

SAILPLANE AND GLIDING

August-September 1981

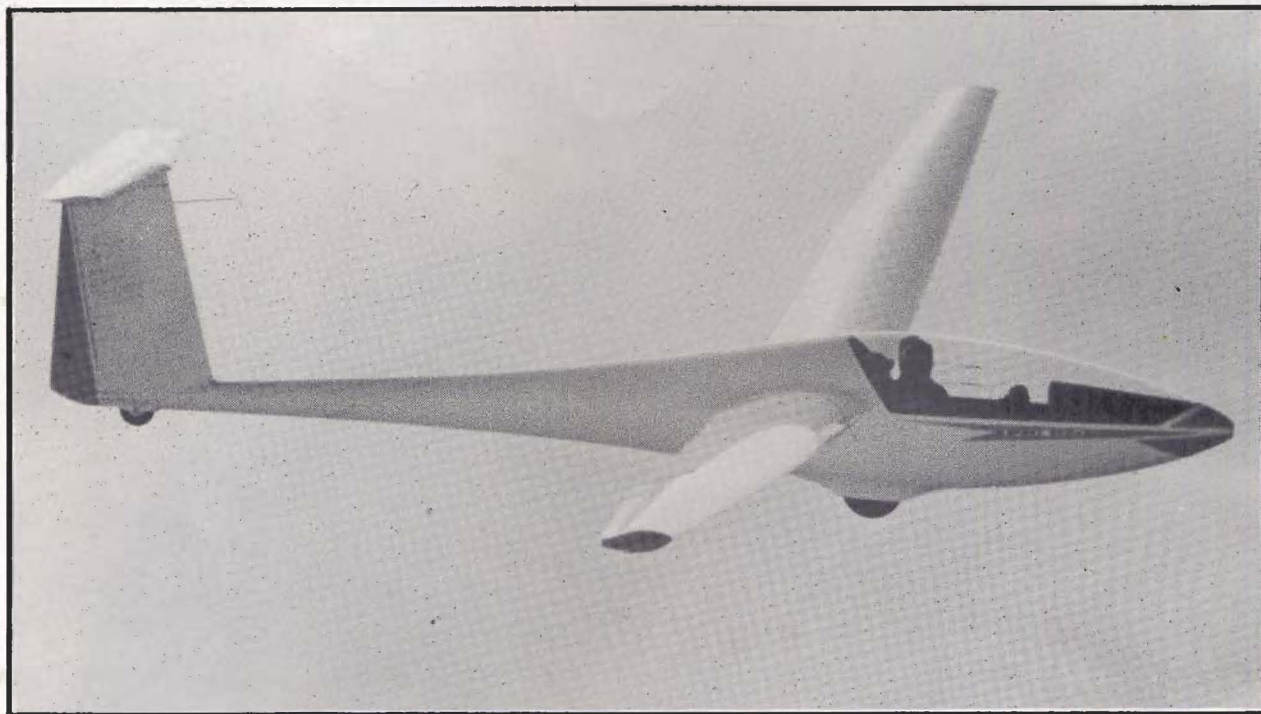
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SAILPLANE & GLIDING

Magazine of the **BRITISH GLIDING ASSOCIATION**



Editor:

Gillian Bryce Smith, 281 Queen Edith's Way,
Cambridge, CB1 4NH. Tel. Cambridge 47725.

Consultant Editors:

Alan E. Slater
Rika Harwood, 66 Maisemore Gardens,
Emsworth, Hants. Tel. 024-34 4580

Subscriptions:

Jenny Rolfe. Tel. Market Harborough 67084.

Committee:

A. W. F. Edwards (Chairman), R. Q. Barrett,
M. Bird, F. G. Irving

Advertisement Manager:

Peggy Mievile, Cheiron Press Ltd.,
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Cover: Chris Simpson took this photograph of George Lee looking incredibly relaxed moments before the flight on the last day which was to decide whether he could beat Klaus Holighaus to become World Open Class Champion for the third time running.



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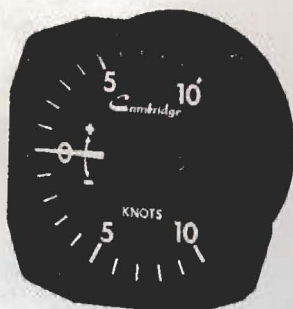
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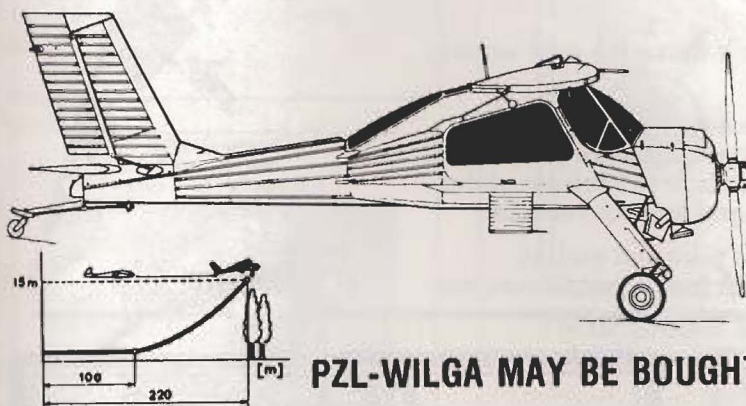
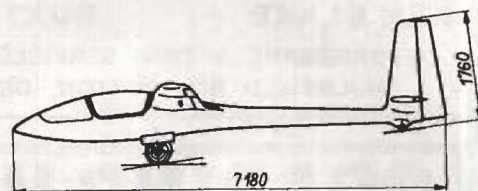
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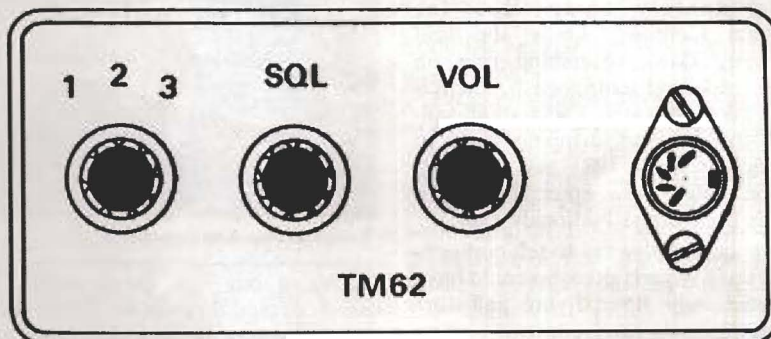


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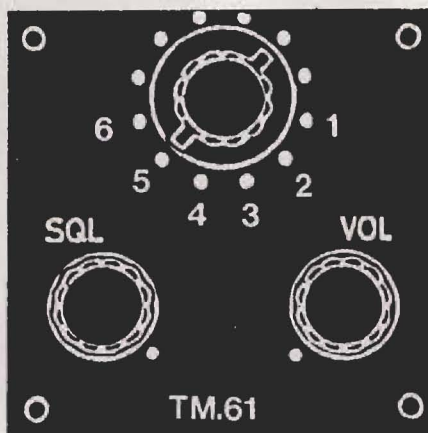
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OPEN/STANDARD CLASS NATIONALS

RAF Greenham Common — May 16-25

SUE HINDER reports on "the wettest Nationals ever" which gave only two contest days for the Open and none for the Standard Class.

Picture if you can a large airfield in the south of England. It has an enormous sundrenched east-west runway with a central cluster of shiny white gliders glistening in the sun waiting to take-off. To one side a ring of multi-coloured tents and caravans and adjacent, another circle of white trailers.

Unfortunately competitors at Greenham Common know the real story: grey skies, drumming rain on caravan roofs and tents awash, encircling vast lakes of water. Sad sodden sailplanes, their covers dripping tears of despondency. May 1981 at "Rainham Common" must now enter the record books as the wettest Nationals ever.

As we looked forward to ten competition days at a superb site who could have anticipated only three flying half-days for each Class giving rise to two contest days for Open and none for Standard.

At the end of the competition John Delafield emerged as Open Class Champion and for the first time there was no Standard Class Champion.

The formal opening was by Air Vice-Marshall M. G. Beavis, president, Royal Air Force Gliding and Soaring Association.

The first four days were rained off as a low over Ireland tracked slowly north-east sending several fronts and troughs across the area with strong S-SW winds and heavy showers.

Wednesday, May 20, seemed no more



A view of Greenham Common.

promising but rain eased earlier as a trough passed through by 1300hrs giving high humidity and low cloudbase in the afternoon.

The Open Class was set a 155km quadrilateral, Didcot railway station, Blakehill Farm aerial, Bullington crossroads A303/A34 and the Standard Class a 135km triangle, Blakehill Farm, Bullington crossroads.

The Open Class launched first, with the startline open at 1524. Dave Watt left straight away, got low at Didcot and landed at Abingdon. Twenty-three pilots landed within a ten mile radius of Wantage in very muddy fields. Alistair Kay, Chris Garton and Ted Lysakowski were late starters and flew furthest. Chris did

not enjoy his flight — "One long scrape punctuated by occasional thermals." Ted found difficulties staying up locally but once started, no real problems, although he never climbed higher than 2000ft. They arrived together at South Marston with no chance of further progress because of high cover approaching from the SW. With everyone else already on the ground and thus no prospect of a competition day, both decided to join Alistair on a safe airfield in preference to a muddy field and a difficult retrieve.

The Standard Class was scrubbed as time ran out to fit in a task in the weak conditions.

Thursday was another non-flying day. A cold front had passed through during the night. A small trough arrived after which the wind veered from S to SW. A clearance expected around 1500hrs finally arrived at 1700hrs.

Day 1, (Open), Friday, May 22

Sun and showers — some thunder expected. Wind still SW. Cloudbase initially 3800ft asl increasing to 4100ft asl at Oxford, but down to 3200ft asl in rain. There was $\frac{5}{8}$ cu locally with rapidly increasing cover and a belt of rain and showers north of Upper Heyford.

Open was a 218km O/R to alternative TPs A45/M45 Thurlaston or Pitsford reservoir, while the Standard was set a 172km O/R to alternative TPs — Towcester A5/A43 Junction or Newport Pagnell Service Station.

The Standard Class was launched first



Charles Bridges of Sedgwick Aviation Ltd, whose firm awarded the daily prizes, presenting the Sedgwick trophy to John Delafield, Open Class Champion.

with the startline open at 1355hrs. Those going first soon ran into a shower at Bicester and were forced to land. Justin Wills was the only pilot to complete the task with a speed of 58.3km/h, after setting off late because of undercarriage door problems. Justin found strong lift flying along a cloud street from Didcot to Oakley and climbed in rain under the cloud. From there he went straight to Newport Pagnell where rain and cloud meant descending to 1500ft to take the TP photograph. Turning south he flew back and again climbed in rain, following the clouds to Woburn and better conditions. Then three thermals including one 7kt climb brought him *via* a cloud street back to Greenham.

Pam Newell was second, managing to round Newport Pagnell and get back as far as Bicester. She also left late after relighting and managed to avoid the early showers. Unfortunately they were the only two pilots to exceed the 100km qualifying distance Y, whilst a total of four (ten per cent of entries) beyond Y was needed to make it a contest day.

Scattered in muddy fields

Open was launched at 1425hrs. There was feverish activity as everyone tried to cross the startline at once. Six pilots shortly joined their Standard colleagues on the ground at Bicester and Finmere airfields. Another 15 were scattered on airfields and in muddy fields short of the TPs. John Delafield won the day getting back as far as Compton (204km) before the upper cloud came in to kill thermal activity. He dolphin flew to Oxford, cloud climbed to 6000ft, headed for Banbury and decided to follow a SW-SE decaying cloud street which took him to ten miles short of Northampton.

From there he drifted and climbed a little into the TP and out again. He found himself low near Sywell but contacted lift at the edge of rain. John climbed slowly and then contacted a strong 7kt core which took him to 7000ft but he found he had drifted back to Northampton. However, the time lapse and extra height meant he could reach soarable conditions at Towcester and thence followed a cloud street to Oxford, taking a final climb at Didcot towers. Ralph Jones was second with 182km.

Yet again crews went out to bodily drag embedded gliders from saturated fields — for some a very late night!

On Saturday May 23, a cold front passed across Greenham mid-morning. Forecast wind; surface SW 17kt gusting 27kt, 35kt at 5000ft. Cloudbase rising to 3000ft mid-afternoon. Risk of frequent showers. Thermals weak but moderate in areas clear of upper cloud, shortlived, breaking up easily.



Ted Shepherd, Chief Marshall. Photo: Dickie Feakes.

The Standard Class was set a 134km goal to Dunstable *via* alternative TPs of Banbury or Towcester. Gliders were eventually launched late in the afternoon. The startline opened at 1648hrs. Conditions proved to be very difficult with many pilots relighting several times. Eventually 25 set off but none reached Dunstable. Stony Stratford, Thame and Aylesbury (and all points in between!) proved popular landing areas. Ben Benoist flew furthest but no one passed Y. One pilot was still trying to cross the startline at 1745 and launching facilities were in use almost up to the 1800hrs deadline.

Seventeen pilots did not get away from the airfield that day.

The Open Class was scrubbed at 1530hrs.

The highlight of the evening was the Competition party with the Pete Allan Jazz Band and the RAF charity (in the aid of) streakers.



John Welsh, deputy Marshall, also photographed by Dickie Feakes.

Day 2 (Open), Sunday, May 24

A low pressure area situated off NW Scotland. Unstable SW airflow. Strong winds and showers expected. Thermal activity forecast to finish about 1600hrs with upper cloud approaching ahead of a cold front. In fact, heavy showers covered the Standard TPs for most of the day but Open had better conditions; thermals though weak and broken, still present at 1800hrs.

The Open Class was a set 200km double O/R to alternative TPs, Blakehill Farm or Devizes Castle or Calne A4/A3102 junction. The Standard was set a 150km O/R to alternative TPs. Bath racecourse or A46/A4135 junction WNW Tetbury or M4/A46 junction 18.

The launching of the Standard Class started at 1130hrs but most "revolted", declined to take a launch and eventually took off around 1300hrs into improving conditions.

Progress into wind proved to be slow with thermals badly broken. Reaching the TP was the major problem. Three pilots completed the task; Lee Hood, Justin Wills and Chris Rollings. Lee went straight off tow having found a good thermal, thinking it might be a distance day. Then made slow progress taking 1½hrs to reach Devizes from Hungerford. He was then overtaken by Justin and Chris.

Photographed second TP

Chris Rollings, having taken several good cloud climbs, reached the Bath area at 1800ft as a very large shower sat over the TP. He found a 8kt thermal and climbed to 7000ft in cloud. He contemplated how to photograph Bath racecourse but then realised he was sitting over the second alternative TP and photographed that instead. He flew back through the shower bank and reached the soarable conditions at Hullavington where many of the Standard Class were milling around looking at an impenetrable wall of a shower.

Justin rounded the TP under the shower and rapidly ran out of height, reaching the edge of good weather at Melksham with only enough height to land. Another glider with him did just that. However, on turning finals he saw two swallows just in front and moved forward to join them. This was the very beginnings of a thermal which slowly brought him back to flying height, after which the rest of the flight was relatively straightforward.

Meanwhile, Lee Hood, having managed to stay airborne south of the TP while the bad weather slowly drifted northwards, found a small cloud which appeared amidst the overcast and climbed to 5000ft. He rounded the TP,

taking a very wet photograph and flew out eastward for 15 miles in dead air contacting a thermal and improving conditions at 1200ft. Chris Rollings finished fastest at 39.25km/h, Justin Wills second at 38.29km/h and Lee Hood third at 35.28km/h. But there was a catch — no other pilot passed 100km and thus another no contest day.

The Open Class was luckier. Although a larger task, the TPs were much closer. The startline opened at 1409hrs. Most pilots started soon after and went to Devizes twice. Initially, best conditions took pilots south of track and then a marked shear line ran into the TP with a very low curtain cloud down to 1500ft but the main cloudbase about 3500ft.

Chris Garton and John Delafield were first and second, taking 2hrs 45min and 2hrs 51min respectively. Dave Watt, Ted Lysakowski and John Glossop were three to four minutes slower. Jane Randle, Ralph Jones and Frank Pozerskis took over 3½hrs.

Scenic route

Jane Randle enjoyed the views so much that she found difficulty in concentrating on the task. Other finishers were John Cardiff, Hamish Brown and Alistair Kay. Alistair made one mistake early on, got low and lost time recovering height.

Chris Garton and John Delafield both got low after starting within a minute of each other. Chris was nearly tempted back to Greenham by a new cloud street forming but resisted and carried on over the hills south of track, making use of the curtain cloud running into Devizes. He followed the line back to Greenham as it drifted slightly north of track.

The first half of John's flight formed a

similar pattern. After turning Greenham Chris decided to abandon the now decaying shearline which might have led to one of the other TPs and flew on track to Devizes again, carrying on under the low overcast sky to the nearest ridge and cruised along above Huish for quite a long way without losing much height.

Detoured south

He rounded the TP fast and low at 1200ft in the sunshine and contacted a thermal at 1100ft which broke up at 2500ft, so he had to take one more climb on the way back. John had rounded Greenham three or four minutes after Chris and detoured to the south into the sun over Salisbury Plain. There was only a minute or two difference between the two routes and once around Devizes John made a straightforward final glide back.

For the onlookers at Greenham, this was the first and only good spectator's day, with 11 finishers racing back in flamboyant style on a pleasant sunny spring evening. Earlier there was the added interest of watching the Open Class pilots as they turned Greenham Common on the first lap.

On Monday, May 25, hopes for a repeat of Sunday were sadly dashed. A depression over SW England was moving slowly NE and expected over the Wash by evening, with a cold front lying NS through it. By 1320hrs all hope of setting tasks was abandoned as intermittent rain continued.

The closing ceremony and presentation of prizes took place at 3pm. John Delafield became National Champion for the seventh time (three times in the Standard Class, four times in the Open Class) and Major-General W. N. J.

Withall, president of the Army Gliding Association, presented him with his trophy. Ralph Jones was the runner-up with John Glossop just in third place, one point ahead of Dave Watt, three points ahead of Ted Lysakowski.

All in all a disappointing competition for the 42 Standard Class and 35 Open Class pilots but doubly so for the organisers. Our hosts, the Services Gliding and Soaring Associations had toiled long and hard to turn an empty site into an excellent venue for a top class event. A measure of their success was that everyone managed to stay cheerful whatever the weather threw at us.

Royal flight

The task setting trio of Allen Farmer, Mike Throssell and Dickie Feakes had established a noteworthy precedent of securing Brize Norton's agreement to an *en bloc* penetration of their zone by 30-odd gliders. On another day when one task followed the path of a Royal Helicopter flight, the helicopter pilot was induced to call his positions on 130.1MHz. They had to set more tasks than usual, rearranging them many times in the light of up to date weather information provided by Brian Hawkin, who tried to find usable soaring weather and felt personally responsible when he couldn't. Ted Shepherd and his "Sherpa" team kept chaos at bay on the grid, Den Ballinger likewise in the air. Allen Farmer (doubling up as a Director and co-task setter), controlled it all with the air of calm authority.

GSAs try again, better luck next time!

Perhaps the old country saying "Don't cast a clout 'till May is out", could be appropriately re-worded "Don't launch a gliding competition 'till May has reached fruition!"

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Open Class

FINAL RESULTS				Day 1 22.5 218km ⇐ A45/M45 junction or Pitsford Res.			Day 2 24.5 200km double ⇐ Blakehill Farm or Devises Castle or Calne A4/A3102					
Fin. Pos.	Pilot	Comp. No.	Sailplane	Speed (Dist)	Pos	Pts	Speed (Dist)	Pos	Pts	Tot Pts		
1	DeLafield, J.	26	ASW-17	(204.5)	1	312	70.22	2	858	1170		
2	Jones, R.	82	Nimbus2C	(182.0)	2	269	57.37	9	781	1050		
3	Glossop, J. D. J.	29	ASW-17	(117.5)	5	147	68.73	4	849	996		
4	Watt, D. S.	EEV	ASW-20FL	(115.5)	7	143	69.30	3	852	995		
5	Lysakowski, E. R.	860	Nimbus-2B	(117.0)	6	146	68.44	5	847	993		
6	Cardiff, J. D.	915	ASW-20	(106.5)	12	126	62.58	7	812	938		
7	Pozerskis, P.	260	ASW-17	(129.0)	4	169	55.09	10	767	936		
8	Garton, C.	31	Nimbus 2C	(69.0)	27	55	72.58	1	872	927		
9	Brown, H. F.	617	Kestrel 19	(88.5)	18	92	64.31	6	822	914		
10	Key, A. E.	949	ASW-20FL	(86.5)	20	88	60.58	8	800	888		
11	Campbell, D. R.	170	ASW-20F	(171.5)	3	249	(184.50)	14	591	840		
12	Randle, Jane	79	Kestrel 20	(79.0)	25	74	54.65	11	764	838		
13	Rowland, C.	DNV	Jantar 2	(85.0)	23	85	(188.50)	12	607	692		
14	Tull, V. F. G.	415	Kestrel 19	(87.5)	19	90	(185.0)	13	593	683		
15	Cockburn, D.	229	Kestrel 19	(95.5)	15	105	(164.5)	15	509	614		
16	Macfadyen, T. E.	EEE	ASW-20L	(106.5)	12	126	(153.0)	17	462	588		
17	Reed, D. W.	224	Kestrel 19	(71.5)	26	60	(158.5)	16	476	536		
18	Docherty, T. P.	727	Nimbus 2C	(91.5)	16	98	(134.5)	18	376	474		
19	Cook, P. G.	982	Ventus B	(109.5)	10	132	(123.0)	20	339	471		
20	Taylor, J. J. T.	336	Nimbus 2	(103.5)	14	120	(124.0)	19	343	463		
21	White, S.	94	ASW-20FL	(111.0)	9	135	(100.0)	23	245	380		
22	Batty, C. J.	EBX	ASW-20	(60.0)	29	38	(122.0)	21	335	373		
23	Aldous, R. F.	EHD	ASW-20L	(60.0)	29	38	(113.0)	22	298	336		
24	Pozerskis, A.	95	Nimbus 2	(85.5)	21	88	(100.0)	23	245	331		
25	Fleming, A. M.	57	Nimbus 2	(85.0)	23	85	(100.0)	23	245	330		
26	Young, J. R.	120	Nimbus 2	(109.0)	11	131	(78.5)	27	157	288		
27	Hawes, C. W.	800	Nimbus 2	(60.0)	29	38	(100.0)	23	245	283		
28	Hartley, K.	DGY	Nimbus 2B	(85.5)	21	86	(54.5)	28	59	145		
29	Hale, R. J.	786	PIK 20D	(112.0)	8	137	(20.0)	29	0	137		
30	Torode, H. A.	DXU	Kestrel 22	(89.0)	17	93	(21.0)	29	0	93		
31	Foot, R. A.	90	Nimbus 2C	(69.0)	27	55	(36.0)	29	0	55		
32	Herringshaw, G.	6	Kestrel	(47.5)	32	14	(40.0)	29	0	14		
33	Sheard, P. G.	EHH	Ventus A	(0)	33	0	(25.5)	29	0	0		
HORS CONCOURS Bonnet				X56		(82.5)	25	81	(122.0)	21	335	416



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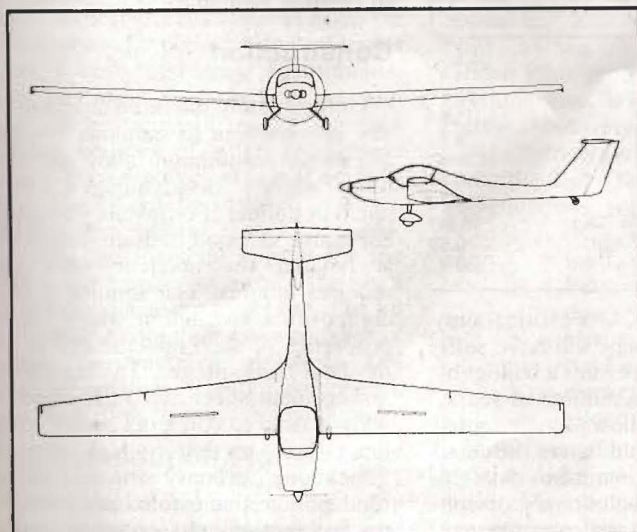
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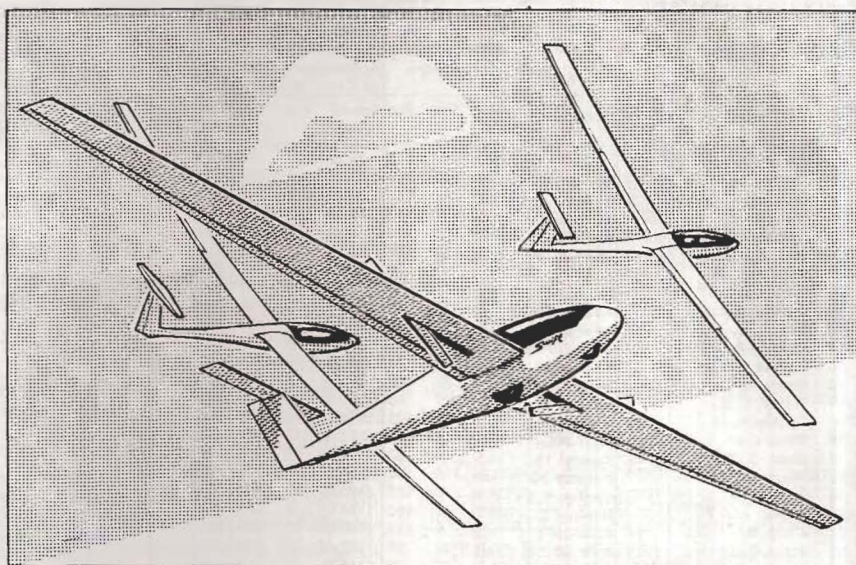


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BGA HOME-BUILT GLIDER COMPETITION



An artist's impression of the three gliders.

As reported in the last issue, p124, the £3000 prize was won by Paul Wheatcroft. The runners-up were Kelvin Davis and Jerry Odell. The BGA is pleased to learn that these three designs are under construction and that several of the other contestants are also building. The whole idea of the competition was to stimulate an interest in sailplane building in the UK to match the enthusiasm sweeping the USA and evident among builders of light aircraft here.

We felt that interest in the simplest gliders of low performance would soon pall and that we should call for a glide angle of at least 30:1. The entrants, more numerous than many feared, have included some very competent aircraft designers and we have every confidence in their ability to stimulate construction.

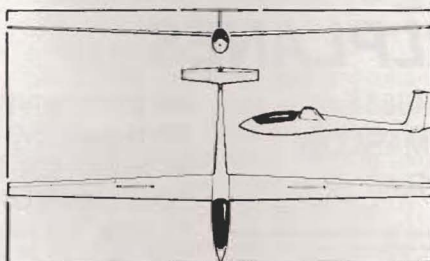
ALAN YATES, chairman of the jury.

WHISKY ONE

PAUL WHEATCROFT

THE design of Whisky One was started sometime before the design competition was announced when I decided I wanted a sailplane of Std Cirrus performance but could not afford the price tag of even a secondhand Cirrus. Although a home-built seemed the answer a survey of the available designs (mainly American) showed that none was suitable for one reason or another. Research into the correspondence columns of S&G back to the early 1960s indicated that my interest in a practical cross-country home-built was shared by many others and that a potential market existed.

A Std Class design was chosen as a compromise between desirable performance and what could be expected from an amateur builder in terms of cost, effort and difficulty of assembly. Ultralights and minispan machines lack the necessary cross-country performance in UK conditions to appeal to the main body of glider pilots while the non-streamlined types of glider like the K-8 are only of interest to the early solo pilot.



Technical data

Span (m)	15
Wing area (m²)	11.61
Aspect ratio	19.4
Empty weight (kg)	230.42
Max AUW (kg)	340.19
Min flying weight (kg)	285.70
Best L/D at 95km/h (at 285.70kg)	35.5:1
Min sink (m/sec) (at 285.70kg)	0.59
VNE (km/h)	250

Leaving aside Open Class exotica, only a Standard Class design will have sufficient performance to reward a builder by being a challenge for a number of years.

An important philosophy, adopted throughout the project down to the detail level, has been to minimise risks by avoiding unusual, revolutionary or controversial ideas, materials or arrangements. I believe that designing, building and marketing a home-built sailplane is a sufficiently difficult and demanding task alone. Incorporating unusual or untried

features unnecessarily increases the chances of failure. To this end I have used a conventional T-tail Standard Class layout based on the ASW-19. The estimate of L/D_{max} , conservatively calculated to be 35.5, should be reasonably accurate therefore, and the handling and stability characteristics should be similar to existing sailplanes.

Construction

Unfortunately the three materials usually encountered in sailplane construction (wood, aluminium alloy and GRP) have serious disadvantages for the amateur builder. For instance compound curvature in wood and aluminium alloy is beyond the amateur while GRP requires moulds. The solution is to use composite construction where the best properties of each material can be used to best advantage. In the chosen arrangement sheet and angle aluminium alloy is used to construct simple straight taper box sections which form the "backbone" primary structure. Slabs of rigid polyurethane foam are bonded to the box sections and are sanded to shape with the aid of wooden ribs and formers.

Finally, a thin layer (.011 in) of non-load bearing polyester GRP is used to skin the foam to provide an aerodynamic

cally smooth surface and for handling and weather proofing reasons. Although new to the UK the technique has been used in the USA (Warbird scale replicas) and in Australia (MOBA-2C sailplane) and has many advantages for the home-builder. The primary structure is quickly and easily built and needs a minimum of jiggling. Assembly requires little skill; a drill and "pop" rivet pliers are the main tools. Care and a methodical approach are more important than great skill.

Sallient Features

The two-piece wing has a straight taper planform, a taper ratio of 0.5, and 1° of washout. A NASA modified Wortmann FX67-K-170 section is used throughout. The wing area has been selected for the weak conditions which predominate in the UK. However, cross-country speeds, calculated using a computer program, are penalised to a negligible extent unless achieved average climb rates exceed 7 to 8kt. The slightly larger than optimum wing area permits some weight growth without crippling climb performance.

The fuselage closely resembles the ASW-19. The undercarriage is retractable although a fixed wheel version may be offered.

An all-flying tail-plane with combined trim and anti-balance tab has been chosen in the interests of simplified construction and easy adjustment of stick forces during test flying.

Kits

It is intended to supply the sailplane to amateur builders in a comprehensive kit. All the materials from the aluminium alloy to the rivets will be provided. This arrangement not only guarantees the quality of the materials used but saves the builder time and provides the materials at the lowest total cost. Instruments, paint, sandpaper, wet-and-dry, acetone, paint brushes etc will not be included although sources of safety equipment (masks, plastic gloves etc) will be indicated. The kit will be supplied in stages reducing the storage space required, spreading the financial burden for the builder and helping to ensure the shelf life of the resins is not exceeded. The kit will include a comprehensive package of assembly instructions, drawings and other information (safety, compliance with BGA inspections, test flying etc).

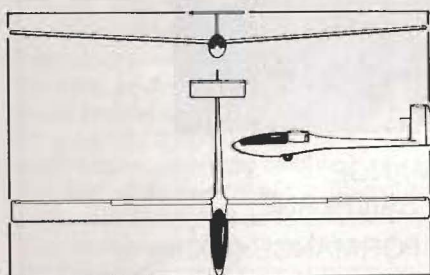
Post Competition Plans

Final calculations need to be completed and independently checked, and drawings subsequently prepared by a professional draughtsman. A simple forward fuselage mock-up will be made to arrange the best positions for control

runs, mounting brackets, seating arrangements, etc. A number of sponsors are supporting the construction of the prototype which commences in the autumn. The sponsors include BP Chemicals, Almet Stockholders, and Aircraft Materials Ltd. Further sponsors are being sought. The first flight should be in early 1983 and kits available later that year.

PROJECT MERLIN

KELVIN DAVIS



Technical data

Span (m)	15
Wing area (m²)	11.1
Wing section:	Wortmann FX67K/170/17
Aspect ratio	20.3
Empty weight (kg)	222
Max AUW (kg)	380
Ballast (kg)	45
Min sink at 74km/h (m/sec)	0.61
Max L/D at 89km/h	35:1
V _d (km/h)	296.5

Philosophy

The proper place to start a project of this nature is with the customer's requirements. To offer a type-approved kit pre-supposes that sufficient people will want to build it to make the project worthwhile. The number of dedicated home-builders in the world is negligible, so for any kit to be successful it must appeal to "Yer Average Glider Pilot". Now, as we all know, Yer Average Glider Pilot prefers gliding to (almost) anything else, so he doesn't think too highly about spending five years in his garage turning out a machine that can't catch the club Olympia. For those who like equations, we can say:

$$C + R \times N \leq V$$

where C = total cost of kit

R = Perceived value of builder's time

N = Hours required to complete the kit

V = market value of the finished glider

If the equation does not hold for an individual, he will not consider building the kit. Now we cannot do much about R, except to say that it is *not* zero! C is more or less constant, since materials and components work out at about £10/kg of empty weight, before considering labour and overheads required to manufacture the

kit. The value of N, however, is critical; if the kit is to have any appeal at all it must be possible to build the hull in 500 man-hours, which represents about six months of spare-time work for one man. This requirement dictates a high level of pre-fabrication. Those who have built their own aircraft from scratch typically take 3000 hours, most of which is spent hunting down raw materials in penny lots, or building jigs, or generally doing anything except assemble the actual aircraft. The successful kit, therefore, must resemble an Airfix model; it must be *assembled* rather than built. C and N are, of course, interdependent and their relationship is largely controlled by the engineering design of the glider.

It is apparent that V, the value of the glider, must be as high as possible. The builder will eventually wish to sell his glider and a prospective purchaser will only consider its merits as a complete machine. The design must therefore offer good performance, long service life, easy rigging and easy maintenance and repair. In addition, extensive prefabrication of the kit will assure the subsequent purchaser that he is buying a proven, standard design.

Hardware

Merlin 15 represents an engineer's solution to the home-builder's problem and, like most designs, is a compromise. It is not intended to be a "state-of-the-art" Standard Class design; rather, it is a conventional, basic design capable of being developed and refined to suit the market.

The choice of span, 15m, is fairly inevitable. Cost is not a function of span, but performance is, so a short-span machine is not commercially practical. Merlin's wing is designed to aerobatic limits, which allows for subsequent span extension as well as ensuring a good fatigue life. The rectangular planform has received some adverse criticism, but a non-optimum design, accurately built, is generally preferable to an aerodynamically perfect one which cannot be reliably achieved. The wing structure is straightforward, being built around an alloy box spar. Foam plastic ribs are glued to the box spar and the 20 SWG rear spar. The 24 SWG alloy skin is fully supported by foam plastic sheet bonded to the inner face and is secured to the structure with glue and countersunk "pop" rivets. The entire trailing-edge is detachable, being either aileron or airbrake; there is scope for development of flaps. A limited amount of ballast can be carried in a tank within the mainspar.

The fuselage is of alloy sheet, the tail-cone carrying forward into an "eggbox" centre-section and cockpit structure. The forward fuselage is skinned with a non-



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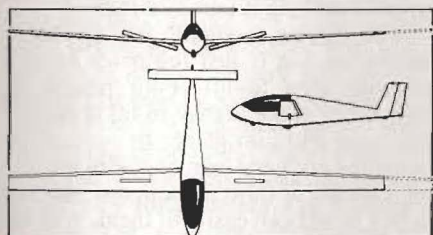
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structural, prefabricated GRP shell, glued to small foam formers. The canopy is a Kestrel/Vega unit, and slides forward for access. Much of the structure can be built as sub-assemblies on a flat table, although space will be required for assembly of the wings and fuselage.

Merlin is intended solely as a kit-built glider, capable of being assembled by an averagely competent handyman. Interest has been shown in manufacturing kits and work is now continuing with material testing and detail design. With satisfactory progress, it should be possible to offer production kits for sale within three years.

SWIFT

JERRY ODELL



Technical data	*A	*B
Span (m)		10
Wing area (m ²)		5.1
Aspect ratio		19.7
Wing section	Wortmann FX67K 170/17	
Wing loading (kg/m ²)	38.4	44.3
Est Empty weight (kg)		105
Max AUW (kg)	195	225
Max Cockpit load	90	113
Best L/D at 89km/h	30.2:1	
at 176 km/h	20.5:1	
Min sink at 70.4km/h (m/sec)	0.77	
Stall speed (km/h)	68.5	
VNE (km/h)	250	

*A= Full Flight envelope (n=+5)

*B= Non-aerobatic (n= +4)

*Possibility of tip extensions to 12.5m

Swift, which is a small glider named after that nippy little bird often seen in summer months, introduces a new dimension to gliding: 10 metres. Swift is not an ultralight glider, nor a microlight; it is a real glider, evolved by scaling down a 15m Racing Class sailplane. It retains such features as an excellent GRP surface finish, decent aspect ratio, flapped wing section, but by virtue of its size and construction is a glider which is buildable and maintainable within the confines of the average home. Since few are lucky enough to own a workshop large enough to accommodate a more conventionally sized glider, Swift has been sized to fit into the "British Standard Garage". The BSG will generally accommodate a 17ft long component; for a simple two-piece wing the largest wingspan possible is thus 10 metres.

Within this constraint, Swift's wing chord has been optimised to give best climb speed in the "Datum Thermal" (see S&G, December 1974 p266). The result gives a respectable aspect ratio of 20, but a

somewhat high wing loading, equivalent to a more conventional glider with water-ballast. The predicted performance is a glide angle of just over 30:1, a minimum sink speed of 1.5kt at around 40kt, and a cross-country handicap of 90%.

As an add-on to the basic glider, the development of removable wingtip extensions is envisaged to increase the span up to 12½m. Although these extensions will degrade the flight envelope to the non-aerobatic category, there is the potential of a minimum sink speed of 1.1kt, which is less than any Standard Class glider.

Swift will have performance flaps: however in addition to using them for performance reasons, it is proposed to exploit the very powerful effect of flaps in the direct control of lift. Although the glider is of generally conventional appearance, Swift's tailplane will be completely fixed, fore and aft movement of the control column being connected instead to the flaps. The configuration has been tuned to give the full span trailing edge surfaces sufficient authority for speed control between stall and VNE, for manoeuvres between -1 and +3½g, and into the stall (and back again!). At the same time they will keep the wing operating in the low-drag "bucket" at all useful speeds and, by differential movement, provide roll control. More significantly for the home-builder, these two control surfaces

(termed "flailevators") will be actuated by a mechanism of quite delightful simplicity (only four control rods connect them to the sidestick control column).

Swift's structure will comprise glass reinforced epoxy plastic, stabilised by lightweight plastic foam, with birch plywood for local reinforcements. This fairly conventional recipe has however been doctored to make it suitable for DIY and to avoid the need for expensive moulds and elaborate process control. For example, a glass-smooth surface finish will be obtained by the use of pre-manufactured sheets of GRP. These sheets, laid up and cured on a polished flat sheet of plate glass, will then be bonded to the wing core, comprising "solid" plastic foam blocks which have been hot-wire cut to the required profile, and into which have been set the spar caps. These spar caps will be strips of GRP "pultrusion": this is a factory manufactured material, made by pulling unidirectional glass-fibres and resin mix through a heated die, where it cures to the required profile.

Elementary mould

For Swift's spars, a flat strip section is used, bonded together in a number of laminations to build up the required cross section. At the wing root, a birch plywood core picks up the two main pins which not only join the wing halves, but also join the wing to the fuselage. Pre-manufactured GRP sheets and GRP pultrusion will also be widely used for the fuselage and empennage; the only major double curvature item being the cockpit shell, for which an elementary mould is required.

The present status of the Swift project is that mock-ups and test specimens have already been built to validate the layout and method of construction, the type record document is with the BGA for approval and a start has now been made on the manufacture of the prototype. There is a great deal of work yet to be done, but it is hoped to offer kits and plans once prototype development is complete. As Swift embodies a number of new ideas of methods of construction, this development will inevitably take time; however all these ideas are directed towards making Swift more buildable, in less time. Its small size will by itself reduce, by over half, the quantity of material which must be paid for, shaped, assembled and finished (compared with the 15 metre job). More than that, its mechanical systems and fittings have been minimised in quantity and simplified in design. The result is intended to appeal to those members of the gliding community who have up to now not had the resources to be able to contemplate owning or building their own glider.

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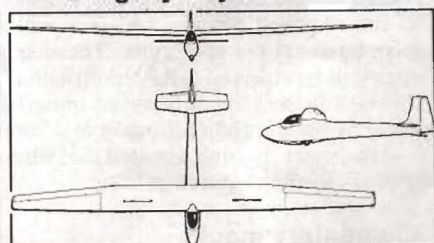
Skylark 2

Sky

WHICH GLIDER?

DEREK PIGGOT continues his series of articles in which he writes about some of the older gliders, giving details of their handling characteristics

The Slingsby Skylark 2



THE Skylark series were the first production gliders in this country to use the NACA laminar flow aerofoils. Two Skylark 1s were made but their high wing loading made them rather too fast and difficult to circle efficiently in small radius turns. The airbrakes were abnormally powerful so that it was essential to limit the amount of airbrake being used during the round out and landing.

The Skylark 2 was produced in quite large numbers and had an increased wing area and a streamlined fuselage using glass-fibre for the nose section. This was one of the earliest production designs to use glass for a major component.

The laminar flow wing gives the Skylark 2 a much better performance than the Olympia 2B and K-8, particularly at higher speeds. Even so the best gliding angle is only about 26:1. The Skylark 2 was a very popular glider when it first came out and I can remember how the average flight time jumped as our beginners converted onto it from the Olympia 2B. It is also interesting to note that Hugh Hilditch made the first ever 300km triangle in this country in one. Since then, of course, many similar flights have been made.

The rate of roll and the general handling is good and the large fin and rudder makes accurate turning and co-ordination easy. Like the Skylark 1 the airbrakes are still slightly over powerful and caution is needed when making the final approach with full airbrake. Considerably more speed is needed to complete the round out without a heavy arrival and certainly until you are familiar

with the aircraft it is wise to reduce the setting slightly. This only applies for a complete round out and landing where the final approach is steep. Full airbrake can be applied during the hold off without trouble.

A good feature is the airbrake lock. After closing the airbrakes and pushing the lever through the over-centre lock, the handle is rotated into a recess to provide an additional lock and visual evidence that the airbrakes are correctly locked. However even this did not stop the occasional take-off with the airbrakes unlocked with drastic results.

The cockpit is of average size and adequate for most pilots. However tall pilots may find the depth of the cockpit from the seat up to the canopy rather short and very small pilots sitting padded well forward will also find their head too close to the perspex for comfort. The rudder pedals are adjustable on the ground.

Check canopy lock

The early Skylarks had a history of losing canopies in flight because of poorly designed canopy catches. At Lasham we lost two canopies in one week but remarkably they all just missed the tail and caused no other damage. New types of catches were designed but still they failed and it was not until the Skylark 3 came along that a really fool-proof catch was produced. So check the canopy lock very carefully and always double check it by pushing up on the perspex. A canopy can also come off if the hinges fail as well as by careless locking and a new one will cost you several hundreds of pounds.

The Skylark 2 is a pleasant enough machine in the air but a pig on the ground. The small clearance between the main skid and the ground makes it impossible to lift the tail to a comfortable height and the tail is really too heavy for one person to lift. Lifting it a few inches

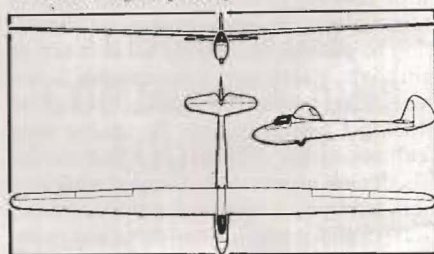
higher the front skid is firmly on the ground making it immovable.

The rigging is simple but the heavy centre-section is just too much for two average men to lift. Four people are needed to make it easy to lift it up over the nose and into place. In contrast the wingtips are very light and with the help of a trestle or third person, one man and a boy or girl can easily fit them. With the wingtips removed the glider takes up very little space in a hangar yet is ready for action in five minutes.

The construction of the wings makes use of large amounts of gaboony plywood which resembles cigar box wood in many ways. It is much lighter than birch ply and is used in much thicker sections to provide the smoother and more stable surface needed for the laminar flow aerofoil. The structure is simple and rugged.

Summing up. Only the rigging and ground handling detract from this pleasant little glider which is quite suitable for an early solo pilot.

The Slingsby Sky



The Slingsby Sky was the last Slingsby design to use the earlier non laminar aerofoils. Designed specifically for World Championship competition it has a good cross-country performance although rather slow by modern standards. The best gliding angle is about 27:1 and this combined with the low circling speed gives it excellent climbing performance.

This is a **BIG** glider, 18m span as compared with the 15m of the Olympia and Skylark 2. As might be expected the



rate of roll is rather poor and the handling rather heavy compared with the smaller machines. The large span accentuates the adverse yaw giving it rather "old fashioned" handling. Plenty of rudder work is needed to fly it accurately.

The cockpit is rather narrow but allows quite tall pilots to squeeze in providing that they are not too broad in the beam. Sitting in the cockpit you will immediately notice the very nose down position and this is a characteristic of flying the Sky which may cause you some problems on a first flight, particularly if you have a cable break and only a few seconds flight before the landing. The wing is set at rather a large angle to the fuselage axis so that the forward view is better than on most other gliders during a winch or car launch. This is a big glider and you will probably break the weak link or cable unless you gauge the angle of climb by the angle of the wingtip against the horizon. In the full climb the top of the nose will still be slightly below the horizon instead of well above it as in most other gliders.

The airbrakes are of an uncommon design and rather similar to those on the Blanik. They are easy to operate and reasonably effective but do not snatch like those on the K-7 or K-13. They have a rather soft feel and make the Sky an easy and forgiving machine on landings.

The stall is fairly docile but with a pronounced wing drop if the glider is skidding slightly in the turn. The spin appears to be very steep because of the nose down attitude but both the spinning and the recovery are quite normal. In many ways the handling and spinning characteristics are similar to the Bocian two-seater which also gives you a good view by the cut of the cockpit sides. Like the Kite 2 and Gull 4 (a 15m version of the Sky for all practical purposes) it is very easy to fly the Sky too slowly by putting the nose in what appears to be a normal attitude but which is really far too high.

The Sky is a tough old bird but perhaps a little more prone to damage because of its sheer size and weight. The annual C of A inspection is a big job made worse by the rather complicated cable operated control system. The very large ailerons are divided in two with a

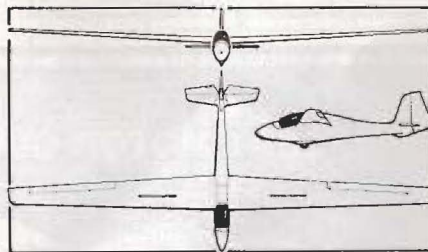
separate drive for each portion. This is to allow the wing to flex without causing the ailerons to jam.

The rigging is heavy and trestles are recommended to avoid having to hold up the full weight of one wingtip while the next wing is pulled out of the trailer and fitted in place. Unfortunately Slingsby's copied the Weihe's super system but got it all wrong. Unlike the Weihe the front and rear fuselage fittings are *not* quite in line and lowering the wingtip or letting one droop with both pins in place is very expensive.

Avoid the version with the dropping wheels. The tail is very heavy and even your best friends will leave you in the middle of the airfield after you have landed rather than lift that tail high enough for you to reattach them.

Summing up. The Sky is a lovely old glider and a good buy for a group of pilots who enjoy doing their own maintenance and do not mind the rigging and rather heavy ground handling. Philip Wills won the World Championships with one in 1952 so you can't blame the glider if you cannot stay up. However, it is a very large machine for what at best is only K-6 performance!

The EoN Olympia 463



The Olympia 460 series started as a 15m version of the Olympia 419. The various prototypes had a small chord wing and failed to come up to expectations because they suffered from some kind of premature breakaway of the airflow at the wing root and a sharp wing drop at the stall. The 463 overcame these problems and combined excellent handling and a good gliding performance — probably 28:1 or more and comparable with a K-6CR in competitive flying.

The cockpit is roomy with a large removable canopy. The forward position of the main wheel makes the aircraft sit on

the ground with the tail firmly down. The short skid in front of the wheel serves only as a ramp to help the main wheel over bad holes in the ground. Lifting handles are provided just ahead of the tailplane but lifting the tail is a man's job and too heavy for comfort.

The rigging is excellent. The wings are very light with a similar wing root fitting arrangement to the Oly 2B but with expanding parallel main pins in place of the tapered ones on the 2B. These are almost too cleverly designed and a good briefing on how to work them is highly desirable.

Not beautiful but rugged

The construction of the 463 is unusual. The fuselage is essentially two flat sides with the top and bottom faired off and the nose streamlined. No one would call it beautiful but it is rugged and probably not much worse for drag than a normal rounded fuselage of the same era. The wings have a NACA laminar aerofoil and a composite spar of wood and metal with the metal bonded to the wood. A special Aerodux glue is used throughout the wing to reduce warping the plywood skins because of glue shrinkage and to avoid upsetting the wood to metal bonding which can be affected by normal acid hardeners.

The 463 has rather a short fuselage and this together with the forward wheel position make it far less directionally stable on the ground than training gliders such as the T-21B, K-13 etc which have the wheel behind the C of G. The rudder *must* be used to keep straight on take-off and landing. In addition the aileron control is less powerful at low speeds and extra care is needed to keep the wings level on take-off. Usually the tail skid will not leave the ground until take-off speed has almost been reached and therefore the stick can be held right forward to lift the tail from the start of the run, whether it is an aerotow or winch or car launch.

It is wise to select a day with some wind and to avoid a calm day or a crosswind for a first flight in this aircraft, unless of course you are experienced on similar types of gliders. This will make it easier to keep the wings level and to keep straight. Caution is needed on aerotow to avoid over controlling. The

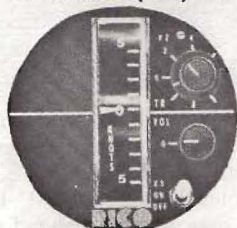
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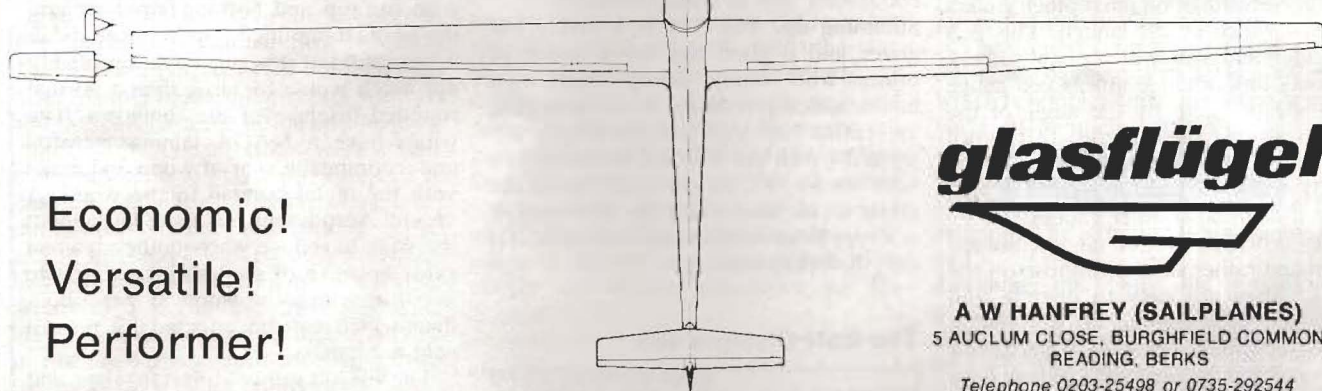
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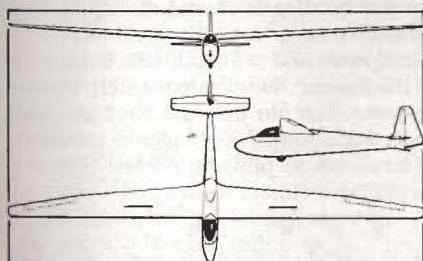
CRYSTAL TRADING 13 POUND CRESCENT MARLOW BUCKS SL7 2BG

elevator is rather light and it is quite easy to over control and to set up a worrying pitching oscillation. The position of the release hook makes it very easy to get much too high on tow but is ideal for winch and car launching. On these the 463 climbs like a home sick angel and gives you a fantastic launch height, even on a short run.

The stall is reasonably gentle with plenty of warning buffet but it has a definite wing drop if any excess rudder is applied at the stall in a turn. A full spin will develop quickly unless the stick is relaxed forward. The spin and recovery are quite normal but it all happens rather quickly if you choose to be careless or ignore the stall warning.

Summing up. The 463 is a nice machine to own and fly. It is easy and light to rig, climbs exceptionally well on wire launches and combines good thermalling ability with a good cross-country performance. I flew one at the Nationals at Aston Down many years ago and found it able to stay with the Skylark 3s and with a well flown K-6CR. A properly trained and briefed pilot of about 30 launches (solo) should have no problems. However it needs a little more care for the first few flights and always on a calm day when it is not difficult to drop a wing on take-off or ground loop.

The Schleicher K-6CR



This is one of the outstanding gliders of all time and highly recommended if none of your syndicate members are tall or fat. Unfortunately the K-6CR has a small cockpit with a rather claustrophobic cockpit canopy. However, do not despair if you are uncomfortable in one K-6; try another one, the seating does vary and you can help matters by using one of the newer very thin parachutes.

The handling is excellent with adequate airbrake power for beginners and for early field landings. The best gliding angle is about 28:1, fractionally better than the 463 but perhaps slightly below the Skylark 3. However the excellent handling and climbing performance gives the K-6 the advantage in most conditions. The only problem area is the directional control on the ground in light wind conditions. The forward position of the main wheel makes it a potential

swinger on take-off and landing. Moving from the K-8 or from a normal two-seater you must smarten up on the rudder movements and anticipate the effects of any crosswind. The controls are all rather light but certainly not twitchy. Like the 463 you need to take care to avoid over controlling just after take-off on aerotow. National Champions have been known to ground loop both on take-off and landing so take this warning and don't take chances by taking-off or landing close to other aircraft or obstructions.

When the first K-6 arrived we all anticipated problems because of the lack of a nose skid. Violent use of the wheel brake at very low speeds after landing can result in pitching up onto the nose but I have never seen any actual damage caused by the lack of skid apart from the paintwork getting scratched.

The only bad feature of the K-6 series is the ground handling. No provision at all has been made for lifting the tail and it is quite difficult to devise a satisfactory solution. With luck your ground handling

will be minimal and you can always tow it with your car.

The light weight two piece wing makes rigging a pleasure, but like the K-8 a trestle is needed to avoid having to hold the first wingtip up in position until the second wing is put on and the main pins are inserted. The main pins are plain parallel ones instead of tapered as on the K-8 and Oly 2B which eliminates the possibility of over tightening them and having to use a sledge hammer to remove the pins to derig. (I once had to do this on an Olympia 2B!)

The construction is conventional using pine instead of spruce. However it is worth noting that the German manufacturers do not use cadmium plating or chromate on their metal fittings or bolts. I remember doing a ten year inspection on a K-6 and finding some of the bolts eaten away by the acid in the wood to an alarming extent and the only suspicious sign was a slight rust stain in the paint work. The British requirement of cadmium and chromate seems to provide perfect protection. The structure is slightly less complex than the old Olympia which makes for less regluing of the minor sticks as the glider gets older.

Summing up. The K-6CR is an excellent choice as a first aircraft for an early solo pilot who wants to progress quickly to cross-country flying. The only real snag is the size of the cockpit although it does not seem to worry the Germans who are usually generously proportioned. Rigging is good and the ground handling is not so good — but then you can't have everything. But the K-6CR is not a K-6E either in handling or performance. It is a real beginners glider with a lot of potential and anyone can fly it. ✕

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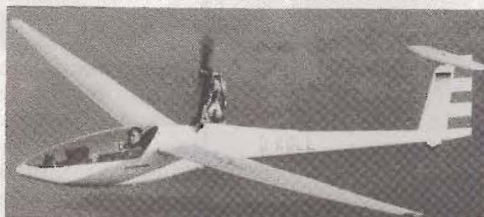
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The Cautionary Tales of Joe

BY MENTOR

THE summer *wasn't* going well! Joe still didn't have his Silver distance and now *all* the fields seemed full of tall corn. His farmer friend told Joe all about modern intensive dairy farming methods, employing planned strip grazing, and Joe could spot electric fences almost everywhere he looked. And by golly he *did* look! He also got into the habit, on his occasional business journeys by train, of planning circuits into the fields as they went by, assessing each for approachability and surface compatibility. He felt pretty confident about picking a field but still the weather played foul and his big day didn't come so he couldn't put his new expertise to the test.

And then some bright spark suggested a weekend expedition to a hilltop site! Joe had read all about hill sites. Some older members had even been brought up on them and it sounded fun, even nostalgic. Perhaps they would have a bungy! Joe didn't hesitate long. He took the bait and added his name to the list.

★ ★ ★ ★

They were briefed by the duty instructor, a pleasant enough chap who seemed to go on a bit about not going behind "the tyres", wherever *they* were. The hill was working well and on

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4. Clutching Hand



his check ride Joe spotted "the tyres" which seemed ludicrously close to where he was supposed to land. In fact the whole thing felt a bit like what he imagined aircraft carrier operations to be, with a really small landing area in the midst of a sea of heather. But he was a conformist at heart and didn't go behind "the tyres". Nearly went over the edge though, back into the hill lift! Felt a bit foolish about it, actually, but the instructor seemed to take it in his stride. Joe was cleared for solo flying and spent the next couple of hours soaring the hill, in and out of thermals and enjoying the super view. Then he did a couple of landings, with some trepidation the first time solo onto that little patch. The wind was dying as he did his second circuit, so much so that he felt he really should cheat a little and go just a teeny bit behind "the tyres". This made the approach angle less hairy and much more what he was used to and he landed smoothly just short of the hangar. "The tyres" seemed less important now.

★ ★ ★ ★

A weak front went through that night and the wind had veered and freshened by morning. Bungy launches were on and Joe did his stint with pulling and holding back and struggling back up the slope with the heavy elastic rope. By mid-morning a dozen aircraft were soaring well and willing hands helped Joe rig his K-8 in the lee of the hangar. He was put safely into the cockpit before being man-handled out into the wind and onto the bungy point. The launch was surprisingly gentle and he felt like a pioneer as he climbed up to join the others. *This* was flying! Wished he had a leather helmet!

★ ★ ★ ★

Three hours later the wind had increased and the cloud was lowering. A couple of rain showers had passed quite close and Joe didn't fancy hanging around much longer to be trapped up there when the next one came through. He decided that five hours in one weekend was good value. Time to land, derig and count your blessings.

He waited, and watched two others let down out in front of the ridge, turn back and fly fast across the hill crest well below the soaring sailplanes. They turned steeply into wind and quickly let down, full airbrakes, onto the landing patch. His turn now!

Heart beating slightly faster, Joe flew straight out from the hill to let down as the others had done. After what seemed an age he turned downwind, to find the crest of the hill still quite close. It flashed by in no time and he was on to the line of "the tyres" almost before he knew it. He did his customary turn onto base leg — "the tyres" were decidedly upwind of him now, and with some alarm he turned finals, still at 600ft above the site. WHOOSH! It got him!! The dreaded clutching hand as torrents of air rushed groundwards to make up for the upward cascade that had held him and the others aloft so effortlessly. The heather and the rocks rushed up at him and with a crash his K-8 tried to spread itself on the ground just one hundred yards from "the tyres". The man had been right!

TAIL FEATHERS

by
PLATYPUS



Yours Faithfully, Disgusted of Dunstable Downs

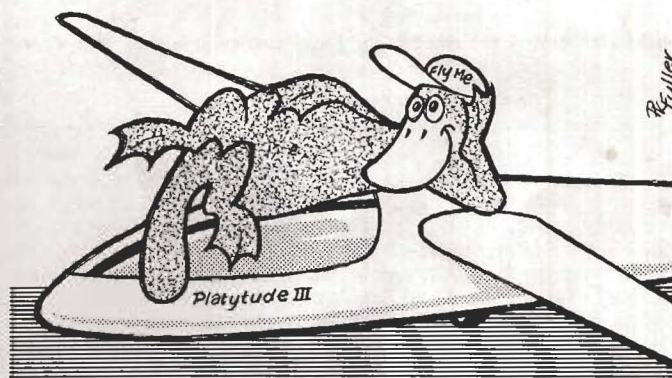
FOR years I scanned the *Daily Telegraph* chiefly for the satires of Peter Simple to whom Platypus raises a fraternal flipper in homage and for the pleasure of reading apoplectic letters from Cols (ret'd) of the Indian Army, disgusteds of Tunbridge Wells and right-thinking citizens appalled at the decay of civilised standards etc, etc.

Was that the paper whose poll of readers showed that 90 per cent wanted to bring back compulsory military service for all young people — but only two per cent of them thought that it was desirable for the sake of Britain's *defence*? If it wasn't, it should have been. It does have other readers, however, and other reasons for reading. For instance, when, years ago, I was a racing cyclist of sorts (the cry, "Platypus is up front!" used to strike terror throughout the *Peloton* — not because of fear that I was about to stage a Fausto Coppi breakaway, so much as panic that I might as usual fall off my bike and bring thirty riders down in a noisy heap) I would read the cycle racing reports in the *Telegraph* — the only paper to cover a minority sport with regularity and accuracy. Thus it is with gliding. While it was nice to see the *Observer* (after the World Championships were over) elect George Lee Sportsman of the Week, the only daily to keep us posted at the time was the *Telegraph*.

Attempts by the editor of S&G to get the popular press interested are brushed off with excuses of bland implausibility "Gliding is a rich man's sport, Madam." "Then why do you feature £100 000 yachts the whole time?" "Ah, well, that's romantic. The call of the sea and all that." Well, it is true that really good gliding pictures are rare and one glider does look pretty much like any other these days.

But the fact is, so far as the popular press is concerned, *gliding lacks sex*. Next year we must get gliders on to page three of the *Daily Crumpet*. The fact that we don't currently have any women gliding Champions is irrelevant. You don't really think it matters if it's actually *true* that Amanda, 19, wearing jaunty sailing cap and little else, "comes from an old naval family and readers will appreciate what a splendid figurehead she makes as she breasts the waves behind her billowing twin spinnakers. Amanda is a great single-handed operator but hopes to round the Horn with some fellas next year. Show us a leg, Amanda."

If we can't do better than *that* for the sake of our sport, I'll eat my jaunty gliding cap. Dammit, I won't eat it, I'll pose in it.

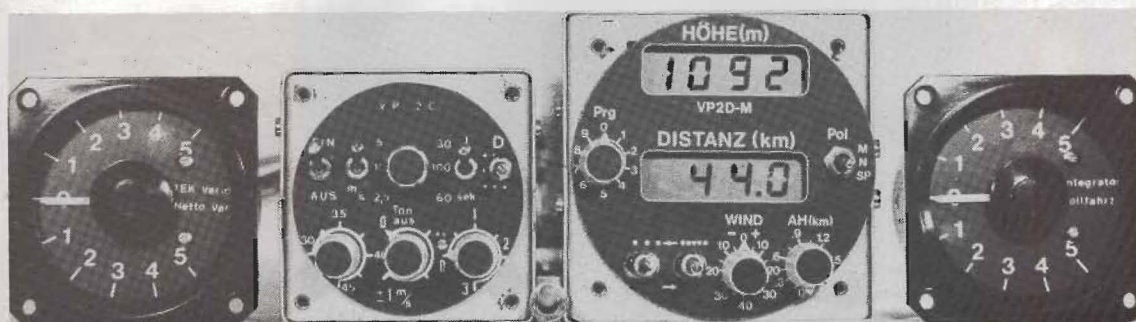


After all think about the women readers, Mr Editor.
"My Gawd Bert, he's right: stop the presses!"

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17th WORLD CHAMPIONSHIPS

Paderborn, May 24-June 7



George with Klaus Holighaus (2) on the left and Bruno Gantenbrink (3).

MAX BISHOP reports on this contest which gave George Lee the World Open Class Championship for the third time running and saw all the British Team within the top ten places for the first time. Research for the article was by Angela Bishop and the photographs, unless credited otherwise, are by Gerd Schäfer.

Angela Bishop took this photo of the British contingent lead by Mike Carlton, British Team Manager, on the far right.



AFTER a nail-biting 24 hours during which it looked as though victory might have slipped through his fingers, George Lee came good on the final task day at Paderborn to become Open Class World Gliding Champion for the third consecutive time. In so doing, he becomes indisputably the most successful glider pilot of all time.

Heinz Huth was Standard Class Champion twice running; Jan Wroblewski and George Moffat and now Göran Ax have won twice each, but not in consecutive Championships. Helmut Reichmann was three times World Champion, but in two different Classes and not in consecutive Championships. George Lee is the first man ever to win three times running, and to cap it all every win has been in the prestigious Open Class. His achievement is all the more extraordinary in that he has done it at a time when, as Ann Welch writes "pilot professionalism has become more than ever the dominant factor"; with differences in sailplane performance and luck now reduced to a minimum.

George Lee's extraordinary achievement was the crowning glory of an immensely successful Championship for the British Team. Bernard Fitchett clambered back from a low point of 36th place on Day 3 to finish fourth overall. Had it not been for his one bad day, he could well have been 15m Champion. Brian Spreckley too was in the lead, or among the leaders, for most of the contest, finishing a very creditable sixth in the most hotly contested 15m Class. The youngest competitor in the whole Championships, Andrew Davis, also put up a performance which completely satisfied everyone, except perhaps himself, to finish ninth in the Standard Class.

The contest was hard fought with very small points differentials between the leaders. Soaring conditions throughout were erratic and weak with frequent showers and thunderstorms. The tasks were short, only exceeding 300km on rare occasions, but pilots found the competition gruelling, as the days often became long-drawn out battles to stay airborne and creep a few more kilometres down track. Because of the many outlandings, there were several no contest days in different Classes, one contest day with no points scored and other days which were seriously devalued. Eventually, the Open Class managed nine contest days, the 15m Class eight and the Standard Class seven, so that the contest produced Champions who had been well-tested and were fully worthy of their titles. Just as Chateauroux had given us a previously unknown Standard Class Champion, Baer Selen, so Paderborn produced, alongside veteran champions George Lee and Göran Ax, a new face on the winners' rostrum, in the shape of 26 year-old Marc Schroeder, the Standard Class World Champion from France.

THE PADERBORN SCENE

A grass strip some 900 yards long and 180 yards wide perched on the flat top of the Haxterberg, two miles south of Paderborn, offering a fine view of the city and, out to the north and east, of the Teutoburger Wald — this was the site chosen by the German Aero Club for the 17th World Gliding Championships. The field is the home of the Paderborn Aero Club which, as a reward for bearing the brunt of preparations for the event, is now equipped with a magnificently appointed hangar and a completely refurbished club-room and control tower.

The Paderborners certainly did the international gliding fraternity proud, setting a standard which all succeeding nations will find it very hard indeed to match. The main hangar was split into three sections: a briefing hall, equipped with magiboard weather displays, overhead projector and CCTV and with a veteran Zögling dangling from the rafters; a canteen, in which the Bundeswehr caterers provided colossal portions of nourishing Teutonic grub; and a nerve-centre, split up with partitioning borrowed from the Frankfurt Exhibition Centre into offices dealing with outlanding reports, barographs and photos, scoring, the press, OSTIV and general information.

The tower building contained the Director's control centre, and the computer terminals used to provide an almost instantaneous display of start times and results. Downstairs, a bar/restaurant with terrace provided one of the main centres for social gatherings. In addition, there was a vast marquee with a wide range of shops, bars and eateries, including a stall selling souvenirs stamped with the 17th World Championships logo.

Each team was allocated a magnificent timber mobile home in the International Village, equipped with toilet, shower and lush



TP Map.

furnishings. These were individually sponsored by firms, an example of the enormous amount of commercial support the organisers had succeeded in obtaining. The biggest sponsors were Lufthansa, and Daimler-Benz who provided competitors with superb Range Rover type vehicles. Local, regional and federal governments also gave extensive support. That the Federal President Karl Carstens agreed to act as patron of the Championships and was represented at the opening ceremony by Minister for the Interior (Home Secretary) Gerhard Baum, is some indication of the importance attached to gliding in Germany.

As may perhaps have been expected, Fred Weinholtz and his team of organisers ensured the contest ran smoothly, despite occasional teething troubles — it would have been better if tasks had been set right from the start of the practice week. Key figures in the organisation were equipped with walkie-talkies so that problems could usually be solved with very little delay. The well-equipped Met office had a visual display unit on which the actual weather at any German weather station (and many other world-wide) could be called up at the push of a button.

Although satellite pictures were not generally available, the quality of forecasting was consistently high, making the task setter's job relatively straightforward. The co-ordinates of all the pre-arranged turning points had been fed into a mini-computer, so that when the task setter put in the numbers of the turning points selected, he would obtain — within ten seconds — a print-out showing the length of each leg and the total distance of the task, to four points of decimals. Although generally triangles, the tasks set did include an out-and-return and a quadrilateral. All the information needed to fly the task was distributed on printed sheets; morning briefing served mainly to reinforce points and fill in details.

The launch procedure, using powerful Robin Remorqueurs, was efficient. The whole grid could be launched in about 40 minutes (one glider every 30 seconds). There were two startlines, the northerly one for the Open and Standard Classes, the southerly one for the 15m Class. The gates and startlines all operated on different frequencies, so that the pilots had to change frequency when given the instruction "Proceed" at the gate. This did not seem to cause any great problems. As the glider crossed the startline the observer

would say "26 LINE", the word "LINE" acting as executive word of command to the computer operator, who would punch the button for the glider's start to be recorded. Within seconds, confirmation of the start would appear on the TV monitors mounted at strategic points around the site. After the bugs had been ironed out during the practice week, this system worked well, although the figures on the monitors were sometimes difficult to decipher.

Finishes were recorded in a similar fashion and details of outlandings were also fed into the computer immediately on receipt, so that a — fairly accurate — provisional results list would appear on the video screens without delay.

Still reliant on old map-pin technology, the display of outlanding information was less impressive, but reliable. The best retrieve story of the contest told of an American pilot who had a card made stating, in German: "I am a glider pilot. Please help me". When he showed this to a passing *Frau*, the good lady delved into her handbag, took out and gave him a mark, and went silently on her way! The weather ensured that there were many outlandings, but only one case of serious damage to a glider. A Bundeswehr UH-1D helicopter was on permanent alert at Paderborn during task flying, in case a search and rescue mission proved necessary.

When not in use for contest purposes, the TV monitors could be switched to the live TV networks (for example, during the live outside broadcast from Paderborn for a "Sportsnight" type programme); to the video-recorder, for which a good stock of excellent gliding films had been recorded; or to the roaming CCTV camera which filmed characteristic scenes for posterity.

PUBLIC RELATIONS

The scale of TV, radio and press coverage was startling. Apart from the live outside broadcast, there were regular TV news items charting the progress of the Championships and featuring interviews with prominent pilots and other notables. Coverage in the local and national press extended far beyond simple reporting of results. The press were given all the facilities (telex machines, telephones etc) they required and were fed with press releases and press conferences to ensure they had no shortage of material. This is a reflection of the policy Fred Weinholz and his colleagues have been pursuing for years now; starting with the local press, they have slowly worked up the different levels of influence, until now there are 100 MPs in the German Parliament who understand and sympathise with the problems glider-pilots face.

Bill Scull feels that this is the main lesson we can learn from the German gliding scene. We need to actively promote our sport. The fruits of such promotion are all too apparent in Germany — even on cloudy, non-flying days there were large crowds at Haxenberg, eager to find out about gliding. They were entertained by clear, informative commentary and wherever possible, fly-pasts, parachute drops and aerobatic displays. Incidental conversations with uninvolved townspeople betrayed a degree of awareness about gliding competitions which would be altogether exceptional in a member of the British public.

WHO WAS THERE?

Eighty-one pilots (12 in the Open, 42 in the 15m and 27 in the Standard Class) from 25 countries, including for the first time Greece. The presence of the South African Team led to the withdrawal of Australia, the USSR, Czechoslovakia, Hungary and Yugoslavia, but this time the Finns were there and so were the Poles, although their participation remained uncertain to the very last moment. Frantic phone calls with the Polish Aero Club in Warsaw resulted in a compromise solution: the Poles officially protested against South African participation, required their flag to be removed from wherever it was flying with a South African flag, and announced that they would boycott social occasions attended by the South Africans. This in no way spoilt the atmosphere at Haxenberg, which remained friendly and relaxed throughout the contest.

One of the features of the Championships was the welcome given at morning briefing to distinguished visitors, who included former World Champions Ernst Günther Haase, Rolf Hossinger, Heinz Huth and Helmut Reichmann, a legendary figure from Poland, Jerzy Popiel, and the record-breaker *par excellence*, Hans Werner Grosse. In addition there were visiting delegations from Egypt, Saudi Arabia and the People's Republic of China. The Chinese hope to enter a team in Argentina in 1983. Since gliding started again after the Cultural Revolution, the movement has grown

rapidly and, with their imported German plastic gliders, they are learning the necessary competitive soaring skills. One of their leading pilots, a charming lady present at Paderborn, was taught to glide by Polish instructors prior to the Cultural Revolution.

An International Youth Camp for young glider pilots was also organised to coincide with the Championships. The young people had an opportunity to observe the contest at close hand and talk to their heroes, as well as exchange experiences and talk about the future of international gliding. Fred Weinholz attached great importance to the presence of these young people, giving up one and a half hours of his time to talk to them about the history and present state of the sport. Invitations were issued to all national aero clubs to send a delegation of young people, but unfortunately Britain was not represented — one wonders why not.

PRACTICE WEEK, May 17-23

For the first three days of the practice week, no formal tasks were set, although competitors were encouraged to practise starts so that the organisers could check out their observing procedures. Most pilots who had not flown in the area before made use of the opportunity to inspect some of the turning points, splendid vertical photographs of which had been taken by the Harriers of No 3 Squadron at Gütersloh, and distributed to all pilots.

Monday, May 18, dawned bright, and Albert Johnson and Stu Mulholland were polishing 26s wings by 0800 — George Lee had decided to declare a 1000km triangle, with turning points near Nancy and Stuttgart. Although he made excellent progress as far as Nancy, conditions deteriorated rapidly early on the second leg, so George decided to cut "short" his flight and return to Paderborn. Despite Brian Spreckley's comment that Nancy was "a good name for a place to turn back from", there is no doubt that this 760km out-and-return must have boosted George's confidence and given the opposition food for thought!

If George Lee stole the headlines on Monday, Tuesday was undoubtedly Klaus Holighaus's day. Onlookers were astonished to see his Nimbus 3 cross the finish line at ground level and then pull up into a neat loop, before completing a normal circuit and landing. Good entertainment for the spectators and (possibly?) good publicity for the Nimbus 3, but the Director was not amused. XX was banned from flying the following day and Holighaus was warned that similar behaviour during the contest would result in disqualification.

Strange new shapes in the sky over Paderborn were the members of the "Longhorn Club", the ASW-20FP fitted with winglets. If pilots flew with winglets on Contest Day 1, they had to fly with them throughout the Championships, so Brian Spreckley carried out extensive comparison flying (with and without winglets) against Bernard Fitchett's Ventus B. The "horns" seemed to confer a distinct advantage up to about 80kt, but above that speed the Ventus moved away comfortably. Eventually, Spreckley decided against flying with winglets — perhaps hoping for very strong conditions — whilst Pettersson and Schuit elected to keep theirs on.

Another distinctive silhouette was the stretched ASW-17 of Dick Butler (USA). Working to his own plans, he had inserted root extensions to give his ship a span of 23m. His was generally thought to be the only glider which could hope to match the Nimbus 3s, an opinion which unfortunately for Dick proved to be unfounded. Other technical red herrings — as they turned out to be — were Ernst Gernot Peter's ASW-20 rumoured to have an ASW-22 wing section, and Baer Selen's ASW-19 boundary layer control system which was investigated by the stewards and a panel of OSTIV experts before being declared consistent with Standard Class rules. (See p184.)

The first practice tasks were set on Wednesday, May 20, (from 360km for the Open Class to 229km for the Standard Class) but few pilots actually flew the tasks. Pilots were given a comprehensive brief on airspace problems, although the organisers had co-operated with the air traffic authorities to ensure that these were minimal. Competitors were assured that low-flying military aircraft would be giving Paderborn and the task routes a wide berth. Apart from a Dutch F-5 which thundered over the field later that morning (and which turned out to be a glider pilot just saying "hello") this proved to be largely the case. Those who had warned that it would be impossible to hold a World Championships in the crowded airspace of the Federal Republic were proved totally wrong.

After some particularly alarming finishes and circuit procedures, the stewards spoke to the organisers about flight safety. On such a

small field it was obviously vital for pilots to follow the laid-down patterns for finishes and landings, and not, as was happening, treat everything after the finish line as material for an exercise in creative individuality. Fred Weinholtz had some suitably stern words ready for the next morning's briefing.

On Friday, the draw was made for the launching order. Many organisational heads were scratched when, during the Standard Class draw, number 37 — a 15m glider — was drawn, and the pilot of Lima Echo complained that he hadn't been drawn at all. Fortunately, there was a member of MENSA present to point out that, in computer-type, 37 was LE upside-down!

With no task setting possible, the practice week closed on a humorous note. Each morning at briefing, a great white screen was automatically unrolled to allow marshalling plans and such like projects to be projected. This morning as the screen was lowered, a large Union Jack and Kitty sticker were revealed, to the general amusement of the audience. But Fred Weinholtz had the last word: "Is there any significance" he asked "in the fact that the flag is coming down?"

OPENING CEREMONY MAY 23



The hot air balloon ascent.

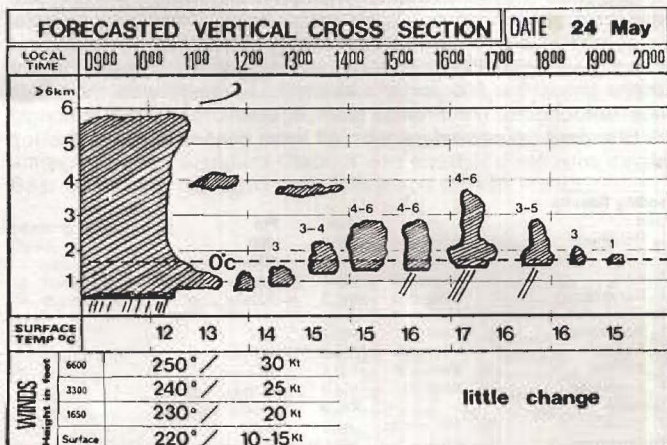
Inevitably, the best soaring conditions of the Championships occurred on the day of the formal opening ceremony and remained unexploited! Nevertheless the fine weather allowed the full programme of events to go ahead. After the teams had marched on (without flags — pace Poland) there were speeches of welcome from Fred Weinholtz, Georg Brütting (President, German Aero Club), the Mayor of Paderborn, Bill Ivans (President CIVV) and — a short one as he sensed the crowd were getting restless — Interior Minister Baum. Then followed a drop by free-fall parachutists carrying the FAI flag, who contrived to land on a sixpence within the semi-circle formed by the teams: a breathtaking display of glider aerobatics in a Salto, including a hair-raising inverted fly past only feet off the ground; and, unique in many observers' experience, a display of synchronised aerobatics by 2 LO-100 gliders, including Red Arrows-style cross-overs and a low fly past in mirror formation.

The synchro-team repeated their show several times during the Championships to the delight not only of the casual onlookers but of the connoisseurs too. The ceremony closed in spectacular, almost surreal, fashion with a mass hot air balloon ascent. The sight of 25 multi-coloured globes sailing majestically out over the valley was like a vision from a fairy-tale. There was a moment of high comedy too. It had been arranged for the Minister and his young daughter to fly in one of the balloons, with his two armed guards in a neighbouring craft. The Minister duly got airborne, but the burner in the bodyguards' balloon suddenly developed a fault and they were unable to take-off. Instead, they leapt into a car and tore off hell-for-leather down the country lanes in a frantic effort to keep within the regulation distance of their protégé. He eventually landed, unscathed, having apparently enjoyed the trip enormously!

THE WORLD GREETES THE GERMAN FARMER

Sunday, May 24. Day 1 — all Classes

Tasks: Open 270.4km ▲ — TP10, TP23. 15m 241.3km ▲ — TP10, TP21. Standard 209.7km ▲ — TP17, TP28. Launch 1400hrs. Start-line Open/Standard 1500hrs, 15m 1430hrs.



A cold front which gave several hours of rain in the morning moved away at midday and there was a rapid change to sunshine and active cumulus. However, the westerly wind was about 30kt at first, though it decreased later. Good soaring conditions were soon interrupted by showers which became more extensive in the north and west later, and eventually cut off nearly all thermals over a wide area.

Max temp: 15 Dew point: 05

An unpromising start to the first contest day — grey skies and steady rain. Competitors from sunnier parts were amazed to see the task sheets waiting for them at morning briefing and were frankly sceptical at Helmut Klimmek's announcement of a clearance at midday. A second briefing was held at 1100 confirming the expected clearance, but amending the time of its anticipated arrival to 1300. At 1250 the clouds began to part and five minutes later a loudspeaker announcement informed competitors that the first launch would be at 1400. Not a minute of soarable weather was lost!

Behind the cold front, cumulus built up rapidly, spreading out locally and giving showers. All Classes found the going hard and there were no finishers in the Open and 15m Classes. Bernard Fitchett and Brian Spreckley met after the first TP and found it very helpful to fly as a pair. Bernard was reduced to ridge soaring at one stage and Brian's barograph trace had a low point beneath the base line. Both did well however, and finished third and fourth in their Class with distances of 169.1km and 164.3km respectively. Many 15m ships had been brought down by a rain shower near the first TP — at one stage there was even some doubt whether enough would pass the 100km mark to make it a contest — but in the event enough struggled down the second leg to make the day worth 524pts for the winner, Einar Ronnestad. Notable for their absence amongst the leaders were Karl Striedieck (USA) and Ernst Gernot Peter (Germany).

The Open Class shared the first TP with the 15m ships and were also affected by the shower, but since only 12 pilots were entered in this Class, it was sufficient for nine of them to sneak round the corner and glide out a few kilometres down the second leg to make it a 1000pt day. Klaus Holighaus was the only pilot to turn the Unna Autobahn junction. For George Lee the TP was obscured by rain. He tried to skirt east round the shower, hoping for regeneration in the sunshine behind. But it was too late in the day and he had to land without his picture — a great disappointment for he was well ahead in time of his team-flying German rivals. Another of George's serious challengers, Dick Butler in his stretched ASW-17, had an unfortunate day, managing only 87km for 234pts.

Frustration was written all over Andrew Davis's face when he got back to Haxterberg. After a fast run until just before the second TP, where he caught the leading gaggle, he abandoned a weakish

thermal, rounded the turn and made for some good looking clouds at Meschede. Looking back, he saw the gliders he had overtaken still climbing in his thermal. They all got back to Paderborn, but Andrew, alas, encountered some hills before reaching more lift. Although the best of the non-finishers, he sacrificed at least 400 speed points, which would be hard to recoup. Another casualty in the Standard Class was World Champion Baer Selen who landed near the first TP, thus losing almost all hope of retaining his title. His contentious boundary-layer blowing device had obviously not been a great help. Witek of Poland demonstrated convincingly that doubts about the Std Jantar's ability to compete with the LS-4s were unfounded. The French team figured prominently amongst the Standard Class leaders, with all three of their pilots in the top five.

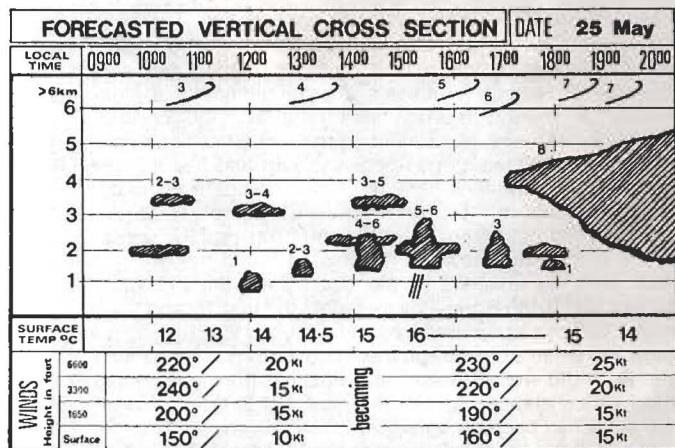
Leading Results

Open			Km	Pts
1 Holighaus	D	Nimbus 3	208.0	1000
2 Lee	GB	Nimbus 3	188.7	878
3 Kluk	PL	Jantar 2B	183.1	842
4 Gantenbrink	D	Nimbus 3	181.3	831
15m				
1 Rønnestad	N	ASW-20	183.7	524
2 Rantet	F	Ventus A	174.9	490
3 Fitchett	GB	Ventus B	169.1	467
4 Spreckley	GB	ASW-20	164.3	448
Standard			Km/h	
1 Witek	PL	Std Jantar	64.08	1000
2=Chenevoy	F	LS-4	62.65	986
2=Ragot	F	LS-4	62.65	986
10 Davis	GB	LS-4	53.5	485

MUCH ADO ABOUT NOTHING

Monday, May 25. Day 2 — 15m. No Contest — Open and Standard.

Tasks: Open 252.5km ▲ — TP14, TP30, 15m 244km ▲ — TP13, TP27. Standard 200.6km ▲ — TP19, TP30. Launch 1230hrs. Start-line 15m 1300hrs. Open/Standard cancelled.



Yesterday's front was not far to the east and had developed small waves. A wide area of alto-stratus dimmed the sunshine but thermals formed cumulus for a very few hours. The window of soarable weather arrived in time for the 15m Class and competitors remained in this window on the first downwind leg. The second leg was into a 20-25kt wind with cloudbase lowering in showers and the thickening upper cloud eventually stopped all thermals.
Max temp: 16 Dew point: 07

A glance at the sky after briefing gave competitors few grounds for hope, but the grid had been duly set up on runway 06 and launching began at 1230, after a delay of 90 minutes. As the 15m Class was being launched the wind veered to the SW and a change of ends soon became unavoidable. In view of the time this would have taken and the marginal soaring conditions, the organisers scrubbed the Open and Standard tasks. George Lee's relief must have been shared by many. The low cloudbase and weak soaring conditions again gave the organisers problems at the startline — the Director had complained after Day 1 of gliders circling directly

above the line, preventing starters from being observed.

Not long after the Racing Class ships drifted off down track the first landing reports started coming in; the stream quickly became a flood. Most fell well short of the magic 100km Y mark and 11 out of 42 did not even make the Silver distance. The valiant few struggled on well into the evening, however, and tension rose back at Haxterberg as the numbers still airborne dwindled. Would 25% (11 gliders) get past Y and make it a contest day, or not? Eventually, ten gliders were past the mark and only veteran Henri Stouffs of Belgium remained airborne. He kept everyone guessing until dinner time, when his distance of 185km was announced. So a contest day it was, but worth the effort? Hämmerle's titanic struggle with the elements to cover a winning 188km earned him a paltry 24pts — as well as the traditional German cuddly penguin award for the unluckiest "booby" of the day.



Brian Spreckley photographed by Chris Simpson.

Brian Spreckley's flight almost ended 25 miles down track when he found himself at 1200ft asl with 240lb of water still on board. Having struggled back up again, he was able to run in to the first TP along a storm edge at 100kt, turn the TP in torrential rain and then use the storm edge again to come out from the TP. After battling to keep out of the ADIZ (buffer zone with East Germany) he spent a long time ridge-soaring and trying to get high enough to cross a range of wooded hills obstructing his progress. In the end, all he could do was glide out south down the valley.

Leading Results

15m			Km	Pts	Two Days		Pts
1 Hämmerle, A.	A	Ventus A	188.4	24	1 Rønnestad	N	680
2 Musters	NL	Ventus A	187.8	24	2 Rantet	F	602
3 Stouffs	B	ASW-20	184.8	23	3 Fitchett	GB	583
4 Spreckley	GB	ASW-20	157.2	18	4 Spreckley	GB	568
8 Fitchett	GB	Ventus B	107.4	10			

Open/Standard cancelled

WINTER BAROGRAPHS

MAIN STOCKISTS

THERMAL EQUIPMENT LIMITED

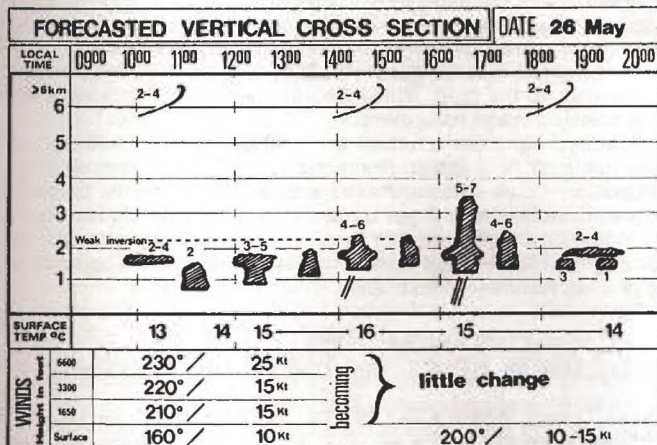
Lasham Airfield, Alton, Hampshire

Telephone Herriard 359 or 0256-83 359

HOW THE MIGHTY ARE FALLEN

Tuesday, May 26. Day 3 — 15m. Day 2 — Open and Standard.

Tasks: Open 297.6km ▲ — TP26, TP9. 15m 257.7km ▲ — TP23, TP9. Standard 233km ▲ — TP17, TP11. Launch 1100hrs. Startline Open/Standard 1130hrs. 15m 1200hrs.



The air was still moist and very unstable. Cumulus formed early and soon spread out to give large grey areas but showers were still light and isolated. The winds, which were still south-westerly, were only about 15kt below cloud in the morning and fell to less than 10kt during the afternoon. Lift was over 5kt in good areas but gaps between thermals could be very wide.

Max temp: 17 Dew point: 09

The first good racing conditions of the contest gave the crowds at Haxterberg a chance to see 70 finishes, many marginal and verging on downright dangerous. A dozen pilots received unofficial warnings at the next day's briefing — with an offer of a ride in a two-seater with an instructor to show them how to fly circuits.

In the Racing Class, the poor showing on Days 1 and 2 by favourites Karl Striedieck and Ernst-Gernot Peter was reinforced in dramatic style when both landed out a few miles down track. With only about 250pts each after three contest days, their challenge seemed to be at an end. How sad a sound to British ears was the loud-speaker call, soon after: "Landing report — ONE NINER". Bernard Fitchett was also down, in the hills south of track on the first leg. Skirting south round an area of clag, he had got down to 400ft agl before scraping away in weak lift. He then saw Karl Striedieck passing 500ft above him, apparently heading somewhere in a purposeful manner. Bernard assumed he had seen something, and followed. But Karl simply flew back under the strato-cu layer, pressed straight on — and landed. Bernard turned back to the sun to try and relocate his thermal but it was too late.

The day belonged to Holland in the 15m Class. Daan Paré, Kees Musters and George Schuit flew brilliantly as a team to bring off a 1-2-3. Their leap-frogging technique was, in Brian Spreckley's view, difficult to match. Brian, without any such assistance, was himself only some seven minutes behind the leader and this performance was enough to carry him into the overall lead, a few points clear of Rønnestad and Paré. After a very fast second leg, using a cloud street, he had lost a few minutes on the final run-in through having to double back for a top-up.

First to start in the Open Class were the two German Nimbus 3s which crossed the line 50 seconds apart at 1220. Most of the field had started by 1230, but it was 1313 before we heard George Lee's line call. Many at Paderborn thought he was gambling dangerously, but if it was a gamble it paid off handsomely: George finished at 1615, knocking a full 17 minutes off Holighaus's time, and giving him an average speed of 98.6km/h. George had based his late start decision on Tom Bradbury's assurance that the cirrus that was forecast to arrive would not be a serious problem. Had it not been for a slight final glide miscalculation, George would have broken the 100km/h barrier on a day when only Holighaus amongst the other finishers managed more than 90km/h. This win carried

George into a narrow overall lead in the Open Class, so that on the evening of May 26, British pilots headed two of the three Classes.

Stig Øye of Denmark was a convincing winner in the Standard Class; his 83.3km/h bettered the 15m Class winner's speed of 81.9km/h. After a late start, he found the going good all round track, with rates of climb much better than forecast. His only problem was on final glide, when he encountered rain and heavy sink and had to "throttle back" to best glide to sneak back in across the finish line. Andrew Davis was not satisfied with his 11th position, but his speed of 75km/h was only 2.5km/h slower than that of Ragot placed second, and this enabled him to consolidate his tenth place overall, behind the nine pilots who made it back home on Day 1. A pattern of French and Polish domination appeared to be emerging in the Standard Class. It was another disastrous day for Baer Selen who managed only 24th place with 53.7km/h.

Leading Results

Open		Km/h	Pts	Two Days	Pts
1 Lee	GB Nimbus 3	98.64	1000	1 Lee	GB 1878
2 Holighaus	D Nimbus 3	90.15	852	2 Holighaus	D 1852
3 Gantenbrink	D Nimbus 3	86.91	796	3 Gantenbrink	D 1645

15m

		Km/h	Pts	Three Days	Pts
1 Paré	NL Ventus B	81.86	1000	1 Spreckley	GB 1509
2 Musters	NL Ventus A	81.55	994	2 Rønnestad	N 1495
3 Schuit	NL ASW-20FP	80.53	975	3 Paré	NL 1485
6 Spreckley	GB ASW-20	78.75	941	36 Fitchett	GB 583

Standard

		Km/h	Pts	Two Days	Pts
1 Øye	DK LS-4	83.27	1000	1 Ragot	F 1871
2 Ragot	F LS-4	77.51	885	2 Witek	PL 1868
3 Kepka	PL Std Jantar	77.25	880	3 Øye	DK 1865

11 Davis	GB LS-4	153.3	836	10 Davis	GB 1321
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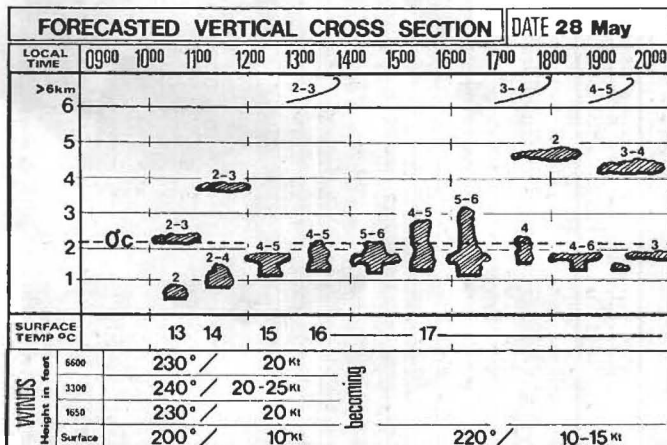
Wednesday, May 27.

Continuous hard rain all day, although we were assured that the sun was shining in Belgium and Holland. The campsite was transformed into a mire, films were shown in the briefing room and a group set out to a local factory to try their hand at glass-blowing. The OSTIV Congress opened at the Paderborn Town Hall.

"KAFFEE UND KUCHEN"

Thursday, May 28.

Tasks: Open 260.1km ▲ — TP9, TP6/alternative 233km ▲ — TP17, TP11. 15m 233km ▲ — TP17, TP11/alternative 206.4km ▲ — TP9, TP18. Standard 206.4km ▲ — TP9, TP18. Launch 1200hrs. Startline Open/Standard 1330hrs. 15m 1400hrs.



Very unstable air and so moist that cloud became very extensive, Cumulo-nimbus developed, thunderstorms broke out and rain washed most people out of the sky.

Max temp: 16 Dew point: 07

The Standard Class were launched into a patch of blue at midday, but the gap soon closed and many landed back. There were reports of a broad band of layer cloud between Paderborn and the western



George Lee crossing the finish line.



Göran Ax, 15m Class Champion with Ake Pettersson (2) on his left and Duan Paré (3).

The grid.



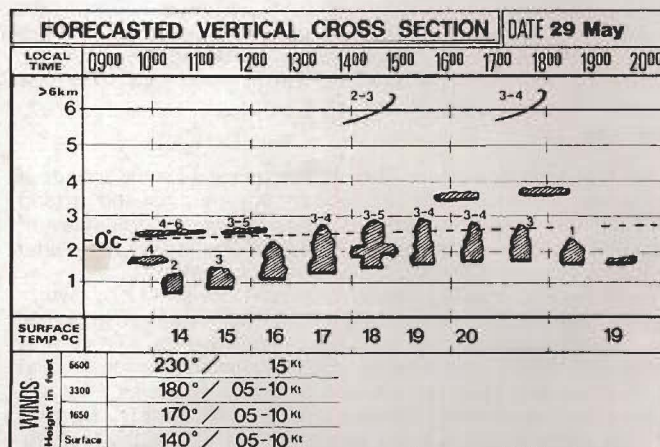
turning points, but there was no time to let this through before launching the other Classes. For a while, the layer cloud started breaking and good-looking cumulus developed. The Open and 15m Classes were launched on their alternative tasks and several Standard ships came back for second starts. The improvement was short-lived, however, and by 1500 the sky looked uniformly gloomy and the first landing reports started coming in. George Lee had started at 1439 and there was some concern when, at 1615, he announced his intention of landing back at Paderborn. The worry was short-lived however — this proved to be yet another example of George's superb tactics — for at 1620 landing reports came in for both Holighaus and Gantenbrink. They had gone down just a few kilometres up the road, whilst George had avoided a retrieve and was drinking tea at base camp.

Nobody in any Class turned the first turning-point and the day was declared no contest. Some sat on the ridges near Oerlinghausen for hours (Jacque Rantel was awarded a bottle of champagne for achieving a Silver duration!). When it started raining on the ridge, David Innes went in to join his crew at Oerlinghausen and sample their coffee and cream cakes. And this was supposed to have been Ascension Day!

PANIC, PENALTIES AND PROTESTS

Friday, May 29. Day 4 — 15m. Day 3 — Open and Standard.

Tasks: Open 270.2km ▲ — TP3, TP9. 15m Class, 246.4km ▲ — TP9, TP7. Standard 221.8km ▲ — TP11, TP8. Launch 1100hrs. Startline Open/Standard 1130hrs. 15m 1255hrs.



A weakening front halted just south of Paderborn and produced a sheet of cloud which broke a few miles north of the site. Further north well developed cu with rather low bases formed very early and then spread out to produce large dead areas. Winds were very light all day.

Max temp: 17 Dew point: 09

The low cloudbase and weak thermals made it awkward for pilots to get away from Paderborn, but on course conditions improved, although the base remained lower than forecast all day. Most pilots left as soon as they could, and this provoked near panic on the 15m startline. The 15m Class was last to be launched, and once off tow they all wallowed around near the gate waiting for the "Startline now open" announcement. This came at 1255, and by 1300 no less than 30 gliders had started!

Bernard Fitchett was not among them. He had struggled in a weak thermal over the town to gain enough height to cross the startline and had finally decided that the best solution would be to land back, take another launch to cloudbase (about 1800ft) and fly straight across the line. This proved to be an excellent tactic. He caught up with the gaggle which had started 20 minutes before him near Osnabrück and then pressed on to finish only nine minutes behind the first man home, early starter Karl Striedieck. Bernard's excellent speed of 77.6km/h earned him a bottle of Championship Sekt at Saturday's briefing, which was presided over by a Union Jack-draped Kitty sitting astride the Zögling primary.

Brian Spreckley had also "grovelled" and "trickled" his way round at 71.3km/h, enough to consolidate his overall lead in the Class. Like Bernard, he had encountered the best lift of the day a few miles out on final glide (4 to 5m/s) under a grey, flat-looking sky, so that he had to push the speed up to 120kt. Another very good day for Britain in the 15m Class, and a day on which Striedieck and Peter at last showed better form.

The superiority of the Nimbus 3s in the Open Class — and of their pilots — was further confirmed. Even Butler in his stretched ASW-17 did not seem to be able to challenge the giants, Lee, Holighaus and Gantenbrink. It was even reported that Kluk and Muszczyński were having to justify their modest scores to the authorities in Warsaw!

George Lee did not get off to a good start. The low cloudbase and poor weather encroaching from the south called for a prompt start, but he discovered his ASI was under-reading by 15kt, an unacceptable error. He had to land in front of the packed public enclosure and he and his crew were pestered by spectators as they changed the instrument and installed a new filter in the pitot line. Hardly conducive to a balanced state of mind, especially as conditions appeared to be worsening. Once started, however, George found the going quite good initially but had to slow down a lot over the wet country on the second leg because of spread-out strato-cumulus. After a good climb near the second turn, he again miscalculated his final glide somewhat and lost some of the ground he had made up on Bruno Gantenbrink, whose time was 38 seconds faster. George admitted to coming home with "not a lot of height in hand": a significant understatement in the eyes of the British spectators who were energetically urging the big Nimbus forward across the line!

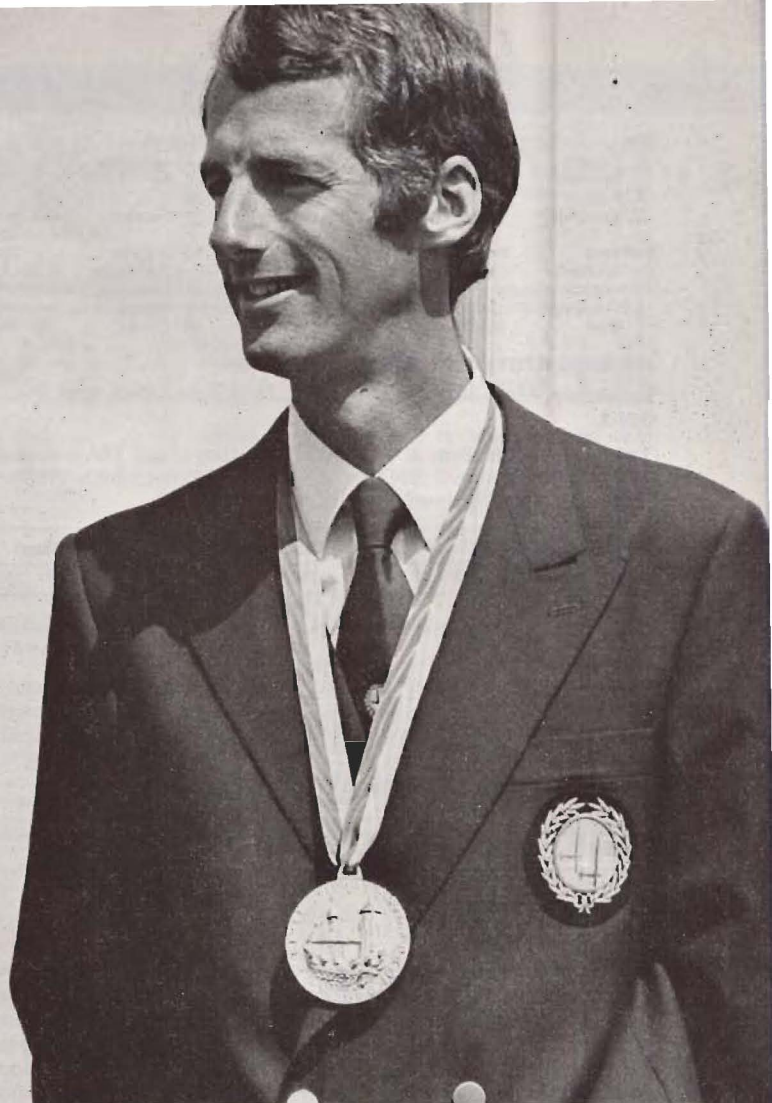
Pancaked into the field

Francois Ragot, the Standard Class leader, surrendered this position to his compatriot Marc Schroeder after ground-looping into a field of oilseed rape 400 yards short of the threshold. He had to top up over Paderborn town having misjudged his final glide, but broke off his climb prematurely and made for home when he saw others finishing above him. The approach marker 500 yards east of the finish line which all competitors were required to round prior to finishing proved his undoing. Too low and too slow, he pancaked into the field when trying to negotiate the corner. Happily he was uninjured and his aircraft undamaged. It had been announced at the start of the contest that no speed points would be awarded to a glider that failed to round the approach marker. A decision to penalise two pilots in this way (Selen and Mattano) was, however, reversed on the stewards' recommendation and only penalty points were awarded. Inevitably, this led to the French Team Managers' lodging a protest, on the grounds that had Ragot known he would merely incur a penalty and not lose all his speed points as had been announced, he would have headed straight for the finish line, missing out the approach marker. It looked as if the International Jury would be burning the midnight oil.

The Standard Class Poles, Witek and Kepka, slipped back badly today but local favourite Hans Glöckl increased the pressure on the leading Frenchmen. After a late start, Andrew Davis had a lonely trip as far as the second TP, encountering no other gliders. Slow climbs and long glides were the order of the day for him, and his overall position remained unchanged.

Fred Weinholtz's repeated appeals for good airmanship were evidently still falling on deaf ears — a host of peccadillos were rewarded with warnings of varying severity. The offences ranged from wrong circuit direction, through wrong runway for landing, to the wrong end of the tow-rope being attached to the glider! Constantine Avgerinos, the likeable Greek pilot who is his country's first representative at the World Championships, was exhilarated to have completed the task, only to discover later that his second TP photos were outside the sector, and that he would be scored only to the first turn.

Leading Results		Km/h				
Open		Km	Pts	Three Days	Pts	
1 Gantenbrink	D Nimbus 3	75.36	1000	1 Lee	GB	2874
2 Lee	GB Nimbus 3	75.18	996	2 Holighaus	D	2759
3 Holighaus	D Nimbus 3	71.26	907	3 Gantenbrink	D	2645



George at the prizegiving.

Marc Schroeder, Standard Class Champion, with Svein Kristiansen (2) on his left and Gabriel Chenevoy (3).



SAILPLANE & GLIDING

lightning flashes illuminated the curtain of showers south of Paderborn for several hours.

Max temp: 24 Dew point: 15

It was a day of consolidation for the leaders in the Open and Standard Classes, with no changes in the relative positions of the first six in either Class. The 15m Class remained more volatile, but a pattern of Nordic domination seemed to be emerging. What now seemed certain was that three different manufacturers would be able to capitalise on the Paderborn results. Lemke Schneider had the Standard Class virtually sewn up with all the leading contenders, save the Poles, flying LS-4s. In the 15m Class the top six all flew ASW-20s except for Uoti (Finland); and, of course in the Open Class, Schempp-Hirth reigned supreme with the "super-orchid" Nimbus 3.



Georg Brütting, President of the German Aero Club, with Max Bishop, the interpreter.

Forty-four out of 81 gliders completed today's task which, after the weak, unsettled conditions we had experienced since the Championships began, was considered eminently satisfactory by the organisers. Thunderstorm activity, however, boosted the luck factor considerably; and it was a disappointing day for the British Team — George Lee's performance excepted, of course. His consistency, day-by-day extending his lead, must have left Holighaus and Gantenbrink wondering just what they could do to make up the deficit. George's flying was universally acclaimed: Helmut Reichmann, on a flying visit, thought it extremely likely that he would be surrendering not only his 15m title, but also the unique "three times World Champion" distinction.

At Monday's briefing, the Director gave George a box of champagne — instead of the usual bottle — "to save unnecessary duplication of effort in the days to come . . ." (but there was only one bottle in the box!). The adulation of George's fans sometimes took strange forms. Shortly before launch he was accosted on the grid by someone speaking rapid German and wielding an album. An autograph hunter, thought George, and was amazed, when the book was opened, to see that it contained . . . FOOTPRINTS!! The gentleman desired George to remove his shoe and sock, step into a bath of ink and leave his mark in the book. Poor George had to delve deep into his immense reserves of tact and diplomacy to put the fellow off!

With an eye on Nimbus 3 sales, Klaus Holighaus quickly had his expert repair-man, David Schapiro, working on the wing of 26 after George had complained (within earshot of some press-men!) that one section looked unfinished. The bad patch had become conspicuous as a result of the daily leatherings and polishings 26 had received from George's crew, Albert Johnson and Stuart Mulholland.

Laurens Jan Goudriaan (son of Klaas in the Open Class) hoisted himself up the 15m rankings by winning the day, but more significant was veteran Henri Stouffs performance, which moved him up to second place overall between the Swedes, Ax and Pettersson. Bernard Fitchett was the last of the finishers, having been held up by a thunderstorm on the last leg. He had narrowly escaped landing near where Brian Spreckley came to grief, but had scraped away from 400ft agl.

In the Standard Class, Hans Glöckl beat Brigliadori home by four minutes and was now snapping at his heels in the overall rankings, followed by the two remaining French musketeers, Schroeder and Chenevoy (Ragot — with today's out-landing — now having drop-

ped out of the reckoning). Having been within final gliding range and sent his crew home, Andrew Davis encountered a storm and had to land 20 miles out, at a cost of three places overall.

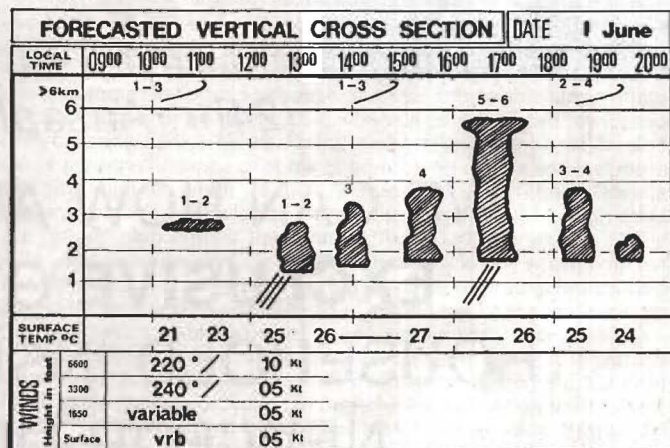
Leading Results

Open			Km/h	Pts	Five Days		Pts
1 Lee	GB	Nimbus 3	97.26	1000	1 Lee	GB	4874
2 Holighaus	D	Nimbus 3	93.41	957	2 Holighaus	D	4684
3 Gantenbrink	D	Nimbus 3	90.98	929	3 Gantenbrink	D	4532
15m			Km/h	Pts	Six Days		Pts
1 Goudriaan, L.	ZA	ASW-20	76.74	1000	1 Ax	S	3939
2 Stouffs	B	ASW-20	76.20	994	2 Stouffs	B	3844
3 Uoti	SF	Glasf 304	76.01	992	3 Pettersson	S	3811
20 Fitchett	GB	Ventus B	53.11	725	10 Fitchett	GB	3277
Standard			Km/h	Pts	Five Days		Pts
1 Glöckl	D	LS-4	78.93	1000	1 Brigliadori	I	4635
2 Schroeder	F	LS-4	78.47	993	2 Glöckl	D	4632
3 Chenevoy	F	LS-4	77.74	982	3 Schroeder	F	4576
21 Davis	GB	LS-4	206.4	431	10 Davis	GB	3533

"TRAVAIL, YET SEEK FOR NO REWARD . . ."

Monday, June 1. Day 6 — Open. No Contest — 15m and Standard.

Tasks: Open 455.8km O/R — TP56. 15m 375.2km ▲ — TP44, TP42. Standard 338.7km ▲ — TP34, TP42. Alternatives set 1200hrs, Open 375.2km ▲ — TP44, TP42; 15m 338.7km ▲ — TP34, TP42. Launch 1315hrs. Startline Open 1345.



The overnight thunderstorms had hardly cleared before a fresh batch developed over the Ardennes in the morning. The upper cloud ahead of them reached Paderborn just at launch time and cut off thermals locally for some three hours. The dead area only covered a narrow belt and good cumulus formed over a large part of the task area.

Max temp: 24 Dew point: 15

A buzz of anticipation ran round the briefing hall as the weather men promised the best soaring conditions of the contest — 4 to 5kt average rate of climb with cloudbase rising to 7000ft and only a small chance of thunderstorms. The tasks were appropriately ambitious: 455km for the Open Class, by far the biggest task yet.

But the excitement was short-lived. The weather forecast was good for virtually the whole of Germany, bar Paderborn. By midday, a storm-front had brewed south-west of Paderborn, and the blow-off from the top of the cu-nims was holding the temperature down below trigger point. By the time thermals started and the Open Class were launched on their alternative task at 1320, the thunderstorm loomed large, blocking the route to the first TP. Rain started falling before all the Standard Class could be launched, and all those that were launched landed back. The Standard and 15m tasks were scrubbed.

Of the Open Class ships, four had managed to stay airborne — in a somewhat risky fashion — by nibbling at the edge of the storm. They were Holighaus, Gantenbrink, Butler and Kluk. The rest, including George Lee, landed back for relights, but it was impossible to launch until the storm had gone through (by about 1530) and convection did not restart until after 1600. By this time everyone on

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the grid had heard the four starters had skirted north round the storms and found their way into the excellent conditions behind. There was lively discussion concerning the best tactical move in the circumstances. If all four finished, the day would be worth 166pts and George Lee's lead would all but vanish. If any other contestants launched and passed Y (100km), the winners' scores would be correspondingly up-rated. At 1615, the tannoy announced that Kluk had landed, 40km short of Y. This was much to the relief of George Lee, for it signified that all the scores would be multiplied by a day factor of zero — if nobody else started.

Although Anglada and Innes took a desultory launch, there were no further starters, and George's margin was preserved intact. Bruno Gantenbrink and Dick Butler, the finishers, had only a bottle of sekt and a bad luck penguin each to console them for scoring zero points for a 375km triangle at 73km/h!

A controversial day — the British thought the organisers should never have started launching with a storm approaching so rapidly, and the Germans thought the FAI scoring system was in need of modification!

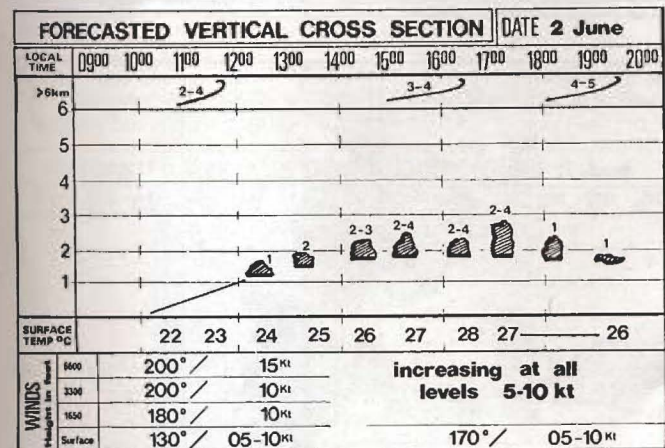
Leading Results

Open			Km/h	Pts	Six Days	Pts
1 Gantenbrink	D	Nimbus 3	73.24	0	1 Lee	GB 4874
2 Butler	USA	ASW-17	73.73	0	2 Holighaus	D 4684
3 Holighaus	D	Nimbus 3	344.8	0	3 Gantenbrink	D 4532

THE BLUE HOLE

Tuesday, June 2. Day 7 — Open and 15m. Day 6 — Standard.

Tasks: Open 431.9km ■ — TP34, TP36, TP13/alternative 361.2km ▲ — TP38, TP14. 15m 361.2km ▲ — TP38, TP14/alternative 339.4km ▲ — TP35, TP19. Standard 339.4km ▲ — TP35, TP19/alternative 262.2km ▲ — TP35, TP20. Open/15m flew alternatives. Launch 1245hrs. Startline Open/Standard 1415hrs. 15m 1500hrs.



The morning was almost cloudless and although the temperature rose rapidly no usable thermals developed until about 2pm. Then, after a brief period, towering cumulus appeared and once again thunderstorms spread across the task area and blotted out the last leg. An advancing cold front came up against unusually warm moist air and the rain area became more extensive and torrential as time went on.

Max temp: 30 Dew point: 16

Dr Teddy Stedfeld, press-Boss at Paderborn, admitted that he had voted against Haxterberg, when the Deutscher Aero Club was selecting its World Championships site, on the grounds of its micro-climate. Today was a classic case in point. By mid-morning, good looking cumuli had developed all round the horizon, but Paderborn was in a blue hole. An attempt was made to launch at 1245, but most gliders came straight back for a relight, and it was well after 1400 before reliable thermals started and competitors could get under way. By this time the cumuli over the hills had already started to build into cu-nims.

August/September 1981

Despite the late start, the cloudbase was high and lift strong, so that most competitors were able to make good time initially. Brian Spreckley and Bernard Fitchett found the going good until they flew over the lower ground approaching the second TP. Here, the lift weakened dramatically and after drifting round the turn they had a last laborious climb to almost 6000ft which brought them to within ten miles of home and face to face with a storm.

Here their fortunes varied. Brian flew along the rain-edge, found nothing and dived off 800ft into a hay-field to avoid being washed out of the sky. Bernard was more fortunate. When preparing to land, at about 400ft agl, he suddenly encountered 4kt, which became 6kt, and gave him enough height to cross the finish line — one of only four finishers in his Class. Astonishingly, Bernard had now worked his way back up to fifth place overall, but was still some 600pts behind the Swedish leaders. Brian Spreckley was also back in the top ten, and Andrew Davis completed a trio of good British performances today by taking fourth place in the Standard Class and moving up one slot in the overall rankings.

George's bad day

It was a different story for George Lee, however. The first rough passage appeared in his apparently smooth cruise towards victory. Some said that his concentration had been broken by the tension of the previous day, when he had been forced to sit on the airfield as his main rivals flew the task. Others held that he was worried about Kitty, who had been kidnapped from her seat on the briefing-room Primary, and for whom the organisers had received a ransom demand — if 200 of Lee's points were handed in to the scorer's office by midnight on Wednesday, she would be returned alive and well! Whatever the reason George had a bad day, but happily did not lose too many points because of it. His first fumble was a major navigational error on the first leg when he confused two towns and unnecessarily back-tracked, losing a lot of time. Near Kassel he also misjudged the distance of some good-looking clouds and lost more valuable minutes when he found he couldn't reach them. Despite these errors, he finally landed, after a long glide-out through dead air, only 28.4km behind the winner Bruno Gantenbrink.

The few finishers came in late (the first at 1850), by which time the airfield was surrounded by towering cu-nims, rumbling and spitting lightning. One of these monsters lay astride the final glide track; so that spectators were surprised to see any finishes at all.

Alvaro d'Orleans-Borbon (Spain) flew very impressively to win the day in the 15m Class at 90.9km/h, despite not having started until 1508. In the Standard Class, the Frenchmen reasserted themselves, Kristiansen (Norway) strengthened his challenge, and Brigliadori and Glöckl dropped back.

Leading Results

Open			Km	Pts	Seven Days	Pts
1 Gantenbrink	D	Nimbus 3	314.2	1000	1 Lee	GB 5767
2 Bourgard	B	Nimbus 2	293.0	920	2 Holighaus	D 5599
3 Holighaus	D	Nimbus 3	291.8	915	3 Gantenbrink	D 5532
7 Lee	GB	Nimbus 3	285.8	893		

15m

			Km/h	Pts	Seven Days	Pts
1 d'Orleans-Borbon	E	ASW-20	90.91	1000	1 Ax	S 4866
2 Colombo	I	ASW-20	89.92	998	2 Pettersson	S 4805
3 Pettersson	S	ASW-20FP	87.75	994	3 Stouffs	B 4558
4 Fitchett	GB	Ventus B	82.16	983	5 Fitchett	GB 4260

Standard

			Km/h	Pts	Six Days	Pts
6 Spreckley	GB	ASW-20	322.6	875	10 Spreckley	GB 4020
1 Hansen	DK	LS-4	78.9	1000	1 Schroeder	F 5439
3 Kristiansen	N	LS-4	77.93	998	2 Chenevoy	F 5362
3 Hämmerle, H.	A	LS-4	321.2	885	3 Kristiansen	N 5349
4 Davis	GB	LS-4	317.4	873	9 Davis	GB 4406

Wednesday, June 3.

The infamous cold front came to a halt just to the east and although the surface winds veered to a northerly point, the southerly upper winds continued to carry warm, moist air over the top of us, and the now sodden ground was inundated with further dampness, though Paderborn escaped the worst of them during the day.

Max temp: 16 Dew point: 14

Fred Weinholtz celebrated his fifty-fifth birthday today but the

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weather did not co-operate to make it a memorable day for him. There was still some hope at the 0930 briefing that the cloud and rain would clear away and permit a small task to be flown to the west, but these hopes were dashed at the 1130 rebrief, and it remained dull all day. The weather matched the mood of the competitors when they were told that "Pirat" Gehriger, the founder of the World Gliding Championships, was very seriously ill, and for the first time since the 1948 Samedan Championship, would be unable to visit. All pilots signed a giant get-well card to send to "Pirat".

(Sadly, "Pirat" died on June 10 at the age of 64. An obituary will be in our next issue.)

Thursday, June 4.

The cold front drifted slowly away but a marked upper trough still maintained the wet southerly flow over West Germany at higher levels. The rain was slow to die out and when it finally ceased the damp grey sheet of cloud still remained. Too wet!

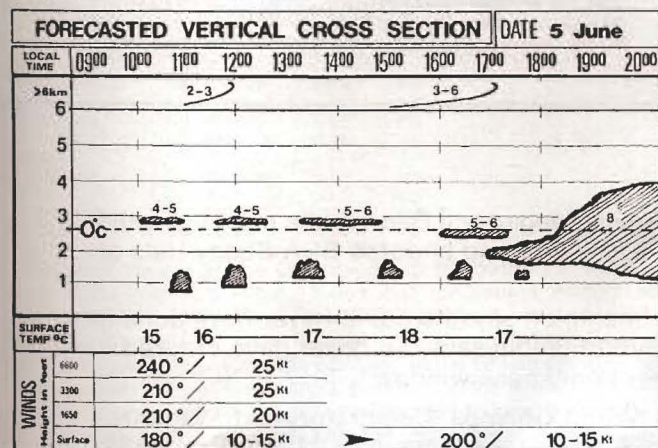
At the morning briefing Fred Weinholtz compared Paderborn with some of the previous World Championships, starting with Camphill — damp hill! He then went on to read out a few of the headlines from the morning papers: "Large areas flooded — roads closed — whole villages under water — state of emergency in parts of Lower Saxony" . . . The Met man then appeared to give his briefing dressed in a plastic macintosh, with the hood up and wellington boots — he didn't really need to say any more.

An extremely varied wet-weather programme was organised by the Paderborn club. Some very interesting reading matter was distributed by the Argentinians — Gaggles One, the first information bulletin for Argentina '83.

BRINKMANSHIP

Friday, June 5. Day 8 — Open. No Contest — 15m and Standard.

Tasks: Open 236.5km ▲ — TP38, TP42. 15m 211.9km ▲ — TP38, TP39. Standard 206.2km ▲ — TP36, TP39. Launch 1335hrs. Startline Open/Standard 1405hrs. 15m 1430hrs.



A cold front with waves remained slow moving close to Paderborn, but became very weak. Occasional breaks in the cloud sheet gave a brief period of thermals before thickening up and cutting off the lift permanently.

Max temp: 18 Dew point: 10

After two compulsory rest days the pilots were really keen to get into the air. The weather, however, was still not wholly co-operative and the grid was prepared under leaden skies. Tasks were set to the south, where the weather looked better, and launching was delayed until 1335.

Most pilots set off quickly. In the Standard Class it took only nine minutes for 26 of the 27 gliders to start, and second starts were few and far between. In the Open Class, George Lee was first to leave

but his German opponents, Holighaus and Gantenbrink, were in no hurry and departed together about 30 minutes later.

It was not long before the first outlanding reports came in — and they kept up a steady flow. Would it be a contest day or not? There were those, it was said, who encouraged their pilots to land before Y because it wasn't in their interests for it to be a contest day. Anyway it soon became clear that the likely outcome would be a contest for the Open Class only.

In the Standard Class only three gliders (11%) ultimately passed Y with Ben Greene USA flying furthest — 109.9km. In the 15m Class seven gliders (17%) passed Y and Ernst-Gernot Peter flew a very creditable 124.7km. Despite its being a no contest day the two pilots received a bottle of sekt each the following morning as a compensation for their efforts.

Tension mounted as it became obvious that for the Open Class the contest could still be on. George Lee had quickly discovered that weather conditions were not as forecast but nevertheless, he managed to keep up a good average speed to the first TP. Conditions then deteriorated but George managed to get as far as the second TP before landing. When Gantenbrink's landing report came in the British Team were cautiously optimistic — he was down near the first TP, and George Lee was well ahead of the field. However, there was still no landing report in for Holighaus and as time went on the Germans grew ever more excited knowing that Holighaus was still in the air. Five had already passed Y and it was fairly certain that XX had also done so, and although it seemed unlikely that XX would get home, he could well erode, or even cancel out George's lead.

Everyone was frantically working out what distance Holighaus would have to do to go into the lead and then, there was the pin on the board — and it was ahead. Holighaus had managed 163.9km and Lee was 38.4km behind! High drama — Holighaus had gone far enough to take the overall lead by just five points! And with the weather forecast for the following day not looking too good the British Team were certainly rather low — and there was still no Kitty to comfort them. However, they put on a brave face and carried off the first prize in a very entertaining fancy dress and song contest held in the marquee.

Despite the enormous number of outlandings there had so far been very little damage to gliders and only minor problems were reported. Tonight, however, the workshop lights were on and the repair men were busy working long into the night. Ake Pettersson, Sweden, one of the leaders in the 15m Class, had broken his glider. However, by the following morning the glider was fortunately air-worthy again and Pettersson was given the "Pechvogel" at briefing.

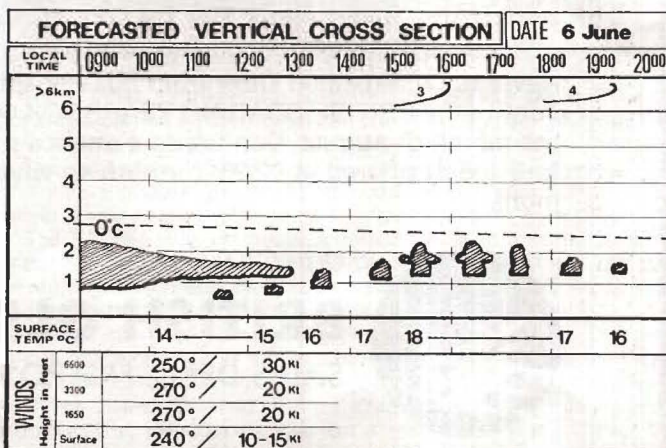
Leading Results

Open				Km	Pts	Eight Days				Pts
1	Holighaus	D	Nimbus 3	163.9	500	1	Holighaus	D	6099	
2	Lee	GB	Nimbus 3	125.5	331	2	Lee	GB	6094	
3	Bourgard	B	Nimbus 2	117.9	298	3	Gantenbrink	D	5708	

DENOUEMENT

Saturday, June 6. Day 9 — Open. Day 8 — 15m Class. Day 7 — Standard Class.

Tasks: Open 213km ▲ — TP10, TP8. 15m 213km ▲ — TP10, TP8. Standard 202.1km ▲ — TP10, TP9. Launch 1335hrs. Startline Open/Standard 1410hrs. 15m 1440hrs.



After a night of rain the cold front slowly moved south of Paderborn and the cloud broke up to allow weak thermals to develop under shallow cumulus by 1330. Then a thickening sheet of Ci St spread over from the west, the thermals became weaker, and patches of Sc cut off the sun locally.

Max temp: 20 Dew point: 13

Breakfast time on the last contest day and the rain was still pouring down. In all three Classes the leaders could be unseated and they were probably alone in hoping the rain would not stop. However, at briefing the Met man promised a clearance and task sheets were distributed at the 1130 rebrief. The Open and 15m Classes shared the same 213km triangle and the Standard Class was set 202.1km. The task area was to the north.

When launching began at 1335 the overcast was breaking up, but the cumulus base was low and quite a few pilots returned for relights. Those that remained airborne started low and found the going hard down track, especially under a layer of strato-cumulus on the second leg. Brian Spreckley eventually found better conditions over the high ground near Osnabrück where he encountered Widmer of Brazil, whom he knew to be two places, but only 19pts ahead of him overall. Determined to make up this deficit, he saw Widmer land just short of a town, but he had enough height in hand to glide out to the far side of the town — 5.4km further on, worth 24pts! Bernard Fitchett also finished the Championship in grand style. After a relight and consequent late start he encountered poor conditions until the second leg when the top cover broke and a street of cumulus developed. At 1915 an amazing 4kt climb enabled

him to glide out for third place for the day. The 15m Class winner was Karl Striedieck, who thus hoisted himself 11 places up the table to finish 16th overall — a rather disappointing contest for him though, and for the other American pilots.

In the Standard Class, the results ran fairly true to form, with Brigliadori, Glöckl and Kristiansen leading the pack. To add spice, however, the two Frenchmen in the overall lead finished only 8th (Chenevoy) and 10th (Schroeder). The order on the winners' rostrum was not by any means clear. After a desperately low scrape on the first leg, Andrew Davis eventually flew 122.1km for joint tenth place with Marc Schroeder.

George Lee had decided not to start early because the conditions were poor and he thought they would improve. Gantenbrink and Holighaus left shortly after 1500 but George had still not left at 1545. The tension on the ground was agonising — surely this was only going to be a distance day and it was a mistake to delay starting. Finally, at 15.49.40, 25 minutes after the previous last starter, Nimbus 3 contest No 26 crossed the line. But if Lee had made a tactical error in loitering too long, his chief rival Holighaus, the Open Class leader by five points, now made a far greater blunder. For at 15.50.26 he made a second start, apparently thinking that George Lee knew something he didn't, or else simply intent on not letting his challenger out of sight. The pressure was on George Lee, especially when, near Osnabrück, he spotted XX up above him. Shortly afterwards, however, George succeeded in turning the tables and thereafter stayed as high as possible. After the second TP he saw Holighaus ridge soaring, but apparently about to land. Using weak thermals George was able to glide out some 18km further down track.

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Sailplane & Gliding

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Bernard Fitchett. Photo: Chris Simpson.

Meanwhile back at Paderborn . . .

Dick Butler distinguished himself by being the only finisher — but he was too far behind to worry the Nimbus 3 pilots. All attention was riveted on the outlanding display and the atmosphere was electric. The farewell party got underway and still the final positions were not clear. There was much multilingual mathematical chatter and clicking of calculators as the pundits worked out the likely scores. By 1930 rumours were rife that George Lee was ahead — but was it far enough? People clustered round the TV monitors — and then there it was on the screen for all to see: George Lee eighth place, 153.2km, Klaus Holighaus tenth place, 135.4km.

Leading Results			
Open			
1 Butler	USA ASW-17	Km/h 58.95	Pts 1000
2 Kluk	PL Jantar 2B	Km 194.8	833
3 Muszczyński	PL Jantar 2B	175.2	720
8 Lee	GB Nimbus 3	153.2	591
15m			
1 Striedieck	USA ASW-20	180.0	548
2 Paré	NL Ventus B	173.2	519
3 Spreckley	GB ASW-20	171.8	513
4 Fitchett	GB Ventus B	170.8	509
Standard			
1 Brigliadori	I LS-4	151.3	463
2 Glöckl	D LS-4	147.5	446
3 Kristiansen	N LS-4	138.9	406
10 Davis	GB LS-4	122.1	330

The worst results of the Championship for both — no doubt owing to the late start — but 17.4km lead for George, enough to give him far more than the necessary five points. A wave of jubilation swept through the crowd, evidence that support for George Lee had spread well beyond the confines of the British camp — he is very popular with gliding people throughout the world.

When the points were worked out he had 591 to Klaus Holighaus's 491, giving him a decisive overall lead of 95pts. Bruno Gantenbrink retained third place overall, having come sixth for the day.

It was midnight before the final placings were announced in the 15m and Standard Classes, but this did not prevent the Swedish and French parties from raising the roof. Despite a poor final day, Marc Schroeder just hung on to his Standard Class lead, although another newcomer, Svein Erik Kristiansen from Norway, came within 15pts of dislodging him. Gabriel Chenevoy, "chef-pilote" of the French mountain centre at St Auban, took third place.

It was a clean sweep for Sweden in the 15m Class. Göran Ax extended his brilliant run of World Championship successes with his second outright win, and Ake Pettersen overcame the problems with his damaged glider the previous day to retain second place. Daan Paré (Netherlands), another highly experienced World Championship pilot, took third place.

When George Lee returned to the airfield, he was greeted with loud applause and plenty of champagne. All were agreed — even

his disappointed rivals — that there could not be a more worthy Champion.

CLOSING CEREMONY

The Met briefing boards on the morning of Saturday, June 7, showed 10kt thermals everywhere lasting from 0900 to 2000 — a slight exaggeration, but the day was certainly good and Fred Weinholtz fully justified in awarding the bad luck penguin to himself, on behalf of the organisers. The days of the opening and closing ceremonies were by far the best of the Championships!

The British team was relieved to see Kitty returned intact by her kidnappers, although George had not surrendered the required 200pts. She appeared at briefing wearing USA team manager John Brittingham's ten-gallon hat, which had also been purloined by persons unknown.

FROM THE DUKE OF EDINBURGH.

PLEASE GIVE GEORGE LEE

MY WARMEST CONGRATULATIONS

ON A MAGNIFICENT ACHIEVEMENT.

PHILIP.

The closing ceremony went off smoothly. As well as the cups, certificates and plaques for the first three in each Class, there was a special Lufthansa prize for the World Champion with the largest points lead. Incredibly, in the light of the previous day's near catastrophe, this turned out to be George Lee, who received a piece of sculpture and two air tickets to Argentina for January 1983.



Andrew Davis. Photo: Chris Simpson.

Special prizes also went to Bernard Fitchett (fourth place 15m Class) and to Andrew Davis (youngest pilot) who was not even born when Hans Nieltispach flew in his first World Championship (1954).

Alf Schubert of Austria was awarded two prizes — for the oldest competitor (he is 59) and for the best-placed Open Class pilot not flying a Nimbus 3.

David Innes, representing Guernsey in his sixth World Championships, carried off the military air traffic controllers' prize for the first pilot to land at a military airfield.

Georg Brütting, president of the German Aero Club, presented the clubs highest award, the Gold medal, to Fred Weinholtz, and its Silver medal to the hard workers of the Paderborn Aero Club.

The FAI flag was symbolically handed over to a representative from Argentina, host of the 1983 World Championships, and the ceremony closed with the three new World Champions experiencing their strongest lift of the contest — in a gas balloon.

A most memorable and successful contest had ended. The best pilots had won, and as befits a dynamic, developing sport, there were new names to conjure with — Schroeder, Kristiansen — along with the well-established. But for Britain it will always be remembered as the year George Lee set a record which may never be matched.

FINAL RESULTS OPEN CLASS

			24.5.81	26.5.81	29.5.81	30.5.81	31.5.81	1.6.81	2.6.81	5.6.81	6.6.81	Total	
Pilot	Country	Sailplane	Day 1 270.4km ▲	Day 2 297.6km ▲	Day 3 270.2km ▲	Day 4 292.8km ▲	Day 5 338.3km ▲	Day 6 375.2km ▲	Day 7 361.2km ▲	Day 8 236.5km ▲	Day 8 213.0km ▲	Points	
1 26	Lee, G.	GB	Nimbus 3	(2) 878	(1)1000 (1)	(2) 996 (1)	(1)1000 (1)	(1)1000 (1)	000 (1)	(7) 889 (1)	(2) 331 (2)	(8) 591 (1)	6685
2 XX	Holighaus, K.	D	Nimbus 3	(1)1000	(2) 852 (2)	(3) 907 (2)	(2) 968 (2)	(2) 957 (2)	000 (2)	(4) 915 (2)	(1) 500 (1)	(10) 491 (2)	6590
3 YY	Gantenbrink, B.	D	Nimbus 3	(3) 849	(3) 796 (3)	(1)1000 (3)	(3) 958 (3)	(3) 929 (3)	000 (3)	(1)1000 (3)	(7=) 176 (3)	(6) 650 (3)	6358
4 06	Schubert, A.	A	Nimbus 2	(6) 717	(5) 715 (5)	(8) 680 (5)	(4) 933 (4)	(4) 805 (4)	000 (4)	(3) 917 (4)	(7=) 176 (4)	(5) 707 (4)	5650
5 KS	Kluk, S.	PL	Jantar 2B	(4) 842	(6) 698 (4)	(5) 787 (4)	(11) 438 (5)	(7) 614 (5)	000 (5)	(5) 900 (5)	(6) 251 (5)	(2) 833 (5)	5363
6 GB	Bourgard, P.	B	Nimbus 2	(5) 785	(11) 326 (6)	(7) 697 (6)	(6) 857 (6)	(6) 619 (6)	000 (6)	(2) 920 (6)	(3) 298 (6)	(9) 574 (6)	5076
7 DB	Butler, R.	USA	ASW-17	(12) 234	(4) 752 (7)	(4) 805 (7)	(8) 712 (7)	(12) 45 (9)	000 (9)	(8) 888 (10)	(11) 90 (9)	(1)1000 (7)	4526
8 MH	Muszczyński, H.	PL	Jantar 2B	(9) 330	(7) 627 (9)	(6) 745 (8)	(10) 530 (8)	(10=) 380 (7)	000 (7)	(9) 881 (7)	(5) 278 (7)	(3) 720 (8)	4491
9 PB	Spychiger, W.	CH	Nimbus 2C	(7) 366	(8) 595 (8)	(12) 117 (11)	(7) 855 (11)	(5) 635 (8)	000 (8)	(10) 878 (8)	(4) 288 (8)	(11) 484 (9)	4218
10 66	Goudriaan, K.	ZA	ASW-17	(10) 318	(9) 463 (10)	(9) 578 (9)	(9) 674 (10)	(10=) 380 (11)	000 (11)	(6) 899 (9)	(10) 166 (10)	(7) 641 (10)	4119
11 34	Innes, D.	GBG	Nimbus 2C	(11) 242	(10) 420 (11)	(10) 555 (10)	(5) 892 (9)	(8) 420 (10)	000 (10)	(12) 488 (11)	(7) 176 (11)	(4) 710 (11)	3903
12 AA	Anglada, A.	E	ASW-17	(8) 342	(12) 000 (12)	(11) 551 (12)	(12) 169 (12)	(9) 405 (12)	000 (12)	(11) 816 (12)	(12) 36 (12)	(12) 482 (12)	2801

Figures in brackets: 1st column — day position; last column — overall position.

15M CLASS

Pilot		Country	Sailplane	24.5.81 Day 1 241.3km ▲	25.5.81 Day 2 244.0km ▲	26.5.81 Day 3 257.7km ▲	29.5.81 Day 4 246.4km ▲	30.5.81 Day 5 264.1km ▲	31.5.81 Day 6 267.6km ▲	2.6.81 Day 7 339.4km ▲	6.6.81 Day 8 213.0km G	Total Points
1 71	Ax, G.	S	ASW-20	(12=) 279	(6) 17 (11)	(4) 974 (9)	(16) 817 (8)	(3) 921 (1)	(9) 931 (1)	(5) 927 (1)	(11=) 357 (1)	5223
2 LL	Pettersson, A.	S	ASW-20FP	(17=) 256	(12=) 8 (18)	(7) 939 (12)	(17) 805 (11)	(1)1000 (2)	(16) 803 (3)	(3) 994 (2)	(10) 375 (2)	5180
3 NL	Paré, D.	NL	Ventus B	(7) 477	(12=) 8 (7)	(1)1000 (3)	(22) 778 (3)	(33=) 346 (8)	(13) 860 (7)	(10=) 848 (4)	(2) 519 (3)	4836
4 19	Fitchett, B.	GB	Ventus B	(3) 573	(8) 10 (3)	(38=) 000 (36)	(1)1000 (31)	(2) 969 (11)	(20) 725 (10)	(4) 983 (5)	(4) 509 (4)	4769
5 78	Stouffs, H.	B	ASW-20	(8) 440	(3) 23 (8)	(18) 836 (7)	(27) 700 (12)	(5) 851 (4)	(2) 994 (2)	(16) 717 (3)	(32) 53 (5)	4614
6 59	Spreckley, B. T.	GB	ASW-20	(4=) 550	(4=) 18 (4)	(6) 941 (1)	(7) 867 (1)	(22) 478 (3)	(33) 291 (15)	(6) 875 (10)	(3) 513 (6)	4533
7 63	Hämmerle, A.	A	Ventus A	(33) 175	(1=) 24 (32)	(8) 932 (14)	(30) 678 (20)	(6) 701 (16)	(10) 907 (9)	(15) 739 (6)	(11=) 357 (7)	4513
8 MK	Kuittinen, M.	SF	ASW-20	(11) 284	(21=) 7 (12)	(29) 704 (27)	(29) 681 (28)	(13=) 522 (26)	(4) 990 (13)	(7) 866 (7)	(9) 376 (8)	4430
9 JJ	Widmer, J.	BR	ASW-20	(40) 65	(4=) 18 (40)	(11) 893 (28)	(11) 849 (19)	(17) 498 (22)	(7) 937 (11)	(25) 834 (8)	(5) 489 (9)	4283
10 90	Rønnestad, E.	N	ASW-20	(1) 643	(6=) 17 (1)	(19) 835 (2)	(9) 863 (2)	(41) 272 (7)	(11) 884 (5)	(26) 519 (9)	(25) 138 (10)	4171
11 VX	Werneburg, U.	CDN	ASW-20	(25=) 235	(32=) 0(28=)	(24) 804 (20)	(31) 677 (24)	(26=) 440 (28)	(15) 840 (20)	(13) 812 (16)	(15=) 352 (11)	4160
12 CC	Sørensen, O.	DK	ASW-20	(4=) 550	(25=) 6 (5)	(23) 812 (5)	(14) 835 (4)	(31) 433 (6)	(14) 854 (6)	(32) 484 (11)	(23) 182 (12)	4156
13 BE	Obrist, B.	CH	DG-200	(37) 167	(12=) 8 (36)	(16) 842 (23)	(32) 674 (27)	(23) 476 (27)	(17) 783 (23)	(10=) 848 (18)	(13) 353 (13)	4151
14 27	Goudriaan, L.	ZA	ASW-20	(25) 235	(29=) 4 (27)	(33) 537 (32)	(19) 801 (32)	(33=) 346 (34)	(1)1000 (24)	(16=) 717 (20)	(8) 414 (14)	4054
15 AS	Schulthess, A.	CH	Ventus A	(12=) 279	(12=) 8 (13)	(5) 967 (10)	(13) 838 (7)	(26=) 440 (12)	(8) 935 (8)	(31) 488 (13)	(33=) 52 (15)	4007
16 AH	Striedieck, K.	USA	ASW-20	(21=) 253	(25=) 6 (21)	(38=) 000 (40)	(2) 912 (35)	(9) 564 (35)	(5) 987 (30)	(16=) 717 (27)	(1) 548 (16)	3987
17 MS	Musters, K.	NL	Ventus A	(17=) 256	(1=) 24 (15)	(2) 994 (8)	(4) 892 (5)	(33=) 346 (14)	(26) 609 (16)	(9) 850 (12)	(36) 14 (17)	3985
18 AR	Huybrecht, E.	B	DG-200	(32) 183	(9=) 9 (33)	(17) 839 (21)	(33) 665 (26)	(7) 621 (23)	(12) 882 (12)	(19) 606 (17)	(24) 161 (18)	3966
19 76	Bluekens, M.	B	ASW-20	(25=) 235	(12=) 8 (26)	(26) 762 (26)	(5) 884 (16)	(4) 886 (5)	(37) 186 (22)	(7) 866 (15)	(27) 114 (19)	3941
20=82	Colombo, V.	I	ASW-20	(41) 000	(32=) 0 (41)	(9) 904 (30)	(20) 795 (25)	(11=) 537 (24)	(21) 640 (26)	(2) 998 (14)	(33=) 52(20=)	3926
20=37	Junqueira, C.	BR	ASW-20	(12=) 279	(32=) 0 (16)	(28) 736 (24)	(12) 847 (18)	(16) 499 (20)	(19) 728 (17)	(27) 516 (22)	(19) 321(20=)	3926
22 IX	Gavazzi, M.	I	ASW-20	(38) 142	(29=) 4 (38)	(10) 898 (19)	(15) 830 (17)	(11=) 537 (17)	(18) 768 (14)	(34) 443 (21)	(21) 239 (22)	3861
23 VD	Timmermans, A.	NZ	ASW-20	(10) 300	(32=) 0 (10)	(21) 819 (16)	(10) 854 (14)	(25) 460 (18)	(22) 635 (18)	(28) 496 (24)	(20) 275 (23)	3839
24 AJ	d'Orleans-Borbon, A.	E	ASW-20	(25=) 235	(32=) 0 (28)	(12) 888 (15)	(8) 866 (13)	(13=) 522 (15)	(35) 265 (28)	(1)1000 (19)	(35) 31 (24)	3807
25 TU	Uoti, T.	SF	Glasfl 304	(6) 497	(21=) 7 (6)	(13) 886 (4)	(26) 717 (6)	(20) 483 (9)	(3) 992 (4)	(40=) 0 (23)	(26) 130 (25)	3712
26 W2	Werneburg, H.	CDN	Ventus B	(34=) 169	(9=) 9 (34)	(15) 848 (22)	(24) 747 (23)	(39=) 286 (31)	(31) 369 (34)	(12) 828 (29)	(15=) 352 (26)	3608
27 VW	Gimmey, H.	USA	ASW-20	(34=) 169	(21=) 7 (35)	(32) 597 (33)	(23) 764 (33)	(28=) 439 (32)	(23) 634 (32)	(22) 565 (30)	(7) 420 (27)	3595
28 JR	Rantet, J.	F	Ventus A	(2) 601	(31=) 1 (2)	(27) 739 (6)	(25) 724 (9)	(15) 507 (10)	(39) 116 (31)	(33) 474 (31)	(6) 422 (28)	3584
29 JE	Pedersen, J.	DK	ASW-20	(23) 250	(21=) 7 (22)	(14) 852 (17)	(21) 792 (15)	(8) 615 (13)	(28) 457 (21)	(24) 560 (25)	(37=) 0 (29)	3533
30 RJ	Riera, J.	RA	ASW-20	(31) 206	(32=) 0 (31)	(25) 801 (25)	(34) 641 (29)	(18) 484 (29)	(24) 633 (29)	(14) 766 (26)	(37=) 0 (30)	3531
31 C6	Haggenmüller, R.	A	ASW-20	(9) 350	(32=) 0 (9)	(19) 835 (12)	(36) 602 (21)	(10) 541 (21)	(27) 590 (25)	(38) 346 (28)	(22) 229 (31)	3493
32 MR	Reynoso, B.	RA	ASW-20	(25=) 235	(32=) 0(28=)	(31) 643 (31)	(35) 628 (34)	(30) 434 (33)	(25) 617 (33)	(21) 567 (32)	(17) 345 (32)	3469
33 PP	Bulukin, B.	N	ASW-20	(17=) 256	(12=) 8 (18)	(35) 469 (34)	(3) 904 (30)	(24) 474 (30)	(6) 953 (19)	(40=) 0 (33)	(18) 338 (33)	3402
34 MM	Schuit, G.	NL	ASW-20FP	(21) 253	(12=) 8 (20)	(3) 975 (11)	(18) 804 (10)	(38) 337 (19)	(29) 450 (27)	(40=) 0 (35)	(13) 353 (34)	3180
35 MA	Asikainen, M.	SF	ASW-20	(16) 264	(12=) 8 (17)	(22) 817 (18)	(28) 696 (22)	(20) 483 (25)	(41) 64 (35)	(20) 568 (34)	(31) 61 (35)	2961
36 61	Peter, E.	D	ASW-20	(24) 242	(12=) 8 (24)	(38=) 000 (41)	(6) 880 (37)	(28=) 439 (36)	(38) 155 (36)	(30) 423 (36)	(29) 82 (36)	2229
37 AL	Lopez B. de Queros, A.	E	ASW-20	(25=) 235	(9=) 9 (25)	(37) 60 (37)	(37) 556 (38)	(33=) 346 (39)	(32) 292 (38)	(30) 491(37=)	(28) 83 (37)	2072
38 CD	Radic, S.	RCH	Lentus	(34=) 169	(28=) 5 (37)	(34) 499 (35)	(40) 127 (39)	(18) 484 (38)	(36) 242 (37)	(36) 402 (39)	(30) 81 (38)	2009
39 JA	Enya, J.	J	ASW-20	(17=) 256	(32=) 0 (23)	(30) 678 (29)	(39) 222 (36)	(39=) 286 (37)	(42) 52 (39)	(29) 495(37=)	(37=) 0 (39)	1989
40 V6	Persson, B.	S	ASW-20	(12=) 279	(25=) 6 (14)	(38=) 000 (38)	(42) 0 (42)	(33=) 346 (41)	(30) 444 (40)	(23) 562 (40)	(37=) 0 (40)	1637
41 DH	Urbina, R.	RCH	Mini-Nimbus	(39) 86	(32=) 0 (39)	(38=) 000 (42)	(38) 230 (41)	(32) 386 (40)	(40) 110 (42)	(37) 352 (41)	(37=) 0 (41)	1164
42 GE	Geiben, R.	L	ASW-20	(41) 000	(32=) 0 (42)	(36) 270 (39)	(41) 20 (40)	(42) 262 (42)	(34) 282 (41)	(39) 200 (42)	(37=) 0 (42)	1034

STANDARD CLASS

Pilot	Country	Sailplane	24.5.81 Day 1 209.7 ▲	26.5.81 Day 2 233.0km ▲	29.5.81 Day 3 221.8km ▲	30.5.81 Day 4 234.8km ▲	31.5.81 Day 5 241.6km ▲	2.6.81 Day 6 339.4km ▲	6.6.81 Day 7 202.1km ▲	Total Points
1 SM Schroeder, M	F	LS-4	(5) 972	(7=) 860 (6)	(11) 1000 (1)	(16=) 751 (3)	(2) 993 (3)	(5=) 863 (1)	(10=) 330 (1)	5769
2 LF Kristiansen, S	N	LS-4	(8) 916	(10) 847 (9)	(10) 822 (7)	(13) 823 (6)	(7) 943 (6)	(2) 998 (3)	(3=) 406 (2)	5755
3 SG Chenevoy, G.	F	LS-4	(2) 986	(7=) 860 (5)	(3) 919 (2)	(16=) 751 (4)	(3) 982 (4)	(5=) 863 (2)	(8) 371 (3)	5732
4 BL Brighiadori, L.	I	LS-4	(6) 934	(12) 832 (8)	(6) 896 (4)	(1) 1000 (1)	(4) 973 (1)	(20) 555 (5)	(1) 463 (4)	5653
5 KX Øye, S.	DK	LS-4	(9) 865	(1) 1000 (3)	(15) 731 (6)	(5) 889 (5)	(6) 947 (5)	(9) 825 (4)	(5) 395 (5)	5652
6 MG Glöckl, H.	D	LS-4	(4) 976	(4) 877 (4)	(5) 904 (3)	(7) 875 (2)	(1) 1000 (2)	(23) 482 (6)	(2) 446 (6)	5560
7 ZL Hämmerle, H.	A	LS-4	(13) 335	(9) 858 (12)	(2) 921 (11)	(2) 931 (9)	(11) 900 (7)	(3) 885 (7)	(16) 126 (7)	4956
8 VI Witek, S.	PL	Std Jantar	(1) 1000	(5) 868 (2)	(13) 737 (5)	(23) 343 (10)	(13=) 886 (8)	(12=) 792 (8)	(15) 136 (8)	4762
9 80 Davis, A. J.	GB	LS-4	(10) 485	(11) 836 (10)	(9) 869 (10)	(3) 912 (7)	(21) 431 (10)	(4) 873 (9)	(10=) 330 (9)	4736
10 BB Kepka, F.	PL	Std Jantar	(7) 917	(3) 880 (7)	(20) 703 (8)	(19) 355 (11)	(13=) 886 (9)	(24) 480 (11)	(12) 249 (10)	4470
11 C7 Hansen, M.	DK	LS-4	(18) 291	(23) 456 (22)	(19) 706 (26)	(5) 889 (18)	(5) 951 (12)	(1) 1000 (10)	(24) 51 (11)	4344
12 6A Nietispach, H.	CH	LS-4	(12) 355	(16=) 723 (14)	(14) 732 (15)	(12) 824 (13)	(20) 487 (16)	(16) 726 (14)	(7) 383 (12)	4230
13 LE Melum, H.	N	LS-4	(22) 255	(16=) 723 (17)	(4) 917 (13)	(8) 865 (12)	(24) 151 (17)	(12=) 792 (18)	(3=) 406 (13)	4109
14 FL Ragot, F.	F	LS-4	(2) 986	(2) 885 (1)	(24) 416 (9)	(14) 812 (8)	(23) 158 (13)	(17) 723 (12)	(20=) 97 (14)	4077
15 IH Pankka, A.	SF	ASW-19B	(18) 291	(26) 000 (26)	(7) 883 (22)	(15) 790 (22)	(9=) 906 (19)	(8) 843 (17)	(9) 353 (15)	4066
16 7U Soares Filho, R.	BR	ASW-19	(21) 256	(21) 631 (19)	(12) 790 (16)	(11) 857 (14)	(15) 711 (14)	(25) 428 (19)	(6) 391 (16)	4064
17 41 Perotti, G.	I	ASW-19B	(16) 313	(13) 794 (13)	(17) 717 (14)	(18) 673 (16)	(12) 890 (11)	(20) 555 (13)	(22) 96 (17)	4038
18 RR Rizzi, R.	RA	LS-4	(14) 334	(19) 655 (16)	(21) 671 (17)	(24) 319 (21)	(8) 909 (18)	(7) 856 (16)	(14) 198 (18)	3942
19 IS Carpenter, J.	CDN	ASW-19B	(23) 249	(22) 535 (21)	(8) 870 (18)	(10) 859 (15)	(16) 658 (15)	(18) 583 (15)	(19) 98 (19)	3852
20 31 Bradley, R.	ZA	ASW-19B	(25) 88	(15) 733 (20)	(16) 730 (19)	(4) 894 (17)	(27) 000 (22)	(14) 753 (20)	(17) 125 (20)	3323
21 S2 Sears, P.	CDN	LS-4	(17) 304	(20) 643 (18)	(25) 289 (21)	(8) 865 (20)	(18) 516 (20)	(22) 505 (21)	(18) 117 (21)	3239
22 LB Andersson, G.	S	Std Jantar	(15) 332	(26) 000 (25)	(18) 708 (23)	(21=) 345 (24)	(9=) 906 (23)	(10) 802 (22)	(25=) 000 (22)	3093
23 AM Mattano, A.	RA	LS-4	(20) 264	(14) 736 (15)	(22=) 417* (20)	(21=) 345 (23)	(19) 490 (24)	(19) 564 (23)	(23) 89 (23)	2905
24 11 Greene, B.	USA	LS-4	(11) 360	(6) 862 (11)	(11) 811 (12)	(25) 297 (19)	(25) 142 (21)	(26=) 000 (24)	(13) 248 (24)	2720
25 SB Selen, B.	NL	ASW-19B	(24) 106	(24) 409 (24)	(22=) 417* (24)	(19) 355 (25)	(22) 168 (25)	(11) 796 (25)	(20=) 97 (25)	2348
26 25 Avgerinos, C.	GR	DG-100	(26) 85	(25) 230 (27)	(27) 47‡ (27)	(26) 286 (27)	(17) 642 (26)	(15) 738 (26)	(25=) 000 (26)	2028
27 L7 Schaffhausen, von C.	BR	ASW-19B	(27) 49	(18) 687 (23)	(26) 132 (25)	(27) 284 (26)	(26) 25 (27)	(26=) 000 (27)	(25=) 000 (27)	1177

*No speed points = penalty for not rounding marker. ‡Photo of 2nd TP incorrect — scored only to 1st TP.

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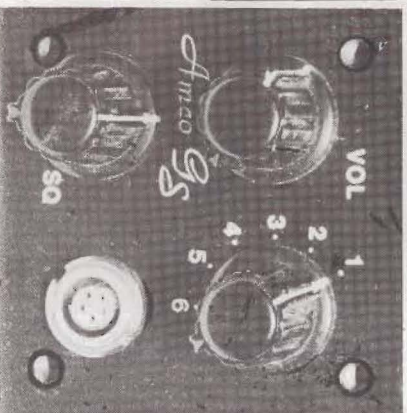
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The Hardware . . .

FRANK IRVING looked at the technology

SUPERFICIALLY, the grid at Paderborn looked much like that at Chateauroux three years earlier: replace Nimbus 2s by 3s, LS-3s by 4s, Mini-Nimbi by Venti and, apart from two pairs of winglets, the visual effect was much the same. There were no astonishing novelties like the SB-11, so one might suppose that there have been three years of consolidation, of developing proven configurations, replacing glass by carbon and generally refining the details.

This was indeed so, but some of the refinements and improvements were impressive: comparing the Nimbus 3 with the 2c, the span had increased from 20.3m to 22.9m and the Max AUW from 650kg to 750kg, including 310kg of waterballast. This Max AUW is 1654lb, be it known, or 34lb more than Sigma at its heaviest. All of this was rendered possible, with an aspect ratio of 32.3, by extensive use of carbon. The claimed Max lift/drag ratio was 55 compared with about 49 for the 2c — a truly remarkable 12% improvement.

A promise of new technology

Alas, the ASW-22, was not ready in time. Whereas the Nimbus 3 represented a fairly straightforward extrapolation of the 2c, the ASW-22 promises new aerodynamic technology in the form of a wing section designed by Hostmann and Quast of DFVLR, Braunschweig. Its designation is HQ 17/14.38 and it incorporates pneumatic turbulators on the lower surface at 72% chord.

The discerning reader will have noted a new buzz-word, to which three "experts" from the OSTIV Sailplane Developing Panel were introduced in a thin cold drizzle and a visibility of about 200m, clustered around Sierra Bravo. Sierra Bravo was a modified ASW-19B, designated "19x", and flown by Baer Selen, 1978 World Champion in the Standard Class. It had a modified wing section and, on the lower surface at 65% chord, were to be found 0.6mm diameter holes at 16mm spacing, 870 in all. The rear part of the wing was converted into a plenum chamber by sealing the various holes in the roof rib. This was fed with air at pitot pressure via a 6.5mm bore pitot tube built into the front of the aileron-drive fairing. The object of all this was to suppress a laminar separation bubble which would otherwise have occurred. The holes are not quite as simple as they look: there are short lengths of 0.6mm bore hypodermic tubing inserted in slightly undersized holes drilled through the wing skin sandwich.

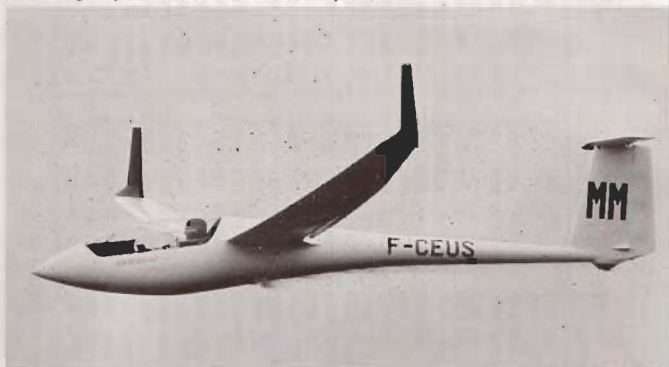
If a laminar boundary layer is subjected to a rising pressure, it becomes turbulent. At the Reynolds numbers of sailplanes, it often does so by separating from the surface, becoming turbulent and re-attaching to the surface. The turbulent boundary layer doesn't like this sort of treatment and the presence of a bubble increases the drag. One can try to avoid such bubbles by causing the pressure distribution to be kinder to the boundary layer (Wortmann's "instability region") or by disturbing the boundary layer so as to make it turbulent by gentle blowing through small orifices. The latter solution may produce lower drag than the former and, according to the measured polars of this machine taken by DFVLR before and after the modification, the Max lift/drag ratio was increased from 37.5 to 40.6 and that at 160km/h from 23.6 to 25.

There was a query as to whether this sort of gimmickry was in accordance with the Standard Class rules, so the stewards despatched the "experts" (Hans Zacher, Cedric Vernon and myself) to squelch through the mud to the Dutch trailers to inspect it. We decided that it was in accordance with the rules, much to the relief of Messrs Selen and Weinholz.

Before all the ASW-19 owners in the country start bombarding J. J. with orders for little holes, let it be said that this is not something

you can do to any sailplane. This particular project involved an extensive co-operative effort between Delft University, DFVLR and Schleichers. The wing section is appreciably different from the 19s usual Wortmann one and was the subject of extensive wind-tunnel tests. Regrettably, Baer didn't do very well in the Championships (25th out of 27) but if the flight tests are correct, this was not a reflection on the machine.

There was a minor outbreak of little holes on Klaus Holighaus's Nimbus 3, on the lower wing surface just ahead of the aileron gap, over the outer part of the aileron span. The pitot air came from a simple hole in the leading edge. Over the remainder of the span, just ahead of the aileron and flap gaps, knobby tape was attached. The tape was thin Mylar sticky tape, initially supplied with a backing strip. This was fed through a sewing machine with a shortened, blunted needle which produced little knobs about 0.5mm high without piercing the tape. The little knobs feel surprisingly sharp to the touch and, again, their object is to convince the boundary layer that it ought to go turbulent in a nice orderly fashion and, in particular, that it should not separate when the controls or flaps are deflected. Did it work? Only Klaus would know and it wasn't too clear whether he could notice any effect or whether he was just being coy. George Lee's machine was devoid of little holes, but had knobby tape across the entire span.



The ASW-20FP winglet. Flown by George Schuit, photographed by Gerd Schäfer.

It seems likely that little holes will become fashionable, particularly in the little sailplanes where the rules forbid that most effective improver of performance: more span. So, if you can't move the tips outwards, what about upwards? And, behold, there were two ASW-20FPs with "winglets". Whereas the little holes represent an attempt to reduce the profile drag, winglets aim to reduce the induced drag. Near the wingtips on the upper surface of the wing, the airflow has an inwards inclination, since it wants to flow towards the reduced pressure on top of the wing. (Likewise, it has an outwards inclination below the tip and, when both effects are added together, they produce the tip vortex). If a little wing, growing upwards from the tip, is placed at a suitable angle of incidence to this flow it will produce a lift force. The lift will be perpendicular to the local flow direction and will therefore be directed inwards and forwards. The forwards component effectively reduces the induced drag of the wing.

Of course, the winglets have some profile drag and the scheme will only work if the resultant of the lift and drag forces acting on them has a forward component. Winglets were originally conceived in the context of jet transports with an aspect ratio around seven. The angular deflections of the flow are inversely proportional to aspect ratio, other things being equal, so those near a sailplane's wingtip are likely to be about one-third of those of the jet transport. Achieving that forward component of force is clearly quite difficult,

particularly since the winglet itself tends to reduce the sideways inclination of the flow. Looking at it another way, winglets act so as to spread the tip vortex vertically.

One might expect some small improvement at low speeds, where the induced drag is a large proportion of the total, and some worsening of the performance at high speeds. This, apparently, is just what happens, but the claimed improvement of two units of Max lift/drag ratio sounded a little optimistic. Brian Spreckley used the ordinary tips and seemed none the worse for them and Hans Zacher opined that it was all a bit like trying to design a low-drag umbrella for use in high winds.

Helpful modification

How interesting it is to see what machines were entered in the various Classes! Ignoring minor variants, the Open Class contained three Nimbus 3s, four Nimbus 2s, two Jantar 2Bs and three ASW-17s, one of them Dick Butler's extended-span version. This modification seemed to put him ahead of the other 17s and doubtless helped him home on the last day.

The Standard Class contained 16 LS-4s, no less, three Standard Jantars, seven ASW-19s and one lonely DG-100. The preponderance of LS-4s leads one to wonder whether the forces in the sailplane market are not perhaps inclined to instability, as in other economic activities. The LS-4 is clearly an excellent machine with a claimed Max lift/drag ratio of 40.5. The Sailplane Development Panel enjoyed the company of its designer, confirming the impression that the lovely machines are all designed by the best of people.

The 15 Metre Class was dominated by the ASW-20, 30 of them, together with seven Ventus variants, two DG-200s, one Glasflügel 304, one Mini-Nimbus and a machine described as a "Lentus", the nature of which I failed to ascertain. How sad to see Glasflügel so diminished, perhaps because the impression got around a while ago that the Mosquito was not as good as its contemporaries. Curiously enough, and belatedly, OSTIV saw the results of some DFVLR performance tests which showed hardly anything to choose between the LS-3A, Mini-Nimbus and Mosquito, with the Mosquito — if anything — slightly superior at some speeds.

New motor glider

Various non-participating machines were paraded for our inspection, some of great interest. The DG-400 motor glider first flew shortly before the Championships and should take a lot of sales from the PIK 20E. It comes in 15m or 15/17m variants and has electric retraction/extension of the engine. The latter, by Rotax, is mounted low on the pylon and drives the propeller via a toothed-belt reduction gear. The installation is compact and gives only a small CG shift on extension or retraction. *Aerokurier* quoted prices of DM61 000 for the 15m and 65 000 for the 15/17m versions as of January 1981.

Another newcomer was the Mistral-C, a 15m Club Class sailplane with a fixed wheel, seemingly excellent view from the cockpit, a side-hinged canopy and a generally rugged air. It has numerous competitors, all claiming much the same performance. A price of DM30 000 was mentioned.

The monstrous SB-10, all 29m of it, put in a fleeting appearance, as did the Hamburg Sigma, officially the Milomei M2. The M2 was built over a period of 12 years by three chaps, who seem to have rediscovered several of Sigma's problems, plus one or two of their own. Its span is 22m and, flaps-in, the aspect ratio is nearly 40. The wing seemed to be markedly more flexible than Sigma's, which doubtless explained why the manually-operated flaps sometimes failed to extend fully. With an AUV of 1130lb, it is much lighter than Sigma. The wing, in bare metal apparently stuck on to a core, had a good finish but the fuselage showed signs of haste.

The Darmstadt D-37 first saw the light of day about 12 years ago, as a motor glider. Now re-treaded, without the motor, Darmstadt Akaflieg uses it as a test vehicle for new instruments, as well as flying it for fun. Two new devices were on display: a head-up variometer display and tactile best-to-fly indication. The former consisted of a large variometer dial in perspex mounted well forward of the normal panel. A tiny servo-motor operated the needle from the output of the normal electric variometer. The pilot could see

through the perspex and it was far enough away for it to be in focus as he scanned the horizon. The tactile device consisted of two soft areas incorporated in the stick grip. If the vario thought that the machine was being flown faster or slower than the prevailing Mac-Cready speed, one or the other pulsed, operated by a small electric pump taking about 60ma. It was certainly a new sensuous experience, with the added advantage of doing it quietly.

Glasflügel's designations are getting a little confusing: the 402 was on show for a few days, evidently a 15/17m development of the 304. Very nicely finished, with Glasflügel's usual neat details, it looks to be a worthy successor to the Kestrel.



Prometheus photographed by Gerd Schäfer.

A Swiss twin-jet motor glider, Prometheus, was displayed by its constructor, Thomas Bircher, who also delivered an oration to OSTIV on its merits. It was, we were given to understand; more a philosophical concept than a piece of engineering. We saw it in its 19.4m span configuration: it can also be flown, rather rapidly, with a span of 12m. As a motor glider, it is difficult to discern the purpose of it all: it is quite complicated and jet engines are dreadfully inefficient at low speeds.



Brian Spreckley preparing to weigh his glider. Photo: Frank Irving.

Instant glider weighing is now with us: the University of Paderborn provided an electronic weighing machine to check competing sailplanes with great efficiency. Microprocessors are rapidly proliferating on instrument panels, too, providing a plethora of discouraging information at the press of a button (see also "The Software"). The clever device which tells the pilot how far he has flown apparently works very well, so Brian Spreckley said. We are only at the beginning of this particular revolution and the Akaflieds are busily inventing new contrivances. Also, it was rumoured, pneumatic turbulators may have a rival in the form of a device using sound to produce boundary layer transition in the right place. What will they think of next?

DFVLR, by the way, stands for *Deutsche Forschungs- und Versuchsanstalt für Luft- und Raumfahrt*. I just thought you'd like to know.

... and the Software

FRANK IRVING went to the OSTIV Congress

BEFORE the official opening of the XVII Congress of OSTIV, a body known as the Sailplane Development Panel spent two-and-a-half days contemplating the airworthiness of sailplanes under the chairmanship of Professor Piero Morelli. The Panel consists of 19 members from almost everywhere and is the body which brought you OSTIV Airworthiness Requirements. Now we have the Joint Airworthiness Requirements, applying to most western European countries, whose gliding section is enshrined in a document known as JAR 22. Despite the existence of JAR 22, it has been decided to keep OSTIVAR up-dated for all sorts of reasons: its use by countries outside the JAR sphere of influence, liaison with eastern Europe and, above all, to provide some practical inputs to JAR.

Not all of the time was spent devising new Requirements although there were discussions on such diverse topics as gated flap control levers, electrical bonding, spinning characteristics, waterballast, cockpit ballast and pilot protection. We also waded through a list of 20 items to see whether OSTIVAR should be amended in accordance with JAR, items ranging from spiral dives to the marking on ASIs.

Guide to fatigue tests

Fatigue of glass and carbon structures was a major topic, particularly since Australia is littered with grounded Libelles awaiting an extension of the original 3000hrs life. It seems likely that it will be progressively extended to 6000hrs, subject to some inspections yet to be defined. In the pursuit of this topic, Professor Kossira gave a lecture on "Fatigue Load Spectra", describing the results of flying a Janus for something over 100hrs in various conditions, including mountain soaring and aerobatics. The object of this investigation by DFVLR was to determine what sorts of loads occur in practice, and how often, as a guide to conducting fatigue tests.

This was followed by Dipl Ing Kensch about "Service Life Investigation of a CFRP Sailplane Wing". If the name Kensch sounds familiar to our more elderly readers, it is because they remember the "K" of HKS-1 fame at Camphill: this is his son. His talk, which produced much discussion about load spectra and the order of applying the loads, was illustrated by pictures of a Nimbus wing being pummelled for a simulated 18 000hrs, so as to approve it for 6000. The rig broke, as seems to be traditional on such occasions. Both lectures were later presented to the Congress.

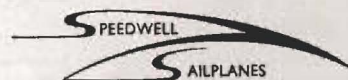
Fatigue in metal sailplanes has also been a source of some bother, particularly in Blaniks. Feeling that OSTIVAR ought to say something about fatigue in general, a Fatigue Sub-Committee,

chairman Cedric Vernon, was set up and convened rather briefly. In the time available, it was not possible to draft a requirement but at least some principles were agreed.

This sort of meeting is just what OSTIV is about, and where the member aero clubs get their money's worth. For most of the time, each national association or aero club wrestles with its local airworthiness problems: here, they could exchange ideas and talk to the major designers and our man from LBA, the German airworthiness authority. The overall effect is most beneficial.

The OSTIV Congress itself was formally opened by the Lord Mayor of Paderborn on May 27, with a showing of the film of Paul MacCready's Gossamer Condor, the presentation of the OSTIV plaque and Klemperer award to Paul MacCready (in *absentia*), the OSTIV prize to Akaflieg Braunschweig and the bestowing of Diplomas on Dr J. Milford of Reading University and Dr Justyn Sandauer of Poland. Then we had a reception and subsequently visited an adjacent excellent display in the town, "Lilienthal 81".

About 60 papers were presented in the Technical and Scientific Sessions held in the University of Paderborn, organised respectively by Lt Col Floyd Sweet and Dr Joachim P. Kuettner. The latter, at an age which most folks would regard as appropriate to gentle local soaring, has recently made a flight to 38 000ft. He told a very funny tale, probably somewhat embellished by now, of how he spent the night in a Polish farmhouse at the end of his Silver C cross-country some years before WWII. The papers will eventually



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be published in "Aero Revue" or "Technical Soaring" and will be collected in OSTIV Publication XVI, all under the editorship of Cedric Vernon. This being so, there is not much point in reviewing them in detail, but it is worth mentioning a few themes.

The strategy and tactics of cross-country flying continue to intrigue the mathematicians. For example, given cloud streets at some angle to one's desired track, what is the most efficient way of using them? Mr de Jong from Eindhoven presented a neat solution, but his device for pilots' use looked too complicated. And there is the dolphin problem: how to extract the maximum energy from the air when flying through thermals, or how to maximise the speed for zero overall change in energy height. The difficulty here is that the classical MacCready "best-speed-to-fly" ring implicitly assumes a load factor of unity. Not only is the load factor manifestly not unity from time to time if one dolphins vigorously, but it may be distinctly advantageous to vary the load factor as well as the speed. For some time it has been known that it pays to increase the load factor in rising air (by performing a pull-up) and to decrease it in sinking air, quite apart from the resulting speed changes. Obviously, load factors differing significantly from unity cannot be sustained for long periods so vigorous pitching manoeuvres are really only suited to traversing fairly small patches of lift and sink.

There were several papers on this theme, that of Wolfram Gorisch of Akaflieg München being particularly elegant and highly relevant to practical flying. He proposed rules for achieving near-optimum results which do not require the powers of prophecy implicit in some investigations. It is worth quoting from his paper:

"Two quantities must be introduced: the 'averaged speed' and the 'averaged climb (or sink) rate'. The rules for the pilot are as follows:

"1. Adjust the *average speed* according to a speed command, as indicated by an averaging total-energy-compensated variometer on the MacCready ring.

"2. Perform load variation according to the actual variometer reading. The speed, of course, oscillates but its average shall be maintained according to rule 1.

"For practical reasons, the average TEC climb/sink rate may be derived by electronically damping the signal and applying a large time constant. The appropriate time constant remains to be

evaluated. The average speed may be calculated and displayed likewise".

This is all splendid stuff, so it was rather a pity that OSTIV was musing on such matters at the university, some distance from the airfield. We were enjoying a superb lecture theatre, but it is much more satisfactory if Championships participants can drop in to hear interesting papers.

The design of wing sections does not seem to have been finalised by the work of Wortmann and Eppler. Professor Boermans of Delft explained the design and testing which went into Baer Selen's ASW-19X, with its pneumatic turbulators (see "The Hardware . . ."), demonstrating a lavish application of talent and equipment. Armin Quast of DFVLR, co-designer of the section for the ASW-22, spoke further on such matters and opined that little holes would become widespread.

Talk of bug impacts

There was much talk of the effect of bugs on leading edges. Flapped sections are more sensitive to bug contamination than the unflapped variety and, moreover, show markedly different distributions of bug impacts. It was thought that Dick Johnson's simulated bug patterns were not always correct. Also, a Standard Class sailplane can be almost as good as a 15m ship if both are heavily splattered with squashed bugs.

My own contribution related to the optimum centre of gravity position to minimise overall energy losses, taking into account both circling and straight flight. All will be revealed in a future S&G.

I must confess that I saw very little of the meteorological papers, preferring to stay at the airfield to hear Hans Werner Grosse talking about his flights in Australia and Ursula Hänle on aerobatics, illustrated by a splendid film. On the afternoon I did attend the Met session, we had Professor Scorer of Imperial College — how pleasant to see his interest in soaring revived — talking about the spacing of cloud streets. We also saw some time-lapse satellite pictures which compressed a day of convection cloud patterns into about a minute.

Finally, there was a general conference (elections, rules, finance, etc) and a magnificent closing dinner, prepared by the current holders of the German two-seater 500km speed record, in the elegant surroundings of Schloss Neuhaus. Little speeches were made, mainly to mark the resignations of Floyd Sweet and Joachim Kuettner as section chairmen. We returned to the contestants' final party at the airfield to find that they had dined rather less spendidly than OSTIV.

As usual on such occasions, the renewal of old friendships and the making of new ones was at least as important as the technical content of the papers. The whole Congress and our rather peripheral exposure to the Championships was remarkably pleasant. All credit to those who work so hard to keep OSTIV flourishing, notably Manfred Reinhardt, Piero Morelli, Hans Zacher and the indefatigable Editor Cedric Vernon.

OSTIV, by the way, stands for "Organisation-Scientifique et Technique Internationale du Vol à Voile". You, too, can participate in the intellectual aspects of soaring: for details of membership, publications, etc, write to OSTIV, c/o DFVLR, D-8031 Wessling, West Germany.

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BGA and General News



GLIDER PILOTS HONOURED

Our congratulations to Joan Cloke on being awarded the MBE for services to British gliding. Joan, who is the BGA treasurer and an Executive Committee member, was chairman of the BGA Development Committee for many years, has always taken a very active part in the Southdown GC and serves on the Regional Sports Council.

R. T. "Bobby" Cole of Conder International Ltd, is another glider pilot to be honoured. He has the CBE.

ARCTIC LITE CHAMPIONSHIP 1981

The Arctic Lite Championship at Dunstable in early May resulted in two flying days for the 16 competitors. C. M. Cruse won with 1511pts, T. Moulang was second, 1400pts and 1232pts put J. E. B. Hart in third place.

J. E. Hart won Day 1 on May 2 (142.5km) with T. Moulang winning Day 2 on May 4 (98km).

NATIONAL LADDER

Open Ladder

Leading pilot	Club	Pts	Flts
1. G. Corbett	Essex	4051	4
2. N. Hackett	Coventry	3285	4
3. R. Wilson	Deeside	2980	2
4. P. Gill	Essex	2760	4

Club Ladder

Leading pilot	Club	Pts	Flts
1. C. G. Starkey	Imp. Coll.	3650	3
2. M. Jefferyes	Essex	2310	2
3. P. A. Gaisford	Swindon	1952	2
4. M. Hastings	Oxford	1326	3

HANDICAP CHANGES

Since the 1981 Competition Handbook was published there have been the following changes to the handicap list: Nimbus 2cs becomes 121%; Kestrel 20m becomes 115%; ASW-20L/20FL becomes 111% and the LS-3-17m is now 110%.

In addition the following new handicaps have been given to previously unlisted aircraft:

Janus C 109%	LS-4 103%
Sie-3 90%	Ventus 109%
SFH-34 94%	Sport Vega 96%

TECHNICAL NOTES

Insecured equipment. A lead-acid scooter battery broke loose in turbulence, became inverted, jammed the ailerons and caused damage in a forced landing. The stowage of equipment which has significant mass must be considered in the light of its airworthiness implications. BGA inspectors please check at C of A renewal inspections.

Undetected heavy landing damage to a Mosquito elevator controls. "Down"

CONGRATULATIONS FROM BGA CHAIRMAN

My attendance on the last two days of the World Championships at Paderborn allowed me to experience the final nail-biting moments of George's success. I was also able to see at first hand that the whole organisation of the British Team had been very well managed and my congratulations to George and the other team pilots must be extended to include Mike Carlton, Team Manager, and all the rest of his non-flying team members.

T. S. Zealley

elevator travel was significantly reduced due to bending of the inter-elevator connecting link and related tailplane attachment bracketry. There was no other damage but control was nearly lost during the winch launch. This type of damage has also been reported on a Foka 3 and highlights the importance of in-depth inspections after heavy landing incidents. Data on control movements are usually contained in glider flight maintenance manuals.

Tug tow releases. There are still some which haven't yet been repositioned to give the best access in a crisis, particularly under negative g conditions (glider pitching the tug nose-down).

It is indefensible to continue to defy the advice given following two fatal accidents in recent years, and to fail to comply with BCAR Section K4-10-6, 1 (b) which states that the release control should be located so that it can be operated by the pilot in command and is convenient to the hand normally used for operations of the engine power controls. It is recommended that the release control should have a yellow grip of a convenient shape for grasping with a gloved hand.

R. B. Stratton

BGA chief technical officer.

TAILPLANE THEFT

A Std Jantar tailplane was taken from a trailer at the Coventry GC between January 31 and March 1. The glider belongs to Christopher Chapman and its BGA No. is 2230. The only identification on the tailplane is B716.

FIELD LANDING ACCIDENTS

Accidents during cross-country landings was the major subject discussed by a joint meeting of the Instructors' Committee and the new Safety Panel.

Vic Carr, chairman of the Instructors' Committee, has sent a letter to CFIs and club chairman setting out a programme which CFIs are encouraged to follow in the hope of overcoming this hazard which forms roughly a third of all accidents reported.

He said that although they don't have actual figures, an intelligent guess puts the accident rate between one in 20 to one in 40 of cross-country landings. Also those with less than ten field landings and less than 200 hours seem to be substantially at risk.

The idea is to encourage more two-seater and motor glider training in simulated field landings. This should be in the form of the Bronze C flying exercises on an annual basis or perhaps every 15 months

for pilots with say less than five field landings.

Secondly, supervised genuine field landings should be undertaken in single-seater aircraft to previously selected and approved fields. This should help to build confidence as well as competence and would count towards the minimum field landings chosen as a target by the CFI.

Thirdly, practical tuition should be given to all budding cross-country pilots on the choice of fields from the ground, giving emphasis to the pitfalls of selection related to slope, surface and crop. The latter should be especially related to the changing pattern of crop at this most important time of the year.

Vic added that while a number of these accidents are due to pressing on, or competition-itis, they don't form the main body of the statistics. Most are by run of the mill pilots in quite normal and everyday club-type gliders.

He asks for any worthwhile ideas on further ways of stressing this problem and meanwhile gives us his own philosophy on field landings.

Vic's Field Selection

Pilots can often use techniques and methods which are not part of the conventional training for cross-countries. Part of my own practice is to prefer particular types of field at appropriate times of the year.

First, I prefer **not** to land in pasture fields which, apart from the animal problem, are often uneven and occasionally full of surprises. They are identified by their untidy or uneven texture.

Before the end of May I look for potential hay and silage fields, which have an even texture. The season will not be sufficiently advanced for there to be any depth of growth. Alternatively at this time of year, cereals have little growth, and in many the earth will show clearly through the crop. Providing you wheel the glider to the edge of the field, little damage will be done to the crop itself. This sort of field can be identified at a distance, which helps you to determine the slope relative to the prevailing wind direction.

The same comments apply to my favourite field type, recently cut silage and later, hay. They are easily recognisable by the brown-yellow colour against a background of almost continuous green. They are the only safe alternative to pasture until the end of July when stubble fields appear for the first time.

As they grow in numbers through August, stubble fields become first choice and give little excuse for landing in anything else.

Apart from avoiding rough ground, unexpected obstructions and minimising ground loops, these preferences are unlikely to offend the farming community, which is surely a worthwhile bonus.

After choosing a field, of course, one needs to make a reasonable circuit, approach and landing, which is where the training will contribute.

OBITUARY

RODI MORGAN



Photo: David Nicholls.

With great sadness I report the death on April 13 of Rodi Morgan as the result of head injuries sustained on January 11 while taking-off in an RF-4 from Shoreham airport.

Rodi was the son of a Welsh methodist clergyman and started his aviation career as an apprentice at RAF Halton. During the war he did sterling work as an engineering worker, recovering crashed and abandoned aircraft in North Africa. He became well known for the buccaneering spirit which he brought to this job.

While at Tangmere during the 1960s he became an instructor with No 623 Air Cadets Gliding School, and also found time to qualify as an instructor with a local para-sailing club. He was an RAF Squadron Leader, a Chartered Engineer and a member of the Royal Aeronautical Society. At the age of 64, instead of retiring, he founded the firm of Precision Pulleys Ltd on Tangmere Airfield. It was during this time that he really started to enjoy himself, returning to his wartime career of collecting aircraft — this time, without engines. He collected and restored eight vintage gliders. In 1970 Rodi found the last remains, a wing and a fuselage, of the only Rhönsperber that had ever been in Britain. This aircraft won the 1938 and 1939 British Nationals and, after flying for the last time during Easter 1940, one wing had become damaged by damp. Over the years efforts to restore the aircraft had failed and, one by one, its components were lost. However, that which had defeated everyone else, was achieved by Rodi.

After ten years of painstaking labour, Rodi and his team, Fred Stickland and Jeremy Menzies, managed to restore the Sperber to its pre-war condition. Rodi test flew it, its first flight since Easter 1940, in July 1980 at Lasham. The Rhönsperber

represents the greatest feat of restoration by VGC members.

Rodi joined the VGC during its inauguration year in 1973 and therefore was one of its founder members. Since then Rodi and Billie Caldwell, his great friend for thirty years, the cat, Oly, their motor caravan and a trailer, with one of his gliders in it (which one was always left in doubt to the uninitiated, until the last minute, as the trailer had the names of no less than five of them, on it!) have attended almost every single Vintage Rally, at no matter how remote a location. We could always be assured of a warm welcome in that motor caravan and its hospitality became legendary at sites in Britain and Europe.

At the Klippeneck, Rodi celebrated no less than five champagne birthdays in one week! He died at the age of 69. He was a most original type. The funeral was well attended by VGC members, including three from Münster (West Germany).

C. C. WILLS

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	Name	Club	1980
113	G. Polkinghorne	Narrowmine (Australia)	10.10
114	C. J. Gildea	Humber	20.4.81

DIAMOND DISTANCE

No.	Name	Club	1981
1/174	A. Rohrer	Narrowmine	26.1
1/175	G. Polkinghorne	Narrowmine	10.10.80
1/176	C. J. Gildea	Humber	20.4

DIAMOND GOAL

No.	Name	Club	1981
2/1009	G. R. Middleton	Airways	31.1
2/1010	K. Mitchell	Humber	18.4
2/1011	M. E. Dry	Bicester	23.4
2/1012	D. J. Langrick	Coventry	18.4
2/1013	D. R. Wilkinson	Twinwood	2.5
2/1014	A. B. Wood	Buckminster	25.3
2/1015	J. F. Bowles	Norwich	18.4
2/1016	J. Williams	Trent Valley	18.4
2/1017	P. A. King	Herefordshire	18.4
2/1018	S. Hurt	Trent Valley	2.5
2/1019	A. J. Hulme	Cambridge Univ.	26.3

DIAMOND HEIGHT

No.	Name	Club	1981
3/489	S. T. E. Walker	Deeside	11.3
3/490	E. R. Belbin	Airways	11.3

GOLD C COMPLETE

No.	Name	Club	1981
794	A. Quilter	Thames Valley	22.3
795	K. Mitchell	Humber	18.4
796	M. E. Dry	Bicester	23.4
797	D. R. Wilkinson	Twinwood	2.5
798	S. Lloyd	Imperial College	11.3
799	J. Williams	Trent Valley	18.4
800	P. A. King	Herefordshire	18.4
801	S. Hurt	Trent Valley	2.5
802	A. J. Hulme	Cambridge Univ.	26.3

GOLD C DISTANCE

Name	Club	1981
G. R. Middleton	Airways	31.3
K. Mitchell	Humber	18.4
M. E. Dry	Bicester	23.4
D. J. Langrick	Coventry	18.4
D. R. Wilkinson	Twinwood	2.5
A. B. Wood	Buckminster	25.3
J. F. Bowles	Norwich	18.4
J. Williams	Trent Valley	18.4
P. A. King	Herefordshire	18.4
S. Hurt	Trent Valley	2.5
A. J. Hulme	Cambridge Univ.	26.3

GOLD C HEIGHT

Name	Club	1981
A. Quilter	Thames Valley	22.3
J. W. Ballance	Essex & Suffolk	22.4
C. D. Marsh	Airways	13.2
S. N. Gregory	SGU	28.4
J. E. Marshall	Borders	21.3
L. Kirkham	Shropshire	7.2
P. G. Marks	Borders	28.4
C. Lowrie	Northumbria	22.4
G. B. Owen	Vale of Neath	20.4
S. Lloyd	Imperial College	11.3
D. Tait	Strathclyde	19.5
P. E. Rice	Essex & Suffolk	22.4
Jill Powall	Hambletons	13.6
P. J. Stratton	Fulmar	17.5

SILVER C

No.	Name	Club	1981
5821	J. T. Cooke	SGU	22.3
5822	R. Andrew	Wolds	26.3
5823	B. Shaw	Humber	25.3
5824	D. Menzies	Dorset	20.4
5825	R. Grant	Newark & Notts	18.4
5826	D. J. M. Hill	Norfolk	8.4
5827	M. Dawson	Bannerdown	9.4
5828	H. V. Wilson	Humber	20.4
5829	J. N. Kelly	East Sussex	18.4
5830	A. Ratcliffe	Humber	18.4
5831	P. Jenkins	Humber	20.4
5832	C. L. Barnfather	Bicester	18.4
5833	J. Hicks	Anglia	18.4
5834	T. Wilkinson	Twinwood	18.4
5835	M. H. Smith	Fenland	18.4
5836	H. V. Nicholson	East Sussex	17.4
5837	A. J. Robertson	Surrey & Hants	23.4
5838	G. J. Walker	Airways	23.4
5839	P. Tickner	East Sussex	18.4
5840	K. J. Flemming	Blackpool & Fylde	20.4
5841	J. K. McKay	SGU	25.4
5842	N. C. Lewinton	Four Counties	18.4
5843	M. A. Shoukry	London	2.5
5844	J. K. Way	Bath & Wilts	23.4
5845	G. F. Bailey	South Wales	23.4
5846	J. F. Donovan	Trent Valley	20.4
5847	P. J. Hudson	Portsmouth Naval	18.4
5848	G. B. Turnbull	SGU	1.5
5849	R. C. Martin	Imperial College	18.4
5850	J. Batchelor	East Sussex	12.5
5851	J. E. Shepherd	Borders	2.5
5852	P. Rose	Southdown	14.11.80
5853	D. J. Ellis	Surrey & Hants	15.3
5854	C. G. Watkins	Marchington	25.8.80
5855	P. F. Woodcock	Doncaster	20.4
5856	D. B. Gilmore	Kestrel	18.4
5857	N. L. Clowes	Norfolk	15.5
5858	G. B. Owen	Vale of Neath	23.4
5859	J. L. Rolls	Lasham	8.4
5860	C. Lowrie	Northumbria	23.4
5861	G. D. Pickles	Bannerdown	23.4
5862	M. J. Johnson	Bicester	3.4
5863	C. A. Foss	Southdown	2.5
5864	R. Clayton	Sebring (USA)	9.4
5865	A. Bain	SGU	3.6
5866	C. J. Ireland	Kent	3.6
5867	J. D. Younger	Northumbria	7.6
5868	D. A. Booth	Coventry	2.5
5869	J. Walsh	Bannerdown	20.8
5870	S. J. Mynott	Cambridge Univ.	18.4
5871	J. B. Fane	Thames Valley	16.6

BRIAN WEARE

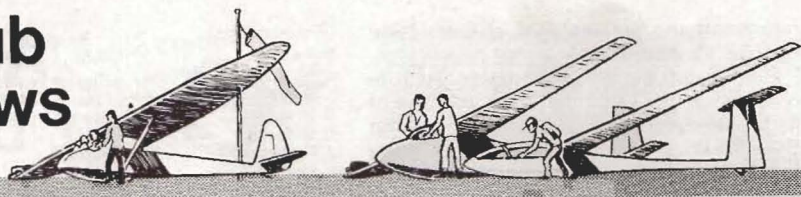
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Club News



Copy and photographs for the October-November issue of S&G should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 47725, to arrive not later than August 11 and for the December-January issue to arrive not later than October 13.

June 17, 1981

GILLIAN BRYCE-SMITH

AVON SOARING GROUP (Bidford Airfield)

The Easter weekend started well with Ron Wright (Mini Nimbus) flying to Husbands Bosworth and back. On the Saturday Ralph Jones completed a 422km triangle, Ron Wright a 230km triangle, John Hadley an O/R to Husbands Bosworth while John Thorne (Std Cirrus) went to Banbury. On Easter Monday Ralph did an O/R to Lincoln.

May, despite the weather, has been a Bronze month with two legs for Dave Harris and one for Jim Dallaway.

Chris and Stella Kendall's help, especially on the social side, is much appreciated and they are now preparing for a summer barbecue on June 10.

D.J.C.

BATH & WILTS (Keevil Airfield)

We held soaring weeks at Easter and the Spring Bank Holiday. Silver distances to Woodspring were flown by Dick Beard and Ken Way, Ken completing his Silver C. Ian Davies and Mike Cox have Bronze Cs and Malcolm Johnson and Peter Higby have gone solo.

Bob Bromwich entered the Nationals and Steve Parker is flying in the Western Regionals at present. Vince Griffith, Tony Judge, John Horrill and Richard Grundy had a good week at Yeovilton.

The Vintage Glider Club came in May and

flew their gliders between the showers. Chris Wills entertained us on the wet Sunday morning with a fascinating talk illustrated with slides.

J.L.

BRISTOL & GLOUCESTERSHIRE (Nympsfield Airfield)

Our task week was effectively washed out with only a little local flying and no cross-countries. We are hoping for better weather for the Western Regionals.

On the domestic front, our microwave oven and food dispenser facilities are to be complemented by a dishwasher.

We are reinstating the launch point control system to improve efficiency.

It is with deep regret we learnt of the death of Mike Garnett. Mike was a club member from the old days when we were based at Lulgate and his name often appears in old S&Gs with tales of epic flights. More recently he could be seen over Nympsfield in his immaculate Scud 2 which he built himself at home.

R.A.R.

BUCKMINSTER (Saltby Airfield)

We are building a new clubhouse from the shell of the old workshop and a new workshop is being built on the side of the hangar. This will give us more space and comfort in which to relax and fettle.

Our congratulations to Pete Goodwin, Paul Marlowe and Jim Airey on their Bronze Cs and to Paul (Skylark 3) on his Silver distance of 86km. Dave Nourish, Ray Smith and Ken Ballington have all got their MG PPLs.

The club K-6, to be replaced by an Astir, has been sold to a syndicate within the club.

T.C.M.

CAMBRIDGE UNIVERSITY (Cambridge and Duxford)

While the Super Cub was being repaired after its blow over accident the opportunity was taken to overhaul the engine and it is now back in service in excellent condition.

Our task week in May was quite well supported and five days were flown, though mostly short tasks to try and beat the weather. In a close finish Bob Pursey (Dart 17) just failed to overtake Richard and Peter Baker (Cirrus).

The Nationglide Sport Vega dropped in to Cambridge and local BBC covered the departure to Dunstable (see last issue p124).

P.E.B.

DEVON & SOMERSET (North Hill)

Awful memories of recent months include the late April blizzard when a member abandoned his car two miles from the site and trudged through knee-deep and deeper drifts to do his Bronze paper (successfully).

On April 23 Tim Gardner (DG-100) flew an 80km O/R and narrowly missed top place in the task week when Chris Dobbs (K-6) pulled handicap on him. Only one task was flown, the last day.

A second Skylark 4 syndicate was well launched with Frank Bell flying to Exmouth and return at 5500ft in wave on May 31. The Pirat syndicate enjoyed a visit to Sutton Bank.

Les Hill has completed his instructors' course, and John Christian has his A certificate. Our thanks to Tony Thomas for his hard work as technical officer — Dave Reilly is taking over. Our thanks also to all responsible for acquiring our K-13.

I.D.K.

DORSET (Henstridge Airfield)

Following the loss of Tarrant Rushton airfield where we spent 15 happy years, we have temporary use of Henstridge, going full circle to where the club was started in 1961. Thanks to the hard work of our site negotiator, Brian Stobart, and ex-chairman, Colin Broom, we have a licence to operate at Old Sarum, weekends and winch launching only, with restrictions on landing areas and operating conditions — but nevertheless a place to fly.

Due to these restrictions at Sarum and the temporary nature of Henstridge, we regret we can't invite visitors to fly in at the moment. But if you run out of lift over either place the airfields are preferable to the surrounding fields, so please be tactful and try not to jeopardise our situation.

During negotiations our airfield and equipment has been widely scattered, some stored by members and some by the Heron GC at Yeovilton. Heron GC, to whom we are grateful for their help during our troubled period, invited us to their Easter task week. Doug Menzies, Bob Collins and Derek Jones gained Silver distances in our Skylark.

Robin May, CFI, has moved to Luton and the London GC, with his place taken by Ray Witheridge. We miss Robin and thank him for his hard work and enthusiasm.

G.W.

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ESSEX & SUFFOLK (Hadleigh)

Over Easter eight gliders went to Portmoak where John Ballance (Oly) and Paul Rice (Libelle) gained Gold heights and Bob Adams (K-7) a Silver height and duration.

Our Spring Bank Holiday task week hit dreadful weather and there were no tasks, but the barbecue was a great success, thanks to the organisers.

Congratulations to one of our two New Zealanders, Robin Hatwell, on going solo.

The saga of our site tenancy continues but there is a gleam of light at the end of the tunnel.

V.H. and J.A.S.

HAMBLETONS (RAF Dishforth)

We had a sad start to the season with the Astir and one of the K-6s hospitalised. This is a great shock after some years of virtually accident-free flying, but happily both should be with us again soon.

On the task weekend, two members, Dick Brisbourne (DG-200) and Roger Burghall (K-6) completed their tasks.

Congratulations to Harry Birch, Don Paxton and Bob Segrest on going solo, and to Les Brown on converting to the Oly.

We have a number of new members and our joint Cleveland/Hambletons visitors' evenings, operating twice-weekly through most of the summer, are popular. The Nationglide Vega sampled Dishforth wave on two recent evenings, an event duly recorded on BBC's "Look North".

J.P.

HEREFORDSHIRE (Shobdon Airfield)

April 18: Philip King (Mini Nimbus) flew a 300km triangle in good thermals. April 20: Graham Mason, having recently done his five hours, took the K-6CR to Nympsfield for Silver distance.

April 30: Anthony Maitland (Mini Nimbus) climbed to 20 500ft and Rhoda Partridge (who gets scared when she can't see the ground) took the 304 to 15 000ft. Dave Carson flew course members to 10 000ft in the Blanik but they were so green they weren't even surprised.

The Inter-Club weekend comp got no flying so they tried again in June and got no flying.

After a weekend of unrelieved grot the sky cleared at teatime on Sunday, May 31, and Graham Mason (K-6CR), Tony Greatrex (Pilatus) and Roger Harlow (304) climbed to 8500ft in wave to give Tony and Graham Silver height. Roger went galloping off happily to Abergavenny and Monmouth.

R.P.

KENT (Challock)

Easter weekend heralded the start of the soaring season when there were Silver distances for Alphonse Rapp and Tony Bradley and several 300 and 500km attempts.

At our two very successful open days over the Spring Bank Holiday we gave more than 200 air experience flights and generated a lot of interest in the club.

We had four contest days from the task week, held from May 30. John Hoyer just beat Tim Gardiner in League One to win the Funnell trophy with Paul Petty winning League Two.

The predominantly south-west airstream during the last weeks has allowed good use of our 28km ridge. Becky Locke, Ed Johnston and Andy Street have Bronze legs with durations for Bob Linden, Chris Ireland and Alphonse Rapp.

We now have a second K-8 and are gradually altering our training system to allow first solos in the K-8 rather than the T-21 which is being phased out.

Our birthday and task week parties were a great success and we are looking forward to our annual wine and cheese party for the Mayor, local dignitaries and nearby farmers whose fields we may have used.

J.H.

LONDON (Dunstable)

Several thousand cross-country kilometres were achieved during our traditional Easter Comp. Since then the weather has tended not to co-operate although Mike Garrod celebrated the return of his Jantar to Dunstable with a 300km triangle at 79km/h.

New gliders on site include Stuart Beck's Nimbus 2c and Pat Boyer's ASW-17.

F.K.R.

MARCHINGTON (Marchington)

A highlight has been the arrival of a Super Cub, which had been used for towing advertisements. Being an aerotow only club at the moment this should give us reliable launching facilities. We are now building it a small hangar. Another newcomer is a privately owned PIK 20D.

Congratulations to 17 year-old Alistair Fuller on his Bronze C and Whitbread Award which has already been well spent.

S.D.B.

MIDLAND (Long Mynd)

April and May weather was disappointing and heavy snow at the end of April stranded several members on top of the Mynd when their cars were completely drifted over.

We have combined with Aston Down, Shobdon and Usk to form an Inter-Club League, henceforward to be known as the

Rockpolishers' League. The competition had an unfortunate start with weather preventing tasks being set from Shobdon, but this last weekend at Usk provided two contest days in wave conditions (see Usk).

Three members took part in the Competition Kitty final at Dunstable. Another group visited the Ulster GC and were impressed with the site and hospitality (see Ulster).

Congratulations to soloists John and Robert Raynor and Richard Johnson. Our midweek holiday courses have started and this week sees the introduction of a special course for members of Bronze C standard with the aim of teaching advanced soaring and cross-country techniques. Concentrated aerial tuition will be reinforced by lectures and discussions and field landings will be at selected fields following briefings. With a ratio of ten pupils to three instructors this should be a valuable week and will be repeated for other members later in the year.

J.S.

NEWCASTLE & TEESIDE (Carlton Moor)

John Stout resigned at the AGM as chairman after four years and far longer on the committee. Our thanks to him for his valuable contribution. John remains as technical officer and has done C's of A on some of the club aircraft. Mark Stokeld is now chairman.

During Brian Richmond's Easter course and task week Geoff Turner (Skylark 3) flew a 200km O/R between the snow storms; Denise Marshall went solo; Brian Boyes flew 4¼hrs and we welcomed back the Olympia 2b which was the club's solo machine for many years. It arrived with its owners Bill Stephen and Bob Cassidy who have joined us for hill soaring experience.

The real task of Brian's course was near the end of the week when members were encompassed in a 10ft snow drift and spent three hard days digging their way out.

The club K-6E is in service again after its mishap and we are looking forward to having the Auster Aiglet tug back. A hard working task force have smartened up the club facilities and site.

W.R.I.

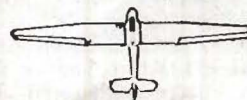
NORFOLK (Tibbenham)

This year we embarked on a series of advanced motor glider courses so it was quite a serious problem when the aircraft was dam-

Gliderwork

C of A OVERHAULS and REPAIRS

By L. GLOVER senior inspector



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aged in a heavy landing on the first day of the first course. We are very grateful to R. Watt, chairman of Rattlesden GC, for lending us his Falke. Thanks to Joe Podolski's hard work, ours should be back in the air very shortly.

We have plans to enlarge our clubhouse by splitting it down the middle and splicing a new bit in the join. With the help of Ron Brown's crane, to say nothing of his management, we should have this done by the winter.

Several members went to the Cambridge University GC task week which helped to cement friendships even if the weather was horrible. The weather made amends for our cross-country course which resulted in a Silver distance for Geoff Edmunds (K-13). D. Currell had an unusual flight ending up in a field just behind his back door. Mike Smith (Dart) flew in from Duxford for Silver distance, followed shortly after by Colin Dews (Kestrel).

Charles Owles climbed to 8500ft but the best news is that we have security of tenure



for the first time in 21 years, having been granted a lease on part of the airfield.

M.J.R.L.

NORTHUMBRIA (Currock Hill)

We took the Chipmunk, IS-28 and ten privately owned gliders to Millfield in May for the first club expedition for some time. The Saturday was fantastic with a 7000ft cloud-base giving most pilots their best flights of the year and Bob Hopwood Silver height. There was also excellent flying on the Monday.

John Greenwell contacted wave on June 14 and flew to 12 900ft in his newly bought Kestrel 17, our second glass ship on site.

The Nationglide team visited us in early June and ten members had their first glass-fibre experience by flying the Sport Vega. This visit gave our fund for the disabled a good start.

Colin Neve and Derek Younger gained their durations at Portmœak, Derek completing his Silver C. Mike Pearson and Ron Davies have Bronze Cs.

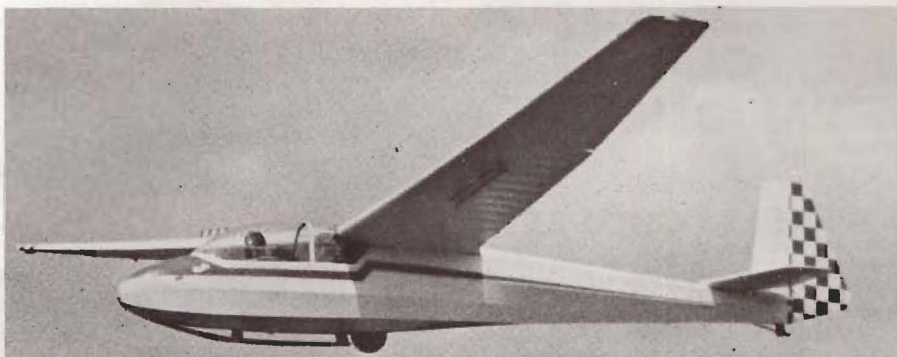
A new syndicate has bought the CFI's Pirat and the club now has a Dart 17. We have a reasonable influx of new members and the first course week was in early June. There was also a mini expedition to the Wolds GC task week in May.

J.W.

OUSE (Rufforth Airfield)

At last we have a definite date for the sale of the airfield, July 1, and we are hoping our funds, members' donations and the Sports Council grant will be enough to secure the site.

Sadly the number of soaring days this sea-



Rattlesden GC's K-7 in new red and white livery.

son have been the lowest we can remember during the last seven years with few flights of any note. However congratulations to John Stables on going solo and to Graham Bennie on Silver distance.

S.R.L.

PETERBOROUGH & SPALDING (Crowland Airfield)

Nagging doubts about site tenure have been allayed recently, when our landlord, Mr Banks, gave permission for another hangar to be erected. Although we are to lose some of our acreage we shall retain both the NS and EW runways.

There is more enthusiasm for cross-country soaring this season with several trips achieved, the first to Tibenham to collect "Snoopy". We are competing against the Cambridge University, Essex & Suffolk and Norfolk GCs in the Inter-Club League.

The combination of atrocious weather and two breakdowns to our tug allowed only one decent day during our flying week. We desperately need a second tug and efforts are being made to secure a Rallye as a back-up.

M.C.

RATTLESDEN (Rattlesden Airfield)

Mike Moyes has retired as secretary after four years so that he can do more instructing and his place has been taken by Humphrey Chamberlain. Mike has been an inspiration to us all.

Our K-7 is back in its new livery after a major overhaul by our members. We have introduced a Club Ladder which is based on early achievements and kilometres flown.

Congratulations to Charles Portway (Swallow) and Dave King (K-8) on their Silver distances; Richard Histed on going solo; Eamon Stegges and Rob Smith for going solo and converting to the K-8; Dave Johnson and Paul Stegges for their second Bronze legs and to Humphrey Chamberlain on his Bronze C and (forsaking his Grumman Cheetah) converting to the Motor Falke.

We look forward to a weekend at Usk and our July flying week.

R.W.

SOUTHDOWN (Storrington)

We are both proud and honoured to know that our ex treasurer and club member for many years — Joan Cloke, has been awarded the MBE by the Queen for her outstanding services to gliding — no one could deserve it more.

On the flying front little has been achieved save for Peter Henderson's brief excursion to

the Isle of Wight. During the BGA advanced course week from our site John Williamson managed to reach Reading in the Twin Astir towing Maggie Buchanan along in the Astir CS 77, but unfortunately they didn't quite make it back.

Silver awards go to Dave Hatfield and Roger Combes for height and duration, Naomi Collier for height and John Davidson for distance.

The club fleet is changing with the K-8 being replaced by a Sport Vega.

B.A.B.

SOUTH WALES (Usk)

Good north-easterlies started the soaring season by opening up the Black Mountains to us and it was during this period that Justin Wills broke the UK 100km triangle record.

Congratulations to Corine Westacott and Steve Hall on going solo, Nigel Jones on his Bronze leg and Tony Hooper and Phillip Towell on their Bronze Cs and Silver heights.

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Phillip, who flew his Bronze legs on consecutive days, also gained his duration on the third.

June 13 saw the Rockpolishers at our site when wave on the Saturday and Sunday enabled tasks to be set and tempted the Western Regionals to cross the water.

P.A.C.

STAFFORDSHIRE (Morridge)

During Tony Boyce's club course week Ken Lane, Keith Ward and David Thorpe each flew the club K-8 for nearly an hour on the Friday. There were also good flights with Tony in the K-13 by Debbie Curtis, John Davies (who also resoloed), Adrian Clark, Philip Haddock and Peter Foster — the last being an O/R to Asbourne.

Ken Whitton's cross-country course was spoilt by bad weather but Pauline Gwinnett managed 27min in the K-8 and Frank Davies completed his Bronze C.

Other achievements include a completed Bronze C by David Thorpe, Bronze legs for John Hind, Pauline Gwinnett and Eddie Willis and a Silver distance for Jim Clarke.

We will be running our second dawn to dusk flying day on June 20 and will have a stand at the Leek Sports Week exhibition.

Members are being encouraged to pay half their subscriptions in advance for up to four years to finance another club aircraft.

Our new leaflet has received widespread praise.

P.F.

STRATHCLYDE (Strathaven)

Our K-7 is back after major surgery. Congratulations to Jeff Henderson on going solo.

Some members took the club Swallow to Feshiebridge in May with two privately owned aircraft. On the one good day Andy Walker (Swallow) gained Silver height and Dave Fraser (Kestrel) went to 17 000ft in wave. Des Tait (Astir) abandoned his climb at 12 500ft as he couldn't reach his oxygen system, but he claimed Gold height. Arthur Hughes completed his Silver C at Portmoak.

P.A.



Staffordshire GC's new sign based on the World Championships emblem.

STRUBBY (Strubby Airfield)

The only committee change at the AGM in April was the resignation of Brian Thompson as secretary. Our thanks to Brian whose place has been taken by Brian Chase.

No major changes are planned and we just hope to keep flying while the runways are being broken up.

Our two flying weeks have been dogged by high winds or low cloud but congratulations to Reg Brown on his second Bronze leg in the rebuilt syndicate "Oly 461½" (bitsa 460 and 463). The Kestel is also flying after several years in various workshops.

Congratulations also to Stuart Bailey and Neil Maddison on going solo.

P.B.

SURREY & HANTS (Lasham Airfield)

Easter brought hill fog, gales, drizzle etc giving us the worst start to a season anyone in our locality can recall. Good Friday and Easter Saturday brought four 300km flights to club gliders including triangles and O/Rs to John Bell, Chris Starkey and George Metcalfe. Hugh Hilditch and Alan Purnell took their Nimbi on 300km trial flights to test their instruments after C's of A. Apart from a semi attempt at soarable conditions on May 2 it has been absolutely appalling ever since, although Gerry Wynne flew his K-7 from Lasham via Oxford to Dunstable for the plate in early June — a truly remarkable performance while the rest of us scratched round Lasham.

Dave Elkin retired as treasurer at the AGM and Sue Hinder has taken over. Gerry Cole

has also retired from the committee and Roy Pentecost comes in.

C.L.

ULSTER (Bellarena)

In May, just as the English and Welsh FAs found they didn't have the stomach to meet match commitments in Belfast we were much cheered by the first organised party visit from a British club since we opened Bellarena in 1978. John Stuart brought over four colleagues from the Mynd. Although our consistently good soaring deserted us for their long weekend and the best height they achieved was only 5400ft they appreciated the site's potential. We hope they, and others, will return.

On April 26 Dubliner Mark Wilkinson had made the first flight between the Ulster and Dublin clubs' new sites, flying his ASW-20FL the 217km from Bellarena to Gowran Grange to win the first IGA pewter pot. The writer had made the first attempt the day before, in the Twin Astir, landing out after crossing the Sperrins.

Alan Sands reached 32 000ft in Colorado; Brian Willmott has gone solo; George Stewart has his PPL and is learning to tow while Jim Weston has a pronounced lead in our cross-country ladder.

As this was written the Irish Nationals were starting at Gowran Grange, an earlier plan to use Birr airfield in Co Offaly having fallen through. Several UGC pilots are competing, in the DG-100, ASW-20, PIK 20p and the Twin Astir.

R.R.R.

VINTAGE NEWS

The season's damp start was overshadowed by the death of Rodi Morgan on April 13 and Mike Garnett on May 21. They were two of our most important members and between them owned more than ten vintage gliders.

The Easter rally at RAF Cranwell was not well attended but the unstable north-easterlies and the enthusiasm of Cranwell GC meant the four vintage gliders, helped by club aircraft,

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flew more than 1000 cross-country kilometres. Flights included a 102km triangle and a 128km by Chris Wills (Rhönbussard), 140km by Barry Briggs (Weihe) and a 78km by Peter Woodcock (Skylark 1) which completed his Bronze C and Silver C. Chris was awarded the Cranwell cup which is for the best vintage performance in a rally.

Ken Harris of the Oxford GC had done some incredible restoration work. The Grunau Baby 2A (BGA 270) has been built again around its original fittings. It weighs only 332lb, which compares well with the 360lb standard weight (the weight of the Musterflugzeug) of a Grunau Baby 2B-2. The original BGA 270 was built by Fred Coleman in his bedroom in 1936 and it often flew at Weston-on-the-Green after the war.

Although Grunau Baby 2As are very rare four are airworthy in Britain. Rarer still is one made with modern glue.

C.W.

WELLAND (Middleton)

After losing what was our home for the last eight years we are now settling in at our new site at Middleton, a stone's throw from the river Welland.

The hangar is nearly complete, including new doors (wider and lighter) and new toilet facilities. Much remains to be done but we hope to be flying by the time this is printed.

Following the AGM we have a new enthusiastic committee. Our thanks to retiring members Doug Phythian, Ray Hall, Keith Tinker, our former secretary, Dave Gittens, and our CFI for many years, Ron Taylor. Our annual dinner, organised by Ray Hall, was a success. Congratulations to Don Martin and Simon Clayton, joint winners of the "Clubman of the Year" award and to Keith Tinker who won the Clayton trophy for the longest cross-country flight.

Congratulations also to Alan Bushnell on going solo at Cranwell.

R.S.

WOLDS (Pocklington)

Our first task week was a success with 14 gliders taking part, including visitors from Northumbria and Cranwell. The week was won by Brian Stott (K-6E).

The Northern League has been unlucky again with the weather, but it hasn't been all bad. Bill Young came within 30km of Diamond goal at the end of April and Derek Roddie did five hours on his second soaring flight and became something of a celebrity with the local press!

Four of our gliders are entered in the Northern Regionals and another task week is being organised during August by Colin Milner.

H.N.

WOODSPRING (Weston-Super-Mare)

Our expedition winch has given very successful initial launches. Our thanks to Alan Nichol and Dick Emery for their many hours of hard work in building this winch.

Congratulations to Dick Beard on Silver height and distance; Jon Toy on Silver distance; John Hopkins, Doug Massey, David Nichol and Em Williams on Silver height and

to Paul Edwards on going solo and gaining two Bronze legs.

Welcome arrivals are a Jantar 1 and a Skylark 4.

At the annual dinner-dance awards went to Sue Marshall for achievement, being the first woman pilot to gain a Silver C at Weston; Dick Emery for services to the club; Garry Humphries for the longest distance flight; Phil Hogarth for best *ab-initio* and Angelos Yorkas for best gain of height. Ray Snelling was awarded a year's free membership in recognition of his efforts in maintaining the club gliders.

A.J.M.

WYCOMBE AIR PARK (Booker)

Rumours continue to circulate regarding the sale (or otherwise) of the lease on the airfield. At the time of writing the outcome is uncertain, although we are assured that gliding will continue at Booker.

The Easter weekend was soarable with several Silver distances flown. Since then the bad weather has meant that the most active "pupil pilots" have been the baby starlings nesting in a discarded wing in the hangar.

A moderately successful team was fielded for the first leg of the Southern Inter-Club League at South Marston. It was an enjoyable weekend and we look forward to being the hosts for the next leg.

The latest addition to the Booker fleet is a Std Jantar 2 on lease from Anglo-Polish Sailplanes.

Bob Terry landed at Chequers recently. The good lady was not in residence, but the security staff were not, apparently, amused.

C.B. and A.C.

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SERVICE NEWS

BANNERDOWN (RAFSA)

After a slow, wet start to the season seven went solo last month with numerous Bronze legs gained. Tony Clarke, Tom Eagles, Jerry Odell and Geoff Millward flew in the Inter-Services Regionals, Geoff and Tom coming third and fourth in the Sport Class. Tony stayed on for the Nationals that didn't happen!

Trevor is now a BGA inspector and the man responsible for the excellent condition of the club fleet.

Nationglide got under way on June 1 in front of BBC Points West cameras. We are running a passenger carrying day for the disabled at the RAF Lyneham open day, using an Eagle with a tug provided by Ralph Jones.

M.D.

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BICESTER (RAFGSA)

The early season hasn't been conducive to going very far but a number of pilots have tried short tasks set on the possible days and on a few the glass ships have gone round twice. Mick Dry achieved Diamond goal in late April.

We were again well represented at the Inter-Services Regionals with Andy Gough (Janus) second in the Open Class and Ken Stephenson (Std Libelle) winning the Navy's Best Pilot trophy.

As there were so many Bronze aspirants, a group of instructors gave a series of short lectures which were much appreciated. Gliding here continues to be a family activity and the 15 pilots doing Bronze flights included four young members — Jim and Naomi Barrell, Lucy Caunt and Whitsun Bush junior, who also gained Silver height. Another encouraged by parents' example was Tim Charlett-Green who soloed recently at 16.

J.W.

CRANWELL (RAFGSA)

We hosted the Vintage Glider Club rally at Easter (see Vintage News).

Despite the weather we have had a crop of Bronze and Silver legs. Ted Richards and Chris Wheatley resoloed and a number have soloed in the motor glider. Stu Hoy, John McKay and Chris McQuigg are now assistant Cats. Rachel Whittingham went solo two days after her 16th birthday and Ian Tapson soloed on his 16th birthday.

G.B.

CRUSADERS (Cyprus)

Our normal summer pattern of steady sea breezes has been disturbed on a few occasions recently and as a result we have had a crop of Bronze Cs. Fred Howley (Oly 2B) gained Silver height but just missed his duration. Paul Shaw, Brian Ainley, Phil Smith and Ralph Mallinson gained Bronze legs.

R.V.B.

EAGLE (Detmold)

Our K-7 has been completely refurbished and the Swallow is back after a 3½ year major! We have a privately owned SF-26 here now with our LS-3A 17 due this month.

Our annual expedition to Aosta was successful and they arrived back in time to wave fly at Vennebeck where Dave Campbell (Astir) went to 9000ft.

We have had many more Bronze and Silver Cs than last year. On Easter Saturday Jeremy Beringer and Ray Pye did 300km triangles, the first from Detmold since 1977. During our first course, when we were joined by George Lee and Andy Davis to practise for the World Champs, four went solo.

We have said goodbye to Bill Hankins, chairman, Hugh Brookes, secretary, and John Harrison. Our best wishes and thanks to them. Alan Thompson is now chairman with Marcus Shephard as secretary. We also welcome Dave Lancaster as an instructor.

Right now we are in the middle of the BFG Comps.

J.F.B.

FENLAND (RAF Marham)

New arrivals include Pete Rock and John Morrice from Fulmar, John Armstrong from Bicester (now an instructor) and Tony Povey has returned from Chilterns. Newcomers also include the club's new ASW-19B and the ASW-20FL belonging to Tony Steel and Brian Mack.

We have a new bus winch thanks to much hard work by many members, especially Brian Mack who did all the engineering.

Five pilots competed in the Inter-Services Regionals and Ben Benoist flew in the ill-fated Nationals' Standard Class.

Mike Smith, chairman, has completed his Silver C with a duration, Andy Hill and Simon Ludlow have Bronze Cs and Ian Smith has gained his full Cat rating.

S.L.

FULMAR (RAF Kinloss)

The weather has given some good soaring and several badge flights. Pete Stratton climbed to 18 200ft for Diamond height and claims our site record; Norman Danby took our Astir to Silver height and gained his five hours in the same flight, while Coypu reached 11 500ft but suffered barograph failure.

Our K-8, flown by Pip Barley, was second in the Club Class at the Inter-Services Regionals, one point behind the winner.

We wish good luck to Norman Danby and Jenny Duignan on their postings to Brüggen and thank Jenny for her work as clubhouse member.

M.B.

HUMBER (RAF Lindholme)

Easter weekend was superb. Chris Gildea (SHK) did a downwind dash to Perranporth for the first Diamond distance from the club. There was nearly a second one when Keith Taylor (SHK) flew 456km of a 500km triangle. (My apologies to Keith for omitting his Diamond height previously.)

Keith Mitchell completed his Gold C with a

300km; Sheila Gildea and Andy Ratcliffe did five hours; Andy also going to Syerston to complete his Silver C; Dick Gibbs did five hours; Vic Wilson and Paul Jenkins completed Silver Cs with distance flights and Mick Marriott, Mick Logan and "Mitch" Mitchell gained Bronze legs. We flew a total of 2369km over the weekend.

At the RAFGSA AGM Keith Mitchell was presented with the John Martin memorial trophy for the fastest 100km triangle and the club was awarded the Founders trophy. Keith also gained the club's CFI's trophy for the fastest 100km triangle and Andy Ratcliffe the Scout trophy for the pilot making the best progress.

Geoff Phillips came third in the Club Class at the Inter-Services Regionals and was awarded the trophy for the highest number of points by a pilot flying in his first competition. Keith Mitchell came sixth in the Standard Class.

K.M.G.

PHOENIX (RAF Brüggen)

We have had a reasonable amount of soaring and cross-country flying. The K-21 arrived safely, thanks to Mr and Mrs CFI. It is now fully instrumented and proving popular.

The K-8 has gone to a club syndicate with conversions to it by Angie Murray, Pat Headley, Pimms Cholerton and Ian Gorton.

Jenny Wilcox, Colin James and Colin Jones have Bronze Cs; "Taff" Thomas and Sid Murray have gone solo; Jane Cooper and Don Cholerton have resoloed; Dave Kent and Lyn Norman have Silver heights and Gaby Drücker and Dave Hourston have their durations.

The majority of members are at the Detmold Comps. Carol and Mick Simmons, John and Pat Nelson, Eddie Wright and Geoff Cowling are returning to the UK. Our thanks to them and best wishes.

D.I.H.

WYVERN (RAF Upavon)

The Inter-Service Regionals produced encouraging results for our members. The Army team was made up of Wyvern pilots only. Brian Hemstock (K-18) was awarded a trophy for the highest placed Army pilot in a rated competition and Chris Sherlock (K-8) won a trophy for winning his Class. Other competitors were Andy Harkins (Mini Nimbus), Howard Jarvis (Std Cirrus), Martin Hardy and John Harrison in Astirs and Russ Russel (K-8). Unfortunately the K-6CR was damaged on the practice day when it touched a hidden obstruction on landing.

Our CFI, Howard Jarvis, gave a spectacular display of aerobatics on May 24 at Debden. Pete Cook has changed his Mini Nimbus for a Nimbus 2.

We now have two twin-drum winches operating which hopefully will increase our launch rate.

J.R.H.

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Dear Editor,

Yet again George Lee has become the World Champion (what a remarkable man, what a fantastic achievement), yet again the British gliding movement complains that our media choose to ignore our sport and George's feat.

Before we make too much noise after the event — how many pilots telephoned the BBC or wrote to the editor of their national newspaper demanding news coverage?

When we need friends or political pull to secure sites, fight airspace battles or just fill our courses, don't look to the press for help — they don't even know that you exist (until you have a nice juicy prang)!

WALTER KAHN, former chairman of the BGA Publicity Committee.

Gillian Bryce-Smith, BGA publicity officer, replies: Sadly the media at national level appear to show little interest in us, even when we do have the three times World Champion, but it definitely isn't for want of trying to get publicity on our part. For the last 18 months I have been feeding the press with handouts, plus captioned pictures, with very little success and followed up George's triumph within minutes of getting the results from Germany with phoned reports to all the national newspapers and press agencies. The response was just a few lines in one Sunday newspaper and a mention on the BBC news. I have spoken to national newspaper editors about their lack of enthusiasm for the sport and been told that gliding has little appeal to the general public as it is an elitest sport for the wealthy minority. We will keep trying for decent coverage and certainly the efforts at club level have been paying off. A number of clubs have instigated good gliding articles within the last year.

On the credit side we were fortunate to have Anne Ince reporting the World Championships for the *Daily Telegraph* and since writing the first paragraph George was made *Observer Sportsman* of the Week, his achievement was recorded in the House of Commons and two national papers are promising gliding features which may have appeared by the time this is printed. Much of this extra publicity came through the efforts of glider pilots, so what Wally says makes good sense. It is up to us all to interest the press in gliding at all levels of the sport.

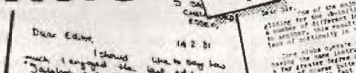
REVIVE THE SPORT CLASS?

Dear Editor,

On his comment upon my letter in the April issue ("Down with 15 Metres", p90), Ted Lysakowski, chairman of the BGA Competitions Committee, suggested that my views lacked popular support. After the "forum" for Nationals pilots that he chaired at Greenham Common, I hope that he has altered his opinion. Most impressive was the deafening silence that followed repeated requests from the meeting for the committee to explain its decision.

In his published comments Ted sug-

Your Letters



gested that "... the multi-tier Nationals produced their own anomalies. In search of these anomalies I hunted through the Nationals results for 1976 and 1977 to see what the Sport Class had done to deserve immolation and the following may have significance:

When the results of the 15m and Standard classes were recalculated to produce Sport Class results for 1977 we find that 1st and 2nd (PIK 20s and Nimbus 15) in the 15m Class became 3rd and 5th in the Sport Class behind Standard Class pilots flying Std Cirrus and Std Libelle. In 1976 we find that recalculating the Standard Class results reversed 1st and 2nd places because the lead established by the Standard Class Champion (Std Cirrus) over his nearest rival (Libelle) was inadequate to win the Sport Class. We also find a K-6E rising from 12th to 3rd place and a Pirat from 25th to 7th.

Are these "anomalies" or merely the results one should expect if you are aiming for a "best pilot wins" or "sporting" result? CHARLES ELLIS, Ilford, Essex.

Ted Lysakowski, chairman of the BGA Competitions Committee, replies: Hints of conspiracy! But we know who produced the repeated requests, don't we? And aren't all Classes (good) Sports anyway? The "Sport" Class re-postulated by Charles is a handicapped Standard Class contest incorporating non-Standard and/or low performance gliders. Charles has been its protagonist for some time. The considerable evidence at hand shows little other support for or interest in this concept, hence no Sport Class since 1978.

Comps structure is reviewed every autumn and — if necessary — amended in line with the up-to-date trends and requirements. All current and prospective pilots who see merit in the "Sport" Class arrangement are invited to write to the BGA for my attention to register their view. Charles is welcome to attend the appropriate meeting of the Comps Committee and take part in a comprehensive debate. Beyond that Charles — and the rest of us — will need to come to terms with the outcome. No Comp structure, Rules etc will ever embrace every point of view. The philosophy of Comps is quite intricate and well beyond the scope of these columns but I may be tempted to elaborate on it later this year.

NOT UNFLAPPED 18m SHIPS

Dear Editor,

In the February issue (p24) Platypus advocated the return of 18m ships, saying they'd have higher performance at less cost than the present 15 Metre Racing Class. The next issue had a letter from

Charles Ellis (p90) strongly seconding the idea.

My apologies to these gentlemen, but I like the 15m ships! It's a size my wife and I can rig by ourselves. Not so with the 18m ship... nothing is more pitiful than a Diamant owner begging and pleading for assistance at the gliderport, and should he land out only the ignorant volunteer to help retrieve him!

Our trailers are already frightfully long. Surely another one and a half metres on top of the ten metres I've got isn't going to make it any easier? And how will I get the wing into the garage to do the fettling (love that word) I so enjoy? My 15m wing barely gets in diagonally as it is.

It's not just squeezing things in at home, either. We fly from an airport with a limited rigging area, airplane sized tie-down spaces, closely spaced landing lights and power pilots that get a bit cranky when a wingtip lies in their taxiway. We manage now, but I'm afraid we'd overflow our welcome with bigger ships.

One last thing: good spoilers can indeed make landings delightful, but I don't think they match the drag-flap systems used on ships like the Vega. The lowered stall speed and the steep approach are important safety aspects of the design. That this is true is reflected in the BGA accident statistics as pointed out by John Williamson in the June 1980 issue, (p118).

Please! Spare me the "salvation" of unflapped 18m ships!

ERIC GREENWELL, Richland, WA, USA.

A PERSONAL ATTACK

Dear Editor,

We all know that "Your Letters" do not necessarily express the thoughts of the magazine or its editor. That doesn't mean you should lower the high standard of S&G by allowing a vicious and ill-mannered personal attack on Roger Harlow for expressing an opinion about the National Ladder (see April issue, p90). An opinion most people seem to understand but like myself do not agree with.

May I appeal to Dave Watt to try and use his pen's explosive energy in future for articles on accident prevention, as Roger Harlow did with his honest accident report 'My Tree Loop' in the December issue, p269, by saying: "I showed stupid airman-ship, for heaven's sake fellow-pilots learn from it."

PETER WULFF, Pembroke.

A BADGE FOR SPACEMAN

Dear Editor,

The gliding movement must not miss the opportunity to recognise the fine glide of Commander John Young in the Rockwell Glider "Columbia" recently.

While most probably the criteria for all or any of the Diamonds will have been met, I would have thought a more appropriate award would be an A certificate for, as far as I know, the pilot has no previous gliding experience, and from the time he re-entered the earth's atmosphere to that immaculate spot-landing he comfortably exceeded 30 seconds...

Or maybe the first leg of a B might be

considered, for he performed a turn before his final approach!

And how appropriate is the name of his glider, for in the year of his (and my!) birth the Kent GC was 'doing much the same thing in the very first BGA serialised glider, No. 101, the "Columbus".

MIKE RUSSELL, Henham, Bishop's Stortford.

WINTER CROSS-COUNTRIES

Dear Editor,

Congratulations to J. Tucker and P. W. Wilder on their O/Rs on January 10 at Southdown GC (see last issue, p125).

Had we known it we should have declared on January 1 this year when our two K-13s did minor O/Rs. However, as it was mostly at around 12 000ft we didn't feel it was cricket.

We'll be trying again next January.
IVOR SHATTOCK, Bedwas, Gwent.

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