood.

May I extend the hospitality of the club to any other club members who may be "down our way" on summer holidays. You will find us at Fairwood Airport on Wednesday evenings, Saturday afternoons and Sundays, weather permitting.

K. S. T.

TRENT VALLEY (Sturgate)

RAIN and high winds have taken their toll of our flying days this month, but in spite of this we are still receiving new members and they now total over forty.

Our major achievement to date is the construction of a winch, mounted on a Fordson Major D.D.M. tractor.

Our hopes of a single-seater for the soaring season have been realised in the purchase of an Olympia, bringing the total of club aircraft to two.

P. A. H.

WYCOMBE AIR PARK

THE new bar is open. The powered aircraft are in operation—complete with control tower, R.T. and men running around in white coats. And we are still on speaking terms with them. However, it is taking rather longer than anticipated to convince the "go round and try again" type pilots that gliders are not like enormous falling leaves in autumn—likely to come fluttering gently down out of control onto the runway just in front of an unsuspecting aviator in a Terrier.

In short, the joint operation at Bcoker is now a reality. Gliders using one half of the field and opposite circuits to the powered aircraft using the other half. Only time and a crowded summer will tell how successful the marriage will turn out to be. We ourselves are not without experience of power, or more accurately the lack of it. A couple of weeks ago Bert Page completed an engine repair on the Auster and took off to fly with George Scarborough on a test flight. Proceeding gently at 800 feet, there was an unexpected silence not normally associated with Austers in flight.

"What's happened?" asked Bert with reasonable curiosity.

"The flaming props come off—that's what's happened." George apparently quite unmoved. It turned out to be a very small field—so the Auster came home on a lorry. And if you happen to know of anybody who has a propeller sticking through his sitting room ceiling—we're not admitting a thing. It was a different colour, it wasn't that day and, anyway, it happened somewhere else. Still, we *are* looking for a propeller if they want to find a home for it.

R. M. W.

YORKSHIRE

OUR airfield drainage scheme is now completed and levelling and surface cultivations are in hand. Two new aircraft have now been acquired, a Piper Super Cub for aero-towing and an Eagle to replace one of our T-21's.

Despite disturbances on the airfield like avoiding bulldozers, the Eagle has done some flying, to the satisfaction of the more advanced ab-initios and recent weeks have seen several extremely good wave days and some useful achievements. Chris Riddell was enjoying himself at around 16,000 ft. in his new Dart 17R and many members were at 7-8,000 feet.

The total fleet resident at the club this year has now reached the record total of 18 with one or two more contemplated. At present it consists of a Dart 17R, Dart 15, four Skylark 4's, two

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Skylark 2's, T-49, 18 metre Eagle, 20 metre Eagle, two Swallows, Kite II, Blanik, Olympia and T-21. In addition we look forward to the Coach and Capstan being with us for four weeks in the late summer. Also visiting gliders exploiting the ridge and wave will guarantee a busy and I trust very enjoyable season. Our staff of four has now been increased to six by the addition of Barbara Allen and Bill Scull.

Tim Birch and a large team of helpers have almost completed the painting of the inside of the Clubhouse and the builders are about to commence the erection of the first of two new dormitory wings. The first one will include a new briefing room and the second a flatlet for the Steward and his wife.

Communications by telephone between the strategic points on the airfield and the Clubhouse are now being contemplated together with some rationalization of radio communication facilities between gliders and retrieve vehicles and between gliders and the general office.

E. R.

SERVICE NEWS

AIR TRAINING CADETS (618, R.A.F. West Malling)

THIS school was first formed in 1963, its original home being at Manston. Intense air traffic, however, forced us to move to West Malling in January, 1965, and we now operate here with the airfield to ourselves at week-ends. We occasionally get weak wave lift from the North Downs ridge situated five miles from the airfield.

Last year we won the Jack Oliver Shield for the most efficient gliding school in the country, having trained 70 cadets to A and B standard and reaching nearly 10,000 launches. I hope that you don't get the idea from this that all we ever do is bash circuits. We also trained 12 cadets to an advanced standard and obtained 5 C certificates. For a week each year we operate at the Air Cadet ridge site at Halesland on the Mendip Hills, the aim being for cadets to gain their C certificates.

The school operates three T-21's, three T-31's and a syndicate Kite 2 (the very last one ever built). We also have a Prefect from time to time. On the first soarable day this year Ray Jones took the Kite Silver distance to Hawkinge, completing the school's second Silver C. An aero-tow retrieve by a Tiger Club aircraft, normally based at the Kent Club, was quickly arranged.

Over Easter a group of four instructors took the Kite to Portmoak with hopes of Gold height all round. Alas, it rained non-stop for six days.

R. J.

BANNERDOWN (Colerne)

THE April-May mixture has come and gone, blank days and cracking days have given gloom and excitement and Colerne motorised aircraft have occasionally kept us on the deck.

In the circumstances, our total of 1,067 launches for 50 hours has been respectable, including as it did 770 cross-country kms. C.F.I. Tug Willson and Harry Daniels contributed 305 of these in an attack on the 300 km. U.K. speed record for two-seaters. Harry's Blanik was the "hot ship" and in it they raced round the triangle Colerne, Gaydon, Lasham, Colerne in 5 hrs. 31 min. to give the old record a good beating.

P. H.

CHILTERNS (Benson)

SINCE our last newsletter, a number of changes have taken place. Wg.-Cdr. Bulpitt has taken over as Chairman, and because of his posting to R.A.F. Staff College, George Coatesworth relinquishes his post as C.F.I. We welcome Doug Bridson, complete with Skylark 2, in his place.

Our fleet has taken on a more balanced look, consisting of a T-21B, Grunau Baby 2, Olympia 2B, SF-26 and a Ka-6.

C. B.

FENLAND (Feltwell)

OUR first ab-initio week held in April was a distinct success, eight new pilots reaching solo standards.

A soaring week at the beginning of May was immediately dubbed "non-

soaring week", producing only one Silver C leg. With the advent of north-east winds during Whitsun, however, many fine cross-countries were achieved.

We are the first club to have registered one of the new Bronze C's. One member has gained his C, Bronze C and complete Silver C in ten weeks, which may not be a record but takes some following!

During May an Olympia 2B was taken to Newmarket for a schools outdoor life exhibition and an aerobatic display was provided for the annual open day at R.A.F. Lakenheath. The appearance of a Chipmunk for one week-end provided a few of us with our first experience of aero-tows.

Our hard-working Chairman, Sqn.-Ldr. Smith, has been posted away from the area, and the new C.O., Sqn.-Ldr. Crotty, has taken over the post.

It now seems certain that the club will shortly have to leave Feltwell for a yet un-named base, but this will not prevent us from being the most active club in R.A.F.G.S.A.

R. G. J.

FOUR COUNTIES (Wittering)

DUE to postings the following changes in personnel have taken place. Mike Baker replaces Geoff Barrell as C.F.I., Dave Brooke replaces Mike as Secretary and Alan Farmer (ex Red Hand) becomes Treasurer in place of Roger Kerridge.

Paul Stavenau (U.S.A.F. Alconbury) solo-ed from ab-initio last October and has completed his Silver C on 5th June; a fine achievement. S. N. H.

FULMAR (Elgin)

APRIL provided some good soaring days and both the launches and hours flown are already up on last year's figures.

The Dartmouth Cadets had only one non-flying day during their week here and four of them went solo.

Five members have gone solo recently and various certificates have been flown as follows: 4 C's, 2 Bronze C's, 1 Silver height, 2 Silver durations, and 3 Silver distances, two of them completed their Silver C with these flights.

Jim Gunter has handed over as C.F.I. to Derek Marpole, Jim has been C.F.I. of various clubs for 15 years and we wish him some well earned carefree soaring. H. D.

PORTSMOUTH NAVAL

AT our A.G.M. Pat Ring was awarded the Goodhart Trophy and the following Committee was elected: Lionel Bowles, Ian Hammond, Keith Morton, Tony Redhouse and Peter Wilson.

Our Naval membership seems to be on the increase and it looks as though we can look forward to some two dozen electrical apprentices from H.M.S. Collingwood joining us shortly.

L. D. V.

WREKIN (Cosford)

FOR the first time the Wrekin Gliding Club appears in print. A Member Club of the R.A.F.G.S.A., we started operations late in February this year, with a T-31, Tutor and a V8 Wild winch. A small nucleus of enthusiasts soon gathered and with the arrival of the T-21 and a Grunau Baby, flying started in real earnest.

We are very fortunate to have the use of Cosford airfield, which we share at week-ends with No. 633 Sqd. of the A.T.C., to whom we will always be in debt for the enormous amount of help they gave us when we first started.

The score so far is 10 A and B's, 4 C's and 3 completed Bronze C's.

May has proved to be the best month yet. We flew 130 hrs. 15 min. from 875 launches. The soaring potential of the Shropshire countryside looks very promising and our C.F.I. and other instructors have been looking very wistfully at the lenticular formations that appear with great regularity in the Cosford area.

The Club Committee is headed by Grp.-Capt. Durkin, M.A., the Station Commander, and his deputy is Sqn.-Ldr. Geoff Young, who commanded the Chipmunk Squadron at South Cerney last year. The Secretary and Treasurer are Fl.-Lt. P. King and Fl.-Off. G. Brown. Johnny Morris is C.F.I.

We would like to invite any of the Gliding Fraternity to visit us—either by air or road—you will always be welcome. G. E. Y.



At Akrotiri the Crusaders are one up in the steamroller stakes.

CROSSWINDS (Butzweilerhof, Germany)

WE regret to report that, due to the circumstances outlined in the last edition of Club News, the Crosswinds Gliding Club at Butzweilerhof has been formally dissolved, after 18 months of active operations. Our equipment has been returned to the R.A.F. Germany Gliding Association for re-allocation and our ex-members have now settled down in their new clubs. A. C. P.

CRUSADERS (Cyprus)

CLUB flying at Kingsfield Airstrip, our new site, is reaching record levels. Aircraft are flying virtually every day just now, and many good soaring flights are being achieved. No-one has yet made 5 hours, but 1-2 hour flights are common. Thermals are plentiful, with numerous climbs to 4-5,000 ft., which is a great improvement on our previous site at Akrotiri. Twice recently the lenticulars of a beautiful wave system have appeared, but as we have no aero-tow we failed to contact it.

New members are flocking in, and enthusiasm is high, even for the ground work!

Our three aircraft are flying intensively most of the time. When we get hangar accommodation at Dhekelia, this will ease servicing and repairs, which at the moment are done back at Akrotiri.

It is expected that thermals will be sparse in the summer, but we must wait and see. At present, the Crusaders are going places and doing things! "Doc" Saundby will take over for a while as C.F.I. when John Beckett leaves us in the early summer, as a temporary measure until someone else is posted out here. The time and energy that John has put into the Crusaders will be very hard to match: the Club owes him a great deal, and we wish him all the best in the U.K. H. F. O.

EAGLE (Detmold, Germany)

WITH quite a few days of soaring weather since our last report our Ka-6, Swallow and Rhönlerche have seen a better proportion of hours to launches, with a few Silver and Bronze legs being flown, as well as several C's and first solos.

Peter Hansen came second in the Easter Rally at Brüggen and despite bad weather an enjoyable time was had by all. C.F.I. Norman Smith, and Peter Hansen will be representing the club in the R.A.F. Germany Championships at



Ann Homer and Bob Kirkland at Detmold.

Butzweilerhof.

We are running our usual ab-initio and soaring courses in August which, we hope, will be as successful as last years. J. W. P.

FAR EAST AIR FORCE
(Singapore)

HAVING been active now for three months, the club is finding its feet —with only one aircraft (and winch) at present—but having bought two more and impatiently awaiting their arrival. Now that the bugs have been shaken out of the winch, the launch rate has improved from 24 during March, through 144 in April, to 299 during May. In fact we are now getting 60 launches per full gliding day.

Our 3,000 ft. run is giving 600 to 900 ft. two up, and 700 to 1,000 ft. solo in the T-31, but soaring is severely restricted at our main site by a 1,500 ft. height limit over the airfield. This is encouraging the construction of a trailer for the extension to Kluang.

Weather wise, the S.W. monsoon (so called) is upon us. This wind never seems to get over Java's mountains, or else just doesn't get going this near the Equator. In any event we are stuck with light and variable winds, plus good (but high) convection, ending up in vast Cu-nims during the afternoon.

Flying usually continues until sunset (18.30 to 18.45 hrs. the year round) or until it's fairly certain that a thunder-storm is about to open up nearby.

Fortunately these gigantic build-ups are usually well spaced out, killing the lift around a 30-mile radius, so isolating the downpours they cause.

A. H.

NIMBUS
(Geilenkirchen, Germany)

WE have heard over the "grapevine" that our ex-members Robby Swallow and Joan Anderson, who surprised everyone by getting married and emigrating to Canada, have joined a gliding club near Montreal. It is partly as a result of Don Morris's dedicated instruction that we have experienced such a tremendous surge in our flying statistics this year. In May alone we flew 900 launches and 120 hours, gaining: 5 A and B certificates, 11 C certificates, 14 Bronze C duration legs, 3 Bronze C certificates complete, 1 Silver C height and 1 Silver C distance.

Our longest cross-country this year so far was "Danny" Kay's attempt at a 300 km. out-and-return flight. After 6½ hours he was compelled to land, 100 km. short of his goal, because of bad visibility at Wuppertal. Eddy Pratt and John Hunter, both on their first cross-country flights, landed 70 km. to the north—the latter climbing to Silver C height on the way.

The new Swallow arrived from Slingsby's and was promptly entered in a local German competition at Euden-bach in the Seven Mountains, south of Cologne, and claimed second prize in the Intermediate Sailplane Class. Al Whiffen and "Danny" Kay returned from their Alpine soaring expedition at Unterwössen muttering about rain and snow. A. C. P.

TWO RIVERS
(Laarbruch, Germany)

WE very sadly have to report the death of one of our assistant instructors, Chris Lister, in a motoring accident on the 22nd May. Chris was a very popular and active member of the club and will be very much missed by all. The club intends to introduce a Chris Lister Cup, to be given for the best soaring feat of the season; as this was his great love in gliding, it will stand as a suitable memorial to him.

The club held a gliding expedition at Wissel from 16th to 31st May. The writer had only one flight there, and on the whole is rather glad of it! What with the sandhills on one side and the electric fences on the other (to say nothing of the trees in the middle), taking off and landing was a trifle hair-raising. Field landings, O.K., but let's not be ridiculous! However, the course was greatly benefitted from and enjoyed by all who attended, in spite of the sudden appearance of the German Army on manoeuvres!

It's been an excellent two months for certificate-bagging. In April we had 2 C's and May produced 5 A and B's, 2 C's, 1 Silver C completed, 1 Silver height and 1 duration. V. E. G.

OVERSEAS NEWS



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

ARGENTINA

NATIONAL CHAMPIONSHIPS.—These were held from 6th to 18th February at Rafaels in Santa Fé province, preceded by a three-days practice period.

The first task, on 9th February, was goal-and-reutrn Esperanza, to the east; total 126 km. The forecast was 2-2.5 m/sec. thermals and ceiling at 1,700 m. with a temperature of 26°C. (79°F.), and Cu developing to 2,100 m. (6,900 ft.); flyable from 12.30 to 18.30 (summer time); surface wind north, 4½-8½ knots; at altitude S.E., over 9 kts. First off at 13.30 was Michelli in a Skylark 4, who crossed the start line at 14.06. Horrocks, in a Standard Austria, started at 15.13, took 1 hr. 28 min. going out and only 50 min. on the return, and won the day at 54.4 km/h. Hossinger (World Champion 1960) made the same speed in an SH but got only 974 points because of handicapping. Fifteen completed the task.

Next, on 11th February, came a 100-km. triangle race to the N.W. via Vila and Sunchales — actually 110 km. Maximum thermals were 1.5 m/s. Only Frene, in a Ka-6, completed the course, and the second best, Carballude in a Skylark 3, fell 3.5 km. short.

The third task, on 12th February, was a dog-leg race via San Francisco to San Jorge, 126 km. to the W.S.W. Stanley won it in an Austria at 58.2 km/h, well above Hossinger and Ponce, each with an SH, at 48.6 and 48.4 km/h. respectively. Frene, with 45.9 km/h. in his handicapped Ka-6, still kept the overall lead, and Carballude with his Skylark 3 rose to second place overall.

Next day, 13th February, brought a distance task — to and fro between Rafaela and Tacural to the north (distance not stated). Hossinger won with 354.5 km. in his SH. Stanley made next best distance, 333 km., but Riera got second highest points with his Sky-34 and its handicap. Frene still led overall, with Carballuda keeping in second place with his Skylark 3.

The fifth task, on 14th February, was a 200-km. triangle race via San Jorge and Luxardo to the S.W. and W., distance 204 km. Wind N.E., 8½-12 kts. Thermals of 2.5 m/s. were forecast. Hossinger won easily at 71.4 km/h.; next best was Stanley at 63.9 km/h. Frene was only 16th with 709 points; this put him back in overall position behind Carballude, now in the overall lead with 4,519 pts.

The sixth task, on 15th February, was a 100-km. triangle race, won again by Hossinger at 70.8 km/h., again well ahead of the second fastest, Urbancic with 58 km/h. in a Ka-6. Frene was 4th.

The final day, 16th February, and the last of five consecutive days' flying, had an out-and-return race to Seeben in the W.S.W. and back, 123 km. Pilots were expected to be back by 16.30 or 17.00 hrs., so launches were to begin at 12.15. Frene was first off at 12.17, but while Hossinger was taking off at 12.51, Carballude landed back to pick up his maps, which he had forgotten. Thermals were distorted and averaged 2 m/s. Winds were N.E. at surface and N. at altitude, 8½ kts. Forecast temperature was 31°C.

(88°F.). Cruz, of Tucanes, was the winner at 58 km/h. in a Ka-6, and reached second place overall, Frene of Junin having already regained his lead the day before.

Leading final placings

Pilot	*Sailplane*	*Points*
Frene	Ka-6	6,113
Cruz	Ka-6	5,878
Stanley	Std. Austria	5,828
Urbancic	Ka-6	5,781
Carballude	Skylark 3	5,575
Hossinger	Austria SH	5,568
Riera	Sky 34	5,363
Mendiburn	Ka-6	5,306
Michelli	Skylark 4	4,938
Ponce	Austria SH	4,931

Alejo Williamson, from Chile, flew *hors concours* on three days in a Blanik and totalled 1,055 pts.

The Rafaela Gliding Club undertook the organization, and the municipality connected the hangars with its electricity supply for the occasion. The Argentine Gliding Federation (F.A.V.A.V.) administered a subvention of 1,400,000 pesos from the Aviation Department. For retrieving, 21 aeroplanes were available. Of the 44 entries, 17 were Ka-6's; 5 were British.

(*Condensed from report by* R. R. BERRETTA *published in Aviacion.*)

AUSTRALIA

GLIDING is fairly thriving in the Melbourne area, despite its being winter. Quite good thermals are available on a few days even at this time of the year (June). There was a good wave at Bocchus Marsh airfield (35 miles W. of Melbourne) recently, which probably went up to about 8,000 ft. a.s.l., although A.T.C. limited our climbs to 6,000 ft.

Last week (mid June) it was discovered that a soarable hill exists about 3 miles upwind and gives fairly good lift in northerly winds. This gives us another string to our bow which should provide welcome variety, encumbered as we are at Bocchus with airspace restrictions.

CHARLES DAY

AUSTRIA

A NATIONAL height record of 10,200 m. (33,464 ft.) has been set up by Hans Resch at Zell am See with a Standard Austria.

The Vienna Academic Flying Group has produced a sailplane, the AFW-8, which with little manual manipulation can be transformed from a single-seater to a two-seater. Span 16.6 m. (54 ft. 5½ in.); aspect ratio 15:7.

Der Flieger

FRANCE

THE first 500-km. flight of the year was by Jacques Mattern, who flew an Edelweiss 522 km. from Plessis-Belleville to Libourne. *Air et Cosmos*

ATLANTIC CUP FOR SOARING.—This trophy has been offered by the Aero-Club de Loire-Atlantique for competition at Nantes-Châteaubogon aerodrome between 7th and 11th July.

Aviasport

GHANA

THE new Government of Ghana has decided to continue the National Gliding School, which was set up by President Nkrumah and run by Hanna Reitsch. The scope of the school is to be widened; it will continue gliding courses for young Army and Air Force Officer Cadets, but at week-ends will be open to civilians.

The fleet consists of 2 Ka-7's, 1 Bergfalke, 2 T-21's, 2 Swallows, and a Ka-8B, plus a Beagle Husky, a Piper Super Cub, and 2 Tost winches.

The German C.F.I. and engineer and Hanna Reitsch have been sent back to Germany.

The following is an extract from a newspaper cutting: "The staff, assistant instructors and employees of the National Gliding School in a message congratulated the National Liberation Council on their timely liberation of Ghana from the clutches of the archdemon and dictator Kwame Nkrumah. The message said: Under the notorious and capricious regime of demagogue Kwame Nkrumah, the National Gliding School was being systematically run as an experimental concentration camp under the guise of discipline and directed by ex-Nazi Flt.-Capt. Hanna Reitsch who put fear in all and sundry in using the name Kwame Nkrumah to strike terror in them. They pledged their unstinted loyalty and full support to the Council and asked for the wisdom and guidance of the all-wise God for members of the Council in all their deliberations."

HOLLAND

THE late spring brought only a very few good days. The first really hot day of the year was 30th April, the Queen's Birthday, and also the day of the Victor Boin contest. Forty-three competitors were aero-towed from Teuge into a completely blue sky with an inversion at 2,300 ft. Normally, no-one would have thought of cross-country flying, but now all except two left the airfield.

A few minutes before the last competitor took off, Aart Dekkers landed in a Ka-6 from Terlet and asked if he could take part in the contest. Permission was given, and after filling in the necessary forms he was launched and won the day with a flight to Mechelen (Belgium), 180 km. Jan Vermeer, who flew a more westerly course, landed on the beach near Rockanje, 148 km. away, to become second.

Two weeks later another one-day contest was held, this time at Gilzeryen. A race over a 115-km. triangle was set, and of the 30 pilots taking part, 12 completed the task, with Aart Dekkers again winning, time 2 hrs. 3 min., followed by Jungblut, 2 hrs. 9 min., and van Melzen, 2 hrs. 15 min.

Between the 4th and 29th May, eight pilots exceeded 300 km. distances, all but two being goal flights. On the 20th May van Steinfoorn and Kemma flew from Terlet to Lübeck (Germany), 380 km., in a Ka-7 and set up a new Dutch two-seater record.

The C.s of A. for the Foka 4 and the Ka-6E are still in the hands of our Civil Aeronautical Service. A Russian A-15, bought by L. Simons, has a special restricted C. of A.

J. TH. V. E.

IRELAND (Dublin)

AS our last notes went to press, one of our staunchest Club members, Dave Hooper, shattered a brace of records, and quite a few acquaintances. He flew 104 miles from Baldonnel to Oranmore Airfield, Co. Galway, surpassing the four-year-old record of 92 miles to Tipperary, and also establishing a Declared Goal record. The retrieve, however, is another story — 13 bods, 9 hours, and 3 cars!

Two more of our members have solo-ed and three more achieved their C.

Wednesday afternoon flying has recommenced, our C.F.I. Gerry Connolly has solo-ed on the tug, and the Ka-6 syndicate has acquired a new member from among the Aer Lingus pilots.

Whit-Saturday saw 6 members soaring for about two hours in wave over the Wicklow mountains, indulging in air-to-air photography, and appreciating the true benefits of a club tug. The same night (and the next!) our new clubhouse had its first house-warming party — quite a memorable week-end! C. G.

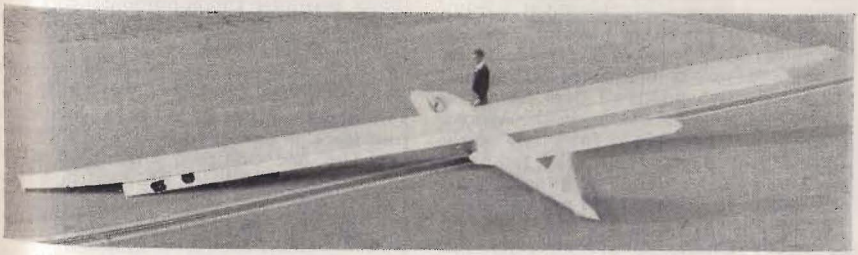
ITALY

STATISTICS of Italian gliding for 1965 are: 9,860 hours' flying from 15,342 launches; 55,976 km. across country (34,782 miles), of which 51,006 were in competitions.

Aviasport

SOUTH AFRICA

FLIGHT tests have begun on the BJ-3, designed by Fritz Johl and Pat Beatty (described in SAILPLANE & GLIDING Oct.-Nov. 1965, p. 415). They are being conducted at Baragwanath aerodrome, Johannesburg. Tests so far have confirmed



The BJ-3

that it will be the world's fastest sailplane.

The BJ-3 is expected to make its first competition appearance during the Kimberley gliding camp next December.

Wings

PARAGUAY

AT Nu Guaza, the service airport, neighbouring the Civil airport, just outside Ascuncion in flat terrain, an event described in the local newspaper *La Tribuna* as "the first international festival of motorless flight" was held on the morning of 13th May in the presence of the President, General Stroessner, and other national authorities. The festival, *La Tribuna* continues, was presented by the Secretariat of Aviation of the Argentine Republic and the Mby-Yuf Gliding Club, as support by the sister country of the anniversary of national independence festivities. The Condor IV glider "Mby-Yuf" was brought to the meeting. Also several aerobatic flights were made by Argentine pilots.

News cutting sent by G. L. BELL

SWEDEN

ARCTIC WAVES.—Every Easter since 1962 the gliding club at Kiruna in Northern Sweden has organized a camp from a strip cleared off the frozen lake Paittasjärvi close by the village of Pirttivuopio. The lake is in a valley with hills on each side to about 1,000 m., and is situated about 30 km. east of Kebnekaise, which at 2,123 m. is the highest mountain in Sweden.

This year the camp was attended by 116 people, 43 from Sweden and the remainder (except for the writer) from Finland. Some of these had come with trailers from as far as Helsinki. There were 5 Swedish and 13 Finnish sailplanes, and tows were provided by the excellent Pik-15 from Finland, one or two Super Cubs, and a Tiger Moth. In all there were 538 flights for 301 hours. There were two flights of over 5,000 m., one by tug pilot Bo Norén in the Mucha which was a just reward for many chilly hours in the Tiger Moth (the temperature was below —20°C. at times!), and there were 17 flights above 3,000 m.

Pirttivuopio is about 150 km. north of the Arctic Circle, so consequently the countryside is decidedly wintry-looking, being covered pretty uniformly with about a metre of snow at this time of the year. Apart from one or two villages with a handful of inhabitants, about the only living things in the area are reindeer.

There is a road to Kiruna, 45 km. to the east, but to either north or south you will go 100 km. before seeing another road, and to the west 135 km. This means that away landings are not encouraged—particularly since it is not only a question of the economics of the retrieve, but of the survival of the pilot. The waves in Sweden are just the same as in England, and have the same quaint little tricks like closing up the hole in the cloud. This means that a fairly strict control organization is needed to enable a search to be initiated pretty promptly if anyone becomes overdue. Radio is, of course, invaluable, and may become compulsory in future.

Waves occur, as one would expect, in all wind directions, but the best are when the wind is from the west over Kebnekaise and the other mountains dividing Norway and Sweden. So far the best height achieved is 7,800 m. (25,600 ft.) in 1963 by Mr. Hiltonen. At this height he had to leave lift of 2 m/sec. because of lack of oxygen, and it is clear that very much more than this will be possible. The regulation forbidding flight above 3,000 m. without oxygen has undoubtedly inhibited full investigation of the possibilities, and in fact several pilots during this camp broke off climbs for this reason.

The Kiruna Flying Club now have plans to prepare a strip alongside the lake with some living accommodation, so that the waves can be used all through the year. Since in summer it never gets dark, there will be the maximum opportunity to utilise the conditions.

HARRY MIDWOOD

SWITZERLAND

THE Nationals were held at Hausen during the second half of May. Twenty-two pilots took part, including four foreign competitors. Hans Nietlispach became National Champion after six contest days, flying an Austria SHK. The scoring was based on a placing system. 1st Nietlispach 18 points; 2nd, Rudolf Seiler 28; 3rd, René Lüscher 29; Emil Bucher (Ger.) came 6th with 38

points and Jan Wroblewski (Pol.) equal 8th with 50 points. *Swiss Aero Revue* does not say who flew what sailplane, or if there was more than one class.

WEST GERMANY

NATIONAL CHAMPIONSHIPS.—There were 10 contest days with 145,000 km. total distance covered. Fifteen Open Class and 49 Standard Class gliders took part.

Winner in the Open Class was Rolf Spänig (BS-1), 7,663 points, followed by Kuntz (Austria SHK), 7,349 pts., Waibel (D-36) 7,337.

Standard: Lindner (Phoebus) 7,033. Huth (Ka-6E) 7,012, Fischer (Ka-6E) 6,881. Huth was leading up till the 9th day, and then on the last day—a 360-km. Triangle—he started too late.

B. FRANCKEN-SCHARGE

INTERNATIONAL WOLF HIRTH MEMORIAL RALLY.—The Fliegergruppe Dettingen/Teck, on whose site Wolf Hirth, the gliding pioneer, made his last flight on 25th July, 1959, are holding the first fly-in rally under this title on 6th and 7th August, 1966, on the site, which is 2 km. east of Dettingen/Teck. Visitors who arrive by sailplane will be awarded 1 point per kilometre of their distance flown, and if their course includes turning-points, 25 points will be awarded for each landing at a turning-point. An entrance fee of 45 DM is payable on landing. British visitors are invited to take part. The address of the Group is 7311 Dettingen/Teck, Meisenweg 3.

WILLI JAUCH, *Chairman*

NEW JOURNAL.—Hans Gräwe, the ubiquitous German journalist who turns up at every World Champs. meeting, has started a new paper, *Luftsport*, which is the official journal of the German Aero Club for the Nordrhein-Westfalen Region (N.W. Germany). Issue No. 1, dated April, 1966, mentions that the president of the Regional Association, Herbert H. Eklöh, has presented a brand new SF-27 sailplane as prize for the winner of this year's Nationals, in the Under-30 Class.

NEW SAILPLANE.—Stuttgart Academic Flying Group have taken 10 years to design, build and modify their sailplane Hidalgo, which had its first flight on 1st February this year. They have tried to keep its empty weight down to 100 kg. (220 lb.) by using sandwich construction with glass-fibre and balsa wood. The wings were to weigh only 25 kg. each, and in fact weigh 27 kg., with a Wortmann laminar profile, the moulds for which took a lot of time to make. One wing, one fuselage and half a tail have been tested to destruction. The span is 13 m. (42 ft. 8 in.), aspect ratio 24:1, dihedral 3°. There is a V tail. All-up weight 190 kg. (419 lb.); wing loading 27.1 kg/sq.m. (5.55 lb/sq.ft.).

Der Adler

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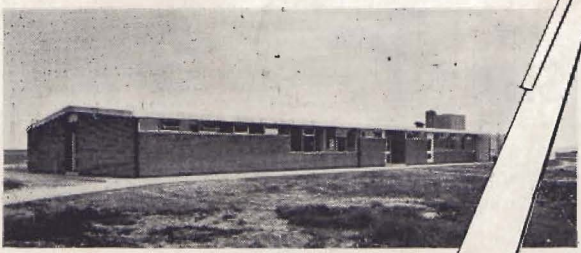
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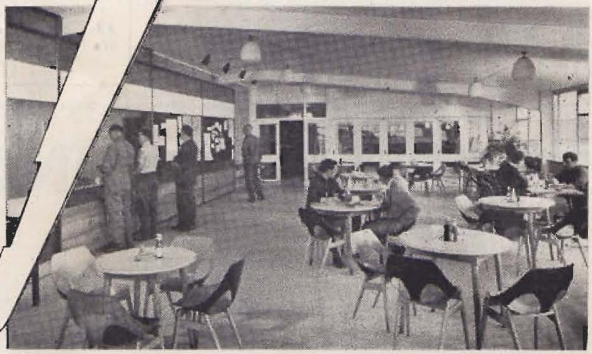
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