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October—November 1968 4s 6d



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LESZNO — 1968

By RIKA HARWOOD and A. E. SLATER

OF the many interesting and noteworthy events during the World Championships, not all can be recorded here. This is partly because "places of information" were well separated, and partly due to the problem of sorting out who was who, and what was what, when 105 pilots (60 of them new to World Champs.) were mixed up with even more helpers as well as the general public too. The need for the Press to walk many kilometres a day meant much loss of time (but also, thank goodness, loss of weight).

Bad weather during the practice week did not allow a full trial run of the information-gathering organisation, with the result that SAILPLANE & GLIDING gathered together an unofficial start-line observing unit so as to get some idea of the day's placings in time to meet Press deadlines.

There was so much news to collect that no one aviation magazine could get it all, and readers who want a complete picture will have also to read *Soaring*, *Aero Revue* (both in English), *Aero Kurier* and *Luftsport* (in German) and *Aerosport* (French), all of which were represented.

Our last issue carried the story to the point where the weather allowed the first official Contest Day to begin; the final scores were given, and there was a report by the British Team Manager, Ann Welch. We have needed the best part of two months to sort out the rest, and we are also grateful to Brian Hunt, the team's met. man, for the weather charts and reports included in this issue.

13th June. Briefing 9 a.m.

TASK, BOTH CLASSES (Standard Class first), 224-km. Triangle:
Milowslaw 058°—81 km.
Sulmierzyce 181°—70 km.
Leszno 292°—73 km.

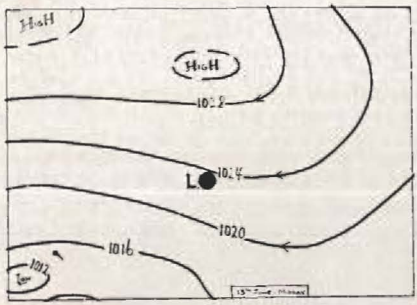
Cloud flying permitted up to 3,000 m. First launch 11.00 hrs. Startline open 30 min. after first launch in each Class.

WEATHER: The steady rise of pressure from the north had pushed the cloud and rain away, and we had a bright blue sky at last. The met. man promised "blue thermals" with no cumulus cloud, but in the region of Leszno and to the W. and S. there was a possibility of some cu in the afternoon". Winds would be strong towards the north and decreasing to the south.

But the official met. man was all alone with his forecast of "blue thermals"—after nearly three days of solid rain! By 10.00 cu was forming, and by 11.00 the sky looked superb, with cloud streets stretching along track in the easterly wind. It did dry out a little in the after-



The unofficial Dutch/English startline unit in operation. (Photo A. E. Slater)



noon, but there was still some cumulus, base about 1,900 m.

At 11.01 exactly, John Williamson (GB, Dart 15w) started the first contest launch. Sixty-eight minutes later, all the 105 gliders were airborne. This was a great relief, as during the two flyable practice days launching had been very slow. Very few relights were needed.

Soon Team Managers and crews were waiting near the starting board (no one was permitted at the startline) to see if their pilots had been observed across. This took some time and was rather a "shambles", with pilots impatiently waiting for the answers. Several were advised to cross again as their numbers still had not appeared on the board some 10-15 min. after crossing! (Crossing of the startline was compulsory; no observation, no score as you hadn't started.)

The first leg being into the wind was the slow one, but after a few initial lows pilots soon settled down and for the first time in seven days the airfield became void of gliders and most trailers.

Hans Nietlispach (Switzerland, Phoebus 15) and Andrew Smith (USA, Elfe-S3) were together for almost 80% of the course, Hans never reaching more than 1,500 m.

Henry Stouffs (Belgium, Std. Libelle) ran into trouble just before the second turning point but managed to climb back to 1,000 m. He started his final glide about 38 km. out and won the day.

John Williamson, who had left on the early side, picked up good times on the second leg and was amongst the first large gaggle of final gliders strung out abreast making for the finish line. This was a magnificent sight, as they came in fast and low with the sun highlighting their wings. There were some very spectacular finishes.

Dick Réparon (Holland) broke the Dutch national speed record; he found the conditions ideal for his Ka-6E. Speeds varied between 78 and 45.7 km./h. but 14 pilots did not complete the task.

The Open Class pilots were, except for the first two places, slightly faster. For example, Nick Goodhart was placed 20th with 70.7 km./h., whereas only the first seven places in the Standard Class did better than 70 km./h. However, pointwise it did not differ very much: 814 for Nick and 811 for Réparon.

At 12.55, the Championships being less than 2 hrs. old, Nick, amongst



A very spectacular finish . . . (Photo Koszewski)



The Turkish Team, with Aydogan 2nd from left. He only flew for about two hours in the Championships. (Photo Koszewski)

others, radioed that a collision had occurred in his thermal, occupied by about 13 gliders. Ann Welch passed the news to the organisers immediately and a tug was on its way in minutes. The two pilots, Aydogan, of Turkey, and Elke, of East Germany, had both taken to their parachutes and landed safely. The two Fokas, of course, were written off. We later heard that the Turkish pilot was a trained parachutist and this was his 75th jump. He admitted that it did feel quite different from jumping for fun. Elke, on jumping, opened his 'chute at once, with the result that he and his Foka were uncomfortably close the whole way down. He also had the misfortune to descend into a bog, from which he was extricated minus his shoes. Aydogan, on seeing what was happening to Elke, kept his head and made a delayed drop, opening up at about 300 m. We are told that the tug arrived before the pilots had landed! It was not an auspicious start to the Championships.

Vergani (Italy) was together with Yeates (Canada) and Wödl (Austria), all three in Cirruses, most of the time. They all used water ballast, Vergani having 40 kg. He managed to keep ahead sufficiently to win the day.

Wroblewski (Poland, Zefir 4) was down to 400 m. when 20 kms. out, but all the same his time was good enough to secure second place.

George Burton (GB, SHK-1) had started on the early side and successfully kept ahead of most of the gaggles; he, like the rest of the British Team, based his flying tactics on the forecast of Brian Hunt and he found the conditions good and straightforward.

The early starters were a bit better off than the later ones. Dick Schreder (USA, HP-14), who was very fast on the first leg, found himself down to 400 m. near the second turning point. On the final leg he zig-zagged under cloud streets for 30 min., which saw him home and dry.



Adam Witek, Polish Team Manager, talking to Jan Wroblewski in his Zefir 4. (Photo A. E. Slater)

Heinz Huth (West Germany, ASW-12), on the other hand, found that with his later start the thermals had become rather broken on the first leg, and had to make heavy weather of it. Also, Rolf Hossinger (Argentina, Phoebus-17) took things rather too carefully. He had not been quite happy with the weather information and did not want to spoil his chances so early in the contest.

Just after 3 p.m. the finish line became a beehive of activity, with crossings thick and fast, led by Dick Johnson (USA, HP-13).

All in all, pilots agreed that the weather turned out better than forecast, but that it had been a good task for the first contest day. Five pilots did not complete.

LEADING RESULTS, STANDARD CLASS

			km./h.	Pts.
Stouffs	Belg.	Libelle	78.0	1000
Lindner	W. Germ.	Phoeb. 15	77.9	997
Smith	USA	Elfe-S3	76.9	974
Nietlispach	Switzerl.	Phoeb. 15	74.0	905
Muszczynski	Poland	Foka 4M	72.0	858

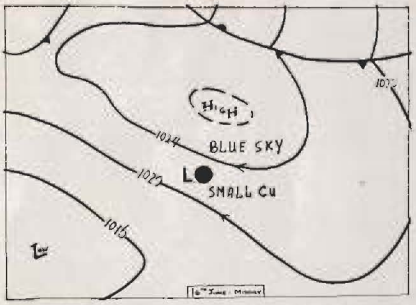
LEADING RESULTS, OPEN CLASS

			km./h.	Pts.
Vergani	Italy	Cirrus	77.1	1000
Wroblewski	Poland	Zefir 4	76.8	991
Yeates	Canada	Cirrus	76.7	988
Schreder	USA	HP-14	76.0	968
Burton	GB	SHK-1	75.8=	962
Schubert	Austria	Diam. 18	75.8=	962

14th June.—Briefing delayed to 9.30 a.m.

The "collision pilots" were not allowed to compete today and a warning for maximum look-out was given.

TASK, BOTH CLASSES (Standard Class first), 313-km. Triangle; on grid at 11.00.



WEATHER: Pressure was still high to the north, and an E to SE airstream covered Poland. Possibly as a natural reaction after yesterday's "blue thermals" the forecast erred the other way. Cumulus was promised when most of us expected clear skies or only very short-lived cu. Thermal activity was forecast to start at 9.30 and last until 18:00. Lift at first would be 1 to 1½ m./sec., increasing later to about 4 m./sec. Winds:

1,000 m. 100°-120° 25-35 km./h.
2,000 m. 120°-100° 30-40 km./h.
3,000 m. 090°-070° 35-45 km./h.

After pilots had been sitting on the grid for 45 min. under a clear blue sky, watching the storks soaring, they were told that a re-briefing would be held at the end of the grid immediately. A check was made that all countries were represented and they were then told that an aeroplane had been up and that this had proved that "the task would be impossible". So it was reduced to an out-and-return to the first turning point—total distance 226 km.—with the proviso that it might be changed again or even cancelled. First take-off now at 12.30.

Pilots were none too happy, and no one could understand why they sent up an aeroplane to snift and not a glider, which everybody could watch and understand. However, at 12.45 the organisers came to the same conclusion and the tasksetter took off in a Foka 4, watched, no doubt, by 103 pairs of experienced eyes.

At 13.16 the Foka was still soaring, and starting orders were given from the air—Standard Class only, and launching to commence at 13.30, it now being too late for both Classes. Many Open Class pilots felt that had the correct decision been taken earlier they could all have flown; now a no-contest day was decided for them without giving them a chance to prove it one way or another.

The outward leg into a strong wind made progress slow, but being launched into strong thermals, which took the pilots up to 1,500 m., helped to get them going the moment the startline opened.

John Williamson soon reported 4-6 knots, and apart from thermal activity dying out sooner than expected he encountered no great problems. Henry Stouffs, however, landed himself in a very weak thermal just before the turning-point, and without sufficient height to go on drifted back and had to land. Makula also finished up in the same trouble spot, and in all 16 pilots landed before the turning-point, while three pilots did not score.

At 17.29, unexpectedly to most, George Moffat (USA, Elfe-S3) crossed the finish line in fine style as if leading a pack. The pack, however, did not materialise, although several pilots were only about one thermal away from base, and so the day was worth only 588 points! Eight pilots exceeded 200 km. They were:

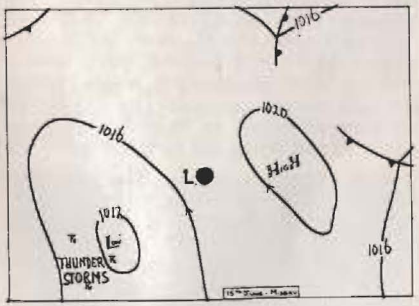
LEADING RESULTS

			km.	*Pts.*
Moffat	USA	Elfe-S3	226	1000
Fritz	Austria	Austria	214	549
Reid	N. Zeal.	Ka-6E	212=	543
Bloch	Switzerl.	Elfe-S3	212=	543
Nietlispach	Switzerl.	Phoeb. 15	212=	543
Williamson	GB	Dart 15w	205	520
Smith	USA	Elfe-S3	203=	513
Perotti	Italy	Phoeb. 15	203=	513

LEADING TOTALS, 2 DAYS

Smith	1487
Nietlispach	1448
Bloch	1380
Moffat	1318
Lindner	1305

15th June.—Briefing delayed till 10 a.m. TASK, BOTH CLASSES (Open Class first), 224-km. Triangle in reverse direction to Day 1. Pilots on grid 11.30. Cancellation time for launching, 13.00.



WEATHER: Little change in the situation. Radio-sonde ascents showed that the air east and north of Leszno was very dry and convection limited to about 1,200 m. (at maximum temperatures), whilst to the south-east there would be shallow cu around 1,800 m. The forecast promised 1½-2, increasing to 3-4 m./sec. thermals between 11.00 and 17.30. Winds:

1,000 m.	150°-170°	30-40	km./h.
2,000 m.	160°-180°	35-45	km./h.
3,000 m.	140°-160°	25-35	km./h.



David Webb in his BS-1.
(Photo A. E. Slater)

Launching was held back until just before cancellation time. The snifter (Foka 4) had been up for some time, although not very high, and the sky looked more stable than yesterday. Lift seemed patchy with some strong and some weak thermals, and enormous gaggles formed (there was only a 10-min. gap between launching the two classes). There were no relights at all, and this indicated that launching had been delayed too long, especially as the first leg was into the wind again, which made the outward leg very slow.

It took many pilots 2 hrs. or more to cover the 73 km. to the first turning-point. Four of the Open Class pilots, including Nick Goodhart, came unstuck here and made early landings. Some of them had been misled by the initial strong thermals and found the weak ones could not support them enough to keep airborne. The woods, however, were working best, and George Burton (GB, SHK) and Bert Zegels (Belgium, SHK) were able, amongst others, to use them to good advantage.

David Webb (Canada, BS-1) went quite a bit off track to use some cumulus and was rewarded with a climb to 1,500 m. at 3 m./sec. In the end, however, he found he had not been able to improve on the others who had stayed over the woods.

John Rowe (Australia, Libelle 17)

exercised a great deal of patience, which stood him in good stead as he was scraping towards the end just above zero sink to stay airborne.

Only Harro Wödl (Austria, Cirrus) and Dick Schreder managed to pass the 200 km. The first leg had taken too long, and this, together with the late start, made the task impossible to complete. Maximum points, 640. Twelve pilots flew over 180 km. and another six over 150 km.

Although only 10 min. behind the Open Class launching, the Standard Class were obviously too late to hope to do as well as the Open. Nine pilots fell down on the first leg, plus another four at the turning point. The rest landed in large groups along the second leg, and only Hans-Werner Grosse (W. Germany, ASW-15) rounded the second turning-point and flew another 14 m. to land 157 km. out, 39 km. further than the next best. Thus for the second time the day had to be scored as a failed race.

Retrieving also had its moments. Jackie Stouffs, for example, searched for about 2½ hrs. before she found her husband. Instead of 1 km. north of the landing point that she was given, he was 5 km. south of it. Aart Dekkers (Holland) fell out of "heaven" near a local priest on his way to afternoon service. The priest was most obliging . . . he postponed the service and stayed to help.

Leading Results, Open Class			*km.*	*Pts.*
Wödl	Austria	Cirrus	206	640
Schreder	USA	HP-14	201	620
Johnson	USA	HP-13	199	612
Seiler	Switzerl.	Diam. 18	198	609
Schubert	Austria	Diam. 18	197=	605
Cameron	N. Zeal.	Cirrus	197=	605
Dekkers	Holland	Diam. 18	197=	605

Leading Results, Standard Class			*km.*	*Pts.*
Grosse	W. Germ.	ASW-15	157	380
Makula	Poland	Foka 5	118=	262
Muszczynski	Poland	Foka 4M	118=	262
Matousek	Czechos.	M-35	116	256
Réparon	Holland	Ka-6E	111	240
Stouffs	Belg.	Libelle	110=	237

Leading Totals 3 Days Std. Class	
Smith	1658
Nietlispach	1604
Bloch	1518
Moffat	1516
Lindner	1515
Grosse	1477
Perotti	1438
Stouffs	1428

Leading Totals 2 Days Open Class	
Wödl	1599
Schreder	1588
Schubert	1567
Yeates	1542
Wroblewski	1530
Johnson	1521
Burton	1516
Seiler	1469

16th June.—Briefing delayed to 10 a.m. but gliders on grid before briefing.

The "collision pilots" were both disqualified. Further reports of lack of safety-consciousness were coming in, and pilots were reminded that disqualification might result.

At the end of briefing the East German Team Manager wanted to make a statement about the collision to those still present, but as the organisers had not been officially notified this was not allowed.

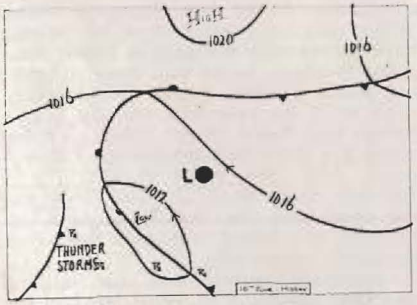
Task, both Classes (Standard Class first), 313-km. Triangle:
Wroclac 159°—85 km.
Borkow 046°—115 km.
Leszno 271°—113 km.

If by 11.00 launching had not started, the task would automatically change to an out-and-return to the first turning-point. Cloud flying up to 4,500 m.

Weather: Light winds. The temperatures were now climbing into the 80°F. Again, small, high-based cu in the south and dry thermals in the north. There was also a risk of thunderstorms



The ASW-15 flown by Hans-Werner Grosse. (Photo "Flight")



in the south-west (near the first turning-point) in the afternoon. (These did not materialise.)

Dry thermals forecast 1½-2½, later 3-4 m./sec. Winds:

1,000 m.	150°-170°	15-20	km./h.
2,000 m.	160°-180°	15-20	km./h.
3,000 m.	160°-180°	25-30	km./h.

Launching started exactly on time—so no change of task. It was carried out in the record time of 52 minutes, which was an outstanding performance. A pity that the tug pilots were never to be seen once they had finished their job!

In this tremendous heat it had been very trying for pilots to rush from briefing to the launching-point with the sun beating down mercilessly. All sorts of improvised shading gadgets were used to give pilots momentary shade before take-off.

Gaggles of 30 or so gliders soon built up, but there was no difficulty in staying airborne. On the whole the early starters did best, although there were many big holes, especially along the second leg. Dick Schreder got stuck in one of these and was down to 100 m., from which it took him 45 min. to recover.



The Belgians used an umbrella for shading . . .

George Burton had been doing very well as far as the second turning-point, and kept in phase with the thermals. He was still hopeful of completing the task, but the conditions started to deteriorate very rapidly—some say as early as 15.30. Where there had been 6-8 knots a moment ago, there became suddenly little or nothing.



. . . Ann Welch used her hat to give David Innes protection . . .



. . . while the Poles used a sheet for Muszczynski; all rather primitive but effective. (Photos A. E. Slater)



The Elfe's tail when it arrived in the workshop. (Photo Ann Welch)

During the afternoon another mid-air collision was reported. The pilots—Schubert (Brazil, Urupema) and Ehrat (Switzerland, Elfe AN-66)—were in a gaggle of about 20 gliders at around 1,400 m. when they collided. The Urupema's long nose was cut diagonally as far as the rudder pedals, which gave the pilot restricted rudder movement, so he landed in the first suitable field available, 139 km. out. The Elfe's port ruddervator was damaged and a large bit of this was seen floating down by other pilots, although they had no idea what it was. Ehrat, after checking his controls, decided to fly on gently and landed 250 km. out to be equal 16th for the day!

The gliders were in the workshop for an all-night repair and were ready by first take-off next morning.

In all, only nine Open Class pilots failed to round the second turning-point, but only two did more than 270 km., seven more than 260 and eight more than 250 km. The first 100 points were shared by 23 pilots

Although the Standard Class had started first, there was very little difference in their final distances, the Open Class doing slightly better overall.

Only Persson (Sweden, Std. Libelle) touched the 270-km. mark and, like Réparon (Holland, Ka-6E), found the conditions suited his machine. John Williamson said later that he should have stayed with the gaggles rather than going it alone, as he had tried to without much success. It had been a hard day's work for everyone, and the gaggle flying had been very tiring. Twelve pilots did not reach the second turning-point, four flew more than 260 and ten flew more than 250 km. This was the third day for the Standard Class to finish as a failed race, with the scores devalued accordingly.

Inaccurate information on landing positions again led to some dreadful delays on retrieves. The crew of Ian Loughran (India) located their pilot after a five-hour search. Wroblewski's Zefir 4 was also in for an all-night repair with undercarriage damage.

LEADING RESULTS, OPEN CLASS

			km.	*Pts.*
Seiler	Switzerl.	Diam 18	276	706
Wödl	Austria	Cirrus	272	693
Ax	Sweden	Phoeb. 17	269	683
Schubert	Austria	Diam. 18	266=	674
Huth	W. Germ.	ASW-12	266=	674

LEADING RESULTS, STANDARD CLASS

			km.	*Pts.*
Persson	Sweden	Libelle	270	683
Réparon	Holland	Ka-6E	265=	668
Bulukin	Norway	Austria	265=	668
Stouffs	Belg.	Libelle	262=	658
Smith	USA	Elfe-S3	262=	658

LEADING TOTALS
3 DAYS OPEN CLASS

Wödl	2292
Schubert	2241
Johnson	2179
Seiler	2175
Yeates	2165
Burton	2164

LEADING TOTALS
4 DAYS STD. CLASS

Smith	2316
Lindner	2160
Nietlispach	2132
Moffat	2130
Grosse	2119
Stouffs	2086

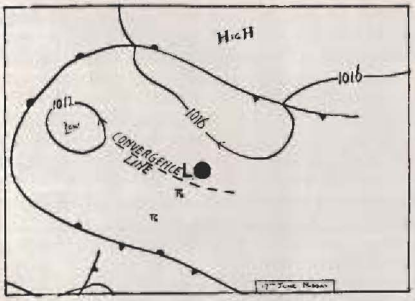
17th June.—Once more briefing was delayed to 10 a.m. on this extremely hot and cloudless morning

Two pilots were cautioned for flying in a dangerous manner—another threat of disqualification.

TASK, BOTH CLASSES (Open Class first at 11.00 a.m.). 215-km. Triangle:
Przylep 282°—76 km.
Lubin 144°—82 km.
Leszno 028°—57km.

If the launching was delayed, only the Open Class would fly. Height limitation, 4,500 m.

WEATHER: The centre of high pressure over Eastern Poland had moved away, and a new one was coming in over Scandinavia and Russia. A small trough



of low pressure over Southern Germany was approaching Leszno slowly. Increasing risks of thunderstorms, especially in South-West Poland. Dry thermals, with better conditions flying westwards, and development of cumulus. Thermal activity should start at about 11.00 with 1½-2½ m./sec.; 3-4 m./sec. later. Winds: 1,000 and 3,000 m., 130°-100°, 15-25 km./h.

By now pilots and their team managers had become rather concerned at the tasks, and with the forecast of dry thermals and poor visibility, and both Classes going round the same course yet again, one could understand their feelings.

For some unknown reason launching was delayed for 30 min., but the Standard Class was not cancelled—which, as it turned out, was just as well.

Just before launching commenced, the Swiss, who were unhappy about the tail fittings after the repair on the Elfe, withdrew it at the launch point, but the pilot was allowed to take a Diamant 18 instead. Also the other repaired gliders appeared on the grid on time, with the Zefir 4 coming straight from the workshop.

Radio reports quickly confirmed that conditions were better than expected, although the three sides of the triangle behaved rather differently according to pilots' reports. The first leg produced 4-5 m./sec. thermals for many. The second leg was not so good: it had some very large cu, and a number of pilots climbed to the maximum allowed height of 4,500 m.; but, among those who did not wish to enter cloud, Bulukin (Norway, Std. Austria) found it took him a straight glide without any lift from 2,500 m. down to 1,200 m., taking 20 min. to reach the second turning-point. Also Stouffs avoided going into cloud and had a long glide at best glide ratio. After another good climb he started his final glide 45 km. out.

George Burton kept well up with the leaders. He was pleased with the climbing ability of his SHK, and found the flight straightforward. With the long straight glides and final glides some good speeds were obtained, with the Open Class having the edge on the Standard Class. The last leg produced thermals up to 2½ m./sec. and only two Open and eight Standard Class pilots failed to complete the task. Six Open Class pilots reached speeds over 80 km./h., 12 over 75 and 15 over 70 km./h. In the Standard Class there were five over 80, six over 75 and 15 over 70 km./h.

John Blackwell (Australia) landed his Foka, 15 km. from the finish line and caught a wingtip, skidded sideways and broke the back of the Foka, which could not be repaired.

Schubert (Brazil) landed the Urupema in a bog today, with no roads leading to it. So, after the all-night repair, they were now faced with an all-night retrieve! However, with the help of Pirat Gehriger they obtained permission to aerotow the glider out early next morning. The wingtip holder had to be retrieved on a second trip by the tug.

LEADING RESULTS, OPEN CLASS

			km./h.	*Pts.*
Webb	Canada	BS-1	85.2	1000
Spänig	W. Germ.	BS-1	84.6	983
Wroblewski	Poland	Zefir 4	83.9=	964
Ax	Sweden	Phoeb. 17	83.9=	964
Burton	GB	SHK-1	81.9	909

LEADING RESULTS, STANDARD CLASS

			km./h.	*Pts.*
Moffat	USA	Elfe-S3	82.2	1000
Smith	USA	Elfe-S3	81.2	974
Stouffs	Belg.	Libelle	80.4	953
Persson	Sweden	Libelle	80.1	945
Nietlispach	Switzerl.	Phoeb. 15	80.0	942

LEADING TOTALS
4 DAYS OPEN CLASS

Wroblewski	3081
Ax	3074
Burton	3073
Wödl	3050
Schubert	3005
Johnson	2970

LEADING TOTALS
5 DAYS STD. CLASS

Smith	3290
Moffat	3130
Nietlispach	3074
Stouffs	3039
Persson	2959
Lindner	2905

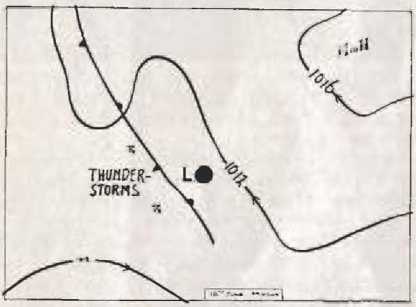
There was a much happier atmosphere at the dinner table this evening. Pilots had been able to go for speed in weather

conditions better than forecast, and the task at last had turned out as it should be.

18th June.—Briefing 9 a.m.

Several pilots had again been reported for dangerous manoeuvres. These incidents were not due to the large number of gliders taking part, but, we were told, to the irresponsible behaviour of a few.

TASKS: The Classes were given separate but similar tasks. Open Class, out-and-return to Dabrowa, 138°—total distance 182 km. First take-off 10.30. Standard Class, out-and-return to Maly Gadow, 159°—total distance 170 km. First take-off 11.00.



WEATHER: Thunderstorms had been raging all night west of Leszno. It might have been very hot again, but this morning there was a pleasant breeze. A thundery low was still threatening from the south-west, but conditions remained excellent at Leszno. Lift of the order of 2-2½ m./sec., increasing to 4 m./sec., was forecast, with the winds variable—easterly to southerly, about 10-25 km./h. Cu-nimbs in the afternoon with tops to 6,000-9,000 m.

With the increasing threat of thunder the organisers had to get this compulsory task in and make sure there was a good chance of success; this is perhaps why the task was kept on the shortish side.

The course for the Open Class was possibly slightly more favourable, as a good cloud street was in line with the turning-point. Again conditions worked out better than expected, but near the turning-points some caution was needed, as Aart Dekkers (Holland, Diamant 18) found to his consternation. He was first to arrive in the turning-point area and discarded a weak thermal, thinking he would pick up something stronger so as not to lose too much time. A few minutes later he was on the ground, and to cap it all he had left his crew at the swimming pool at Leszno. He had plenty of time to watch the whole Open Class sail overhead. He was the only pilot not to complete the task, and this almost certainly lost him a final placing in the first five.

George Burton was again able to keep well up with the "hot" ships, and made a fast final glide, judging his height to perfection. With 959 points for sixth place for the day, George was now only 18 points overall behind the leader, Wödl.

We gather that Seiler and Huth had minor flutter in the flaps today at about 180 km./h. No damage was done, but pilots are becoming more cautious of really high-speed final glides. The ten fastest pilots made it back to Leszno with a time spread of only 3¼ minutes. Cloud base had risen to 2,400 m. and the few clouds remaining on the way back were bang over the route. Thirty out of the 46 Open Class pilots turned in speeds over 80 km./h.

The Standard Class was a good deal slower. This was partly due to the later start, and also most pilots followed the Open Class route so as to take advantage of the cloud street They then had to divert to get to their turning-point, which was 20° further to the west.

Henry Stouffs nearly lost out halfway back. When on a long glide from the turning-point to the only cloud on course he was down to 300 m. before he contacted the lift. He then climbed to 2,000 m. and final-glided from there, thinking he had lost all chance of winning the day.

John Williamson also had a good day. Everything went right for him this time. He followed the Open Class track until 30 km. to go. Then, picking up an industrial thermal, he climbed to sufficient height to go round the turning-point, and by then the thermal he had left was marked by the others. Only one more climb was needed before he started his final glide 35 km. out. Makula missed contacting the cloud street altogether and only followed the Open



One of the M-35's flown by the Czechoslovakian pilots. (Photo W. Adriaansen)

Class route a short way. He then crossed a large gap from 1,800 m. down to 600 m. before he could pick up the threads again, but no further trouble occurred and all was well.

The first ten places in this Class were spread over 10 min., but 16 pilots had fallen by the wayside.

LEADING RESULTS, OPEN CLASS

			km./h.	*Pts.*
Huth	W. Germ.	ASW-12	89.2=	1000
Wödl	Austria	Cirrus	89.2=	1000
Spänig	W. Germ.	BS-1	88.2=	973
Vergani	Italy	Cirrus	88.2=	973
Schreder	USA	HP-14	88.1	970
Burton	GB	SHK-1	87.7	959

LEADING RESULTS, STANDARD CLASS

			km./h.	*Pts.*
Stouffs	Belg.	Libelle	69.1	1000
Vavra	Czechos.	M-35	67.9	971
Williamson	GB	Dart 15w	67.7	966
Nietlispach	Switzerl.	Phoeb. 15	67.4	958
Pronzati	Italy	Phoeb. 15	67.2	949
Fritz	Austria	Austria	65.6	915
Smith	USA	Elfe-S3	64.9	898

LEADING TOTALS
5 DAYS OPEN CLASS

Wödl	4050
Burton	4032
Ax	4006
Johnson	3908
Wroblewski	3887
Spänig	3886

LEADING TOTALS
6 DAYS STD. CLASS

Smith	4188
Stouffs	4039
Nietlispach	4032
Moffat	4026
Pronzati	3803
Lindner	3772

The point spread was still very small, only 480 points separating the first 13 in the Open Class, and in the Standard Class the difference was 504 points between first and eighth.

It was another good day and although the task could have been longer, no one minded too much, as the race had been successful and the emphasis had been on speed.

Most people spent a happy afternoon swimming either in the pool on the airfield or at the beautiful lake at Boskowa, about 20 km. away.

19th June.—Briefing delayed to 10 a.m.

There had been plenty of thunderstorms much nearer to Leszno during the night, and there was a lot of altocumulus and cirrus in the morning.

Two distance-along-a-line tasks were set, with turning-points 200 km. away for the Standard Class and 227 km. for the Open Class, and back as far as possible.

It took some time to explain all this as it had not been clear to some if the line was to stop at, or to go through, Leszno. There was to be no cloud flying. Questions on how this was going to be checked followed. The answer was that cloudbase was known and barographs would be checked. Briefing, unfortunately, was rather untidy this morning, and many team managers left not feeling quite satisfied with some of the explanations.

If first take-off was to be delayed too long the Standard Class would be cancelled. However, with everything out on the grid, both tasks were cancelled before noon. By 2 o'clock great pillars of cloud were developing, but by then most people had gone to Boskowa to swim. Terrific thunderstorms broke in the afternoon and in the general rush for shelter some of the American Team

Please note that the Annual General Meeting of the British Gliding Association Ltd. will be held on Saturday, 24th January, 1969 at the Crown Hall, Harrogate, Yorks. Further details will be announced in the next issue.

were seen gathering hailstones — delighted that at long last they would be able to have an iced drink!

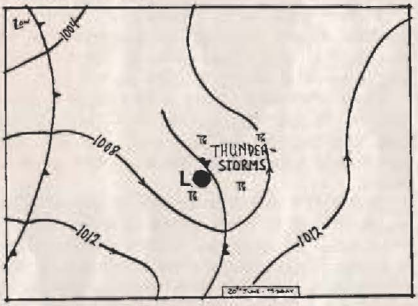
20th June.—Briefing 9 a.m.

After the massive thunderstorms of yesterday in a large radius from base there was now a slack trough of low pressure covering Poland.

TASK: Open Class, Distance along a line via Konskie, 104°—278 km. and back through Leszno along 284°. First take-off 10.30.

TASK: Standard Class, the same as above but their turning-point was Piotrkow Trybunalski, 103°—227km., return leg along 283°. Height limitation 2,000 m. Barographs compulsory.

This was received with mixed feelings and, like yesterday, several questions as to how it was going to be checked followed. Also the startline (not normally required on distance tasks) had to be used so as to comply with the rules in force.



WEATHER: Cloudbase 1,300 m., rising to 1,600 m., with tops to 4,000 m. Cunimbs and thunderstorms could also be expecter along the route, with tops up to 6,000-9,000 m. Lift would be of the order of 2-2½ m./sec., up to 3 m./sec., plus winds:

1,000 m. variable 15-20 km./h.
2,000 m. 180°-200°—20-30 km./h.

With the height limitation and the forecast of cunimbs one could foresee that problems could well arise which would make the task for today rather unsatisfactory, and so it proved.

Launching was put back for half an hour and at 11.30 (first launch) the conditions were still blue and weak—just stayupable.

The startline was interesting to watch, as pilots crossed well below 1,000 m. and at best gliding angle to begin with —some of them getting away, others landing to try again a bit later.

The pilots were faced with the problem of what to do when they hit the forecast storms. In fact, many diverted, some for many kilometres either to the north or south of track. In general, those who went north were slightly better off.

Some of the early landings-out were back in time for another try before the deadline of 16.00 hrs. Among these were John Williamson and Hans-Werner Grosse, but George Münch, of Brazil, cut it very fine. Arriving back at 15.51, his Foka was rigged by about 20 people, some of whom still appeared to be dealing with various rigging confusions as the tug moved into position and rolled off exactly on the hour! A most remarkable sight.

As landing reports started to come in, Rolf Spänig (W. Germany, BS-1) and George Burton were among the early ones—both well south of track. George and Nick Goodhart had been together for a while earlier, but as George went into cloud Nick decided to fly round the storm to the north. This was successful, but George had to break off his climb and was forced to land soon after. Nick kept more or less north of track the rest of the way, keeping to the edges of the storms, and secured equal second place for the day by landing near the line. Owing to various telephone fumbles, his crew searched 5 sq. km. for nearly five hours before locating Nick, and it was past midnight before they got back to base.

The most difficult part of the flying was between the 100-140 km. mark, where a 30-40 km. line of thunderstorms was lying across the course line. Behind these storms conditions were so poor that it was extremely difficult to stay airborne, and 14 pilots landed between 100 and 120 scoring kms. out of a total of 37 pilots (Open Class) to be credited with over 100 km. scoring distance.

In the Standard Class only 19 pilots managed over 100 km. scoring distance, with Persson (Sweden) being the only one to go more than 160 km. But, as in the Open Class, points were lost by landing a long way off track. Henry Stouffs used his last climb to 1,800 m. (35 km. south of track) to glide back to

as near the line as he could get. Landing in a rather undulating field, he scraped the bottom of the fuselage.

After John Williamson had his relight he improved on his previous distance, but at a late stage on the approach to land he found himself under the influence of a local surface wind blowing out from a cunimb. This caused a wing to stall, and he was faced with a down wind landing. In trying to deal with this situation he pulled up to clear some 10 ft. high trees but failed to see a hidden telegraph wire running close above the treetops until too late. The heavy gauge steel wire cut right through the moveable part of the canopy, shattering it, and cut into the centre section on either side, deeply scoring the headrest! The wire then broke, although at some stage it got between the fuselage and the tailplane, scoring both faces. John was fantastically lucky, and must have ducked instantaneously, as it is difficult to see how otherwise he could have avoided being decapitated. With all available helpers and under the skilful hands of Mike Fripp, the glider was repaired overnight and was ready by 09.00 the next morning.

John was not alone in having landing problems on this day; the workshops were full of gliders and became the social centre for the evening. Anglade, of Spain, had a broken main spar on his Foka 4, which, of course, could not be repaired.

A tedious situation arose from today's height limitation, involving six pilots. In three cases the barographs had not worked. Ian Loughran (India) wrote in his statement that his barograph, belonging to the organisers, had been returned once already because of a fault. He went on: "I also borrowed a parachute from the organisers . . . !"

It was all sorted out in the end after meetings of the International Jury and team managers, and three pilots who slightly exceeded the limit (according to their barographs), as well as the others, were allowed their scores.



Ian Loughran of India in his hired Foka. (*Photo A. E. Slater*)

LEADING RESULTS, OPEN CLASS

			km.	*Pts.*
Seiler	Switzerl.	Diam. 18	178	1000
Goodhart	GB	HP-14c	168=	929
Webb	Canada	BS-1	168=	929
Schubert	Austria	Diam. 18	165	908
Frene	Argent.	Phoeb. 17	164=	901
Dekkers	Holland	Diam. 18	164=	901

LEADING RESULTS, STANDARD CLASS

			km.	*Pts.*
Persson	Sweden	Libelle	164	1000
Reid	N. Zeal.	Ka-6E	149	885
Lindner	W. Germ.	Phoeb. 15	147=	870
Bloch	Switzerl.	Elfe-S3	147=	870
Stouffs	Belg.	Libelle	144=	847
Perotti	Italy	Phoeb. 15	144=	847

LEADING TOTALS 6 DAYS OPEN CLASS	
Ax	4844
Wödl	4811
Seiler	4717
Schubert	4671
Johnson	4627
Hossinger	4601
Burton	4575

LEADING TOTALS 7 DAYS STD. CLASS	
Stouffs	4886
Smith	4730
Persson	4664
Lindner	4642
Moffat	4599
Bloch	4554
Nietlispach	4399

21st June.—Briefing delayed to 10 a.m.

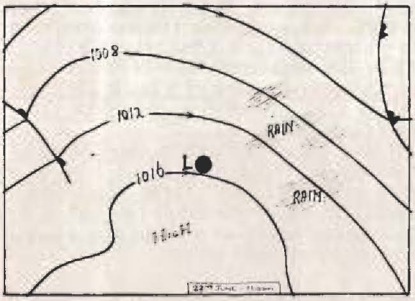
Again a pilot was cautioned, this time for crossing the startline in a dangerous manner. No task was set, but if the weather should improve another briefing would be held. The weather did not improve.

22nd June.—Briefing 9 a.m.

Everyone (except perhaps the two in the lead) was delighted to have another chance of flying today; also the unhappy previous task would not have been a very satisfactory finish to the Championships.

The tasks for both Classes, however, was the same, and this was received with groans from the assembly.

TASK: Goal Race to Lublinek. 093°—200 km. Open Class first at 10.30; Standard Class at 12.00. Height limitation 4,500 m.



WEATHER: The upper trough was still giving a large area of rain in the extreme east, but a large flat surface ridge now covered the whole of Germany and Poland. Cumulus base 1,200 m. with some strato-cu around 1,800 m. was forecast. Thermal strength 1½-2½ m./sec. Winds:

1.000 m.	300°-280°	40-50	km./h.
2.000 m.	300°-280°	45-55	km./h.
3.000 m.	290°-270°	35-45	km./h.

When the Open Class started launching it looked as if it might over-convect. Clouds at Leszno showed alternating areas of strato-cu spread-out and cumulus of various sizes, from big masses to little finger-like projections which soon evaporated.

Pilots went quickly across the start-line, led by Wroblewski (Poland), at 11.21, but a number came back before they drifted downwind too far to start again, or to have a relight.

When the Open Class had been launched there was still quite an interval before the Standard Class was due to go, for a time it looked as if they were going to miss the boat altogether, because a large area of strato-cu appeared just as take-off time arrived. Consequently, there were a lot more relights needed to get pilots going, but luckily the weather picked up in time and all was well.

During the afternoon, rumour had it that Stouffs had landed out and the Belgian team manager did not know *what* to believe. It was, in fact, Defosse (Belgium) who had made the outlanding. Henry Stouffs had actually been in trouble and been down to 300 m. It took him a long time to recover from this. He thought that many pilots would just take two good climbs and complete the task in about 1 hr. 30 min. That was, at any rate, what he had in mind. He crossed the start line twice, having come back so as not to be bothered by other gliders in cloud (a 3-min. separation of gliders was imposed for cloud flying); this was the reason for his not flying with the others. It was really the first 100 km. of the flight which lost him the Championships, for he flew the last 100 km. on final glide from 2.800 m. at 170-180 km./h.

At 17.00 hrs. we heard that nearly all pilots had arrived at Lublinek, so everyone was busy trying to find out what sort of times had been achieved and who had won. But nobody knew! Today of all days it was impossible even to hazard a guess as to who might be



L. to R.: Persson (Sweden) being congratulated by Makula; Andrew Smith (USA), World Champion Standard Class, and Ruedi Lindner (W. Germany). (Photo J. Sykora)



L. to R.: Göran Ax (Sweden), Harro Wödl (Austria, World Champion Open Class), and Ruedi Seiler (Switzerland) with some of the runners-up.

World Champion and who was second and third.

The evening was therefore spoiled to a considerable extent as teams did not know for certain whether to celebrate or not, so some just celebrated high placings instead. It was past midnight when some of the results came through, and next morning before the official results were published. Only then was it certain that Harro Wödl (Austria, Cirrus)—who, it should be noted, flew in the Standard Class in the last two World Championships—was now the well-deserved World Champion, Open Class, and that Andrew Smith (USA, Elfe-S3), who had flown in the Open Class at South Cerney, was the new World Champion, Standard Class.

LEADING RESULTS, OPEN CLASS

			km./h.	*Pts.*
Dekkers	Holland	Diam. 18	121.1	1000
Huth	W. Germ.	ASW-12	120.0	978
Manzoni	Italy	Cirrus	119.6	970
Seiler	Switzerl.	Diam. 18	118.9	956
Wödl	Austria	Cirrus	117.0	919
Horma	Finland	SHK-1	115.6	891

LEADING RESULTS, STANDARD CLASS

			km./h.	*Pts.*
Grosse	W. Germ.	ASW-15	107.1	1000
Rodling	Sweden	Libelle	104.0	930
Makula	Poland	Foka 5	103.4	916
Perotti	Italy	Phoeb. 15	103.0	907
Pronzati	Italy	Phoeb. 15	102.0	885
Smith	USA	Elfe-S3	101.1	865

The final results were published on pages 304-306 in our August issue.

The closing ceremony was kept to a minimum of fuss in lovely weather. As teams took their places for the last time under their national flags, a tremendous bartering session went on between some of them, while others exchanged presents and said their goodbyes.

By midday the official programme had been completed, and with many teams ready to roll at once, Leszno began to return to normal.

Readers will be sorry to hear that Ruedi Seiler, of Switzerland, who came third in the Open Class, lost his life on the 8th July, 1968, in a gliding accident. (See Overseas News, page 437.)

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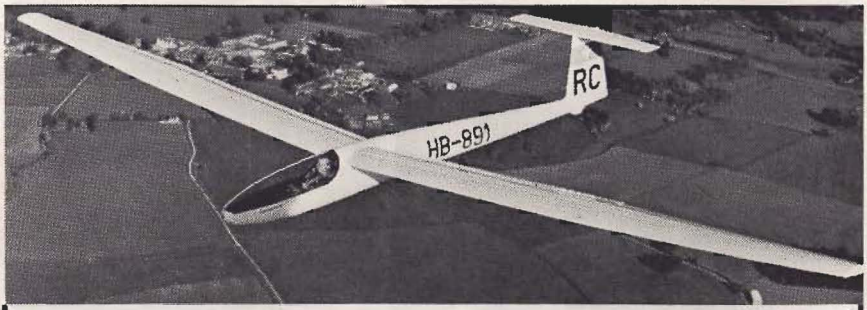
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Congratulations Dr. Brennig James on the first U.K. 500km. triangle – Booker – Long Mynd – Cranwell – Booker on 9th June, 1968 in DIAMANT 18.

PARACHUTE TALK

By B. J. EASTLEY

Service Manager — Irving Air Chute of Great Britain Limited

PRELIMINARY NOTE FROM PHILIP WILLS

I should like to thank the many people who wrote to me after my wretched accident.

Lying on my back in hospital, I wasn't able to reply. I am up again now, will have a couple of months in a corset, and then expect to be back in the air again — a few millimetres shorter from a crushed vertebra.

Accidents are an awful waste, unless one can get a bit of knowledge back, with the chance of reducing future risks for others. The main cause of mine — flying into an unexpected wind-reversal over a hill and stalling in — gives me new knowledge; inadequate airspeed to cope with the unexpected is the hoariest trick of the Old Man with the Scythe. But secondary damage to the Wills frame arose from wearing a parachute in light summer clothes, plus the semi-reclining pilot's position in most modern gliders. So I wrote to Irving's, and the following excellent article is the result. I hope it saves someone else from a black-and-blue chest and some weeks of considerable discomfort.

MANY years ago, it is alleged that a youth named Icarus was provided with an attachable pair of wings to enable him to extend his operational field, as it were. However, the exhilaration thus obtained was such that he ignored the designer's instructions and came to a rather sad end. The writer has always had a sneaking admiration for young Icarus, who, he feels, in other circumstances could have found himself immortalised as a hero rather than a fool. The moral of this story is that designers must, ultimately, define the operational limits of their product but would be quite wrong to *insist* that it is *only* used within these limits in practice. Such interference into personal liberties would, no doubt, be intolerable to most of us, assuming it was practicable.

It is a fact that few people pay strict attention to a manufacturer's advice regarding the operation and maintenance of his product, and for this reason it is difficult for Service Managers to assess genuine faults in design. Nevertheless, it can be argued that if it is possible to abuse a product, it is possible to improve its design and, as reputable manufacturers of safety equipment, we are constantly aware of this argument despite its obvious limitations.

It must be emphasised here that manufacturers rely heavily upon users of their equipment to provide details of good and bad points in order that they may be retained, improved or eliminated, as the case may be, on subsequent redesigns. We were therefore interested to hear of a recent incident which, fortunately, only resulted in relatively minor personal injuries, and readily agreed to write this advisory article for inclusion in your excellent magazine. In doing so, we express our gratitude to the President of your Association for his personal advice and assistance.

The incident in question involved the

pilot of a glider who sustained two broken ribs by the application of a moderate "g" force applied through his cockpit harness during a forced landing. The injury was caused by the parachute harness snaphook which was apparently lying between some part of the cockpit harness and the pilot's chest. For the reasons pointed out earlier, it is not for us to comment further on the incident but to do our best to avoid a recurrence.

The parachute assembly involved was a Type EB.62 manufactured by this company; but, irrespective of the type of assembly being used, the wearer should ensure that all metal fittings are clear of the cockpit harness. With normal adjustment on both the parachute and cockpit harnesses it is usually possible to position the more bulky metal fittings to your personal satisfaction. Where a centrally fitted quick-release fitting is fitted to the parachute harness, the cockpit harness Q.R.F. should be positioned below that of the parachute harness.

Since many glider cockpit harnesses are installed without particular reference to the presence of parachute assemblies, it may not always be possible to avoid metal fittings entirely. This, together with the fact that many glider pilots wear a minimum of clothing, has led us to suggest that protective pads could usefully be used to prevent further injuries of the type described. Our experience has shown that the decisions to wear pads, and of what type, are personal choices depending mainly upon the extent of clothing being worn by the user. We would, however, advise you to fit a protective pad under the chest snaphook of the EB.62 parachute harness if it is intended to fly with minimal summer clothing. A suitable pad can be manufactured locally or obtained from the manufacturers, and we would be pleased to advise further on request.

Some time ago, the writer was rather shocked to see the general condition of many packed parachute assemblies during visits to gliding centres and, in one case, was moved to remark "Don't look now but your rigging lines are showing". You might feel that this was a rather flippant remark, but at least two feet of line protruded and the circumstances were such that amusement was in order. The case was exceptional and is quoted





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merely as an excuse to repeat the following guide to parachute maintenance given in a recent circular issued by this company.

Things to do with your Parachute Assembly

1. Do keep it clean and dry.
2. Do have it repacked every three months when in regular use.
3. Do have it repacked before use if it has been out of service use for longer than three months.
4. Do carefully inspect the canopy for signs of general deterioration brought about by mould growth (to natural fibres), acid stains, salt stains, etc.
5. Do shake the folds out of the canopy and hang to air in a warm and dry atmosphere for a few hours before repacking (12-24 hours, if possible).
6. Do check that all metal fittings are free from rust and lightly oiled where moving parts are involved, e.g., quick-release fittings and rip-cord cable.
7. Do check that the pack opening elastics are fully serviceable and replace whenever doubtful.
8. Do check that the pack and harness are free from damage, and get advice when in doubt regarding the presence of stains.
9. Do operate your parachute from time to time whilst being worn. This will check that the assembly is fully functional and give you an opportunity to assess the "feel" of the ripcord.
10. Do check that the harness is adjusted correctly before take-off. It should feel firm at the shoulders and groin but not uncomfortably tight.
11. Do check that the rip pins are fully inserted and safe tied before take-off.

Things not to do with your Parachute Assembly

1. Don't leave it in damp or overheated buildings. Ideal conditions would be a temperature of 55°F and humidity of 50%.
2. Don't leave it in sunlight, either direct or behind perspex or glass.

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3. Don't wash mud or other removable stains off the pack or harness whilst the canopy is stowed.
4. Don't use detergent type soaps for cleaning purposes. Light stains can usually be removed with warm water and cosmetic soap such as Lux or Castile.
5. Don't ignore unidentified stains. Separate the affected item from the remainder of the assembly until the nature of the contamination is determined.
6. Don't use Brasso or other paraffin-based cleansers on metal work. Light corrosion can be removed with grade 00 emery cloth and thoroughly cleaned with a lightly oiled cloth.

Operational Note

The first objective in an emergency bale-out is to abandon the aircraft in the shortest possible lapse of time. The method of accomplishment will depend upon the prevailing circumstances. Whenever possible, it is advisable to leave the aircraft early in an emergency rather than risk a low altitude bale-out. The minimum acceptable altitude to en-

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SINGLE-SEATER, FOKA 4 is built to conform with the standard class of OSTIV, and is designed for performance flights under any atmospheric conditions.

Wing span: 15 metres. Aspect ratio: 18.5. Best gliding ratio: 34

Never exceed speed: 260 kilometres per hour. Flying weight: 386 kilogrammes.

TWO-SEATER, BOCIAN

Due to its many flight qualities under varying thermic conditions, Bocian is suitable for all types of performance flights. The pilots' seats are in tandem, and there are coupled control columns, which make the glider ideal for basic training.

Wing span: 18 metres. Aspect ratio: 16.5. Best gliding ratio: 26

Never exceed speed: 200 kilometres per hour. Flying weight: 525 kilogrammes.

MOTOIMPORT

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NORCO AVIATION LIMITED
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sure satisfactory functioning of the parachute depends upon the speed of the parachute through the air. Parachutes have operated successfully from 150-200 ft. AGL, where deployment has occurred at a horizontal speed in excess of 100 knots. If, however, the horizontal speed is less than 10 knots, the chances of a fully successful operation below 500 ft., is accordingly reduced.

After leaving the aircraft, a period of 1-2 seconds should be allowed to elapse before pulling the ripcord. (Delays of a longer period should not be made unless sufficient altitude is assured, remembering that the average rate of free fall between 500-20,000 ft. is about 220 ft/sec.) This lapse will allow the body to clear the aircraft and avoid the risk of entanglement with parts of its structure. The ripcord handle should then be firmly and continuously pulled until the user is aware that the pack has opened. The load required to pull the ripcord will vary between 12 lb. (5.5 kg.) and 36 lb. (16.3 kg.).

The parachute canopy will fully inflate within 1.5 and 4 seconds, depending upon the deployment conditions.

In conclusion, we would like to make the following general remark. If you are satisfied with a product, tell your friends; but if dissatisfied, please tell the manufacturers. Being human, we would also like to hear what you tell your friends!

BGA NEWS

The issue and Renewal of Certificate of Airworthiness for Gliders by the Air Registration Board and the British Gliding Association

The Air Registration Board (ARB) wishes to limit its activities in the sport of gliding, thus giving the maximum freedom from restriction and expense to all those concerned.

The BGA welcomes the ARB proposals and the following arrangements have been agreed.

1. ARB, so far as is possible, to confine its activities to:
   1.1 The investigation and issue of C. of A. to UK commercially produced gliders when they are the subject of application from the constructing firm.
   1.2 The investigation and issue of C. of A. to the first example of an imported foreign glider of new design if desired by the importer.
2. The BGA to:
   2.1 Issue BGA C. of A. if required to both classes of glider described in 1.1 and 1.2 above when the initial C. of A. expires, rather than the owner coming to the ARB for renewal of the C. of A.
   2.2 Recommend to the ARB the renewal of the C. of A. in the event of an owner of a glider insisting on retaining a UK C. of A. in lieu of a BGA C. of A.
   2.3 Deal with all other investigations, issue and renewals of C. of A. for gliders in categories not specifically mentioned above.

The legal position is that ARB cannot refuse to accept an application made to it if the applicant insists on Board of Trade certification. The object of the above arrangements is to reduce to a minimum the work of ARB in fulfilling this obligation, and the ARB will, whenever possible, act on a BGA recommendation.

The major alteration, compared with previous arrangements, is contained in Para. 2.2 above. In future, the procedure for renewing a UK (Board of Trade) C. of A. will be exactly the same as for a BGA C. of A. A BGA-approved inspector will carry out the inspection and will submit to the BGA the Application Form (INSP/2), the Inspection Report (INSP/6) and the Weighing Report (INSP/7) together with the expired C. of A. document and the appropriate fee. The Chief Technical Officer of the BGA will process this application in the usual way and, when satisfied, will recommend renewal to ARB. The ARB will then return the renewed C. of A. to the applicant. The fee for such renewal will be the statutory fee of £3 payable to the ARB, plus a BGA inspection fee of £3 13s. 6d. for members or £5 15s. 6d. for non-members.

The arrangements for the issue and renewal of BGA C. of A. remain unchanged.

P. M. SCOTT, *Chairman, BGA.*
F. G. IRVING, *Chairman, Tech. Committee.*

THE STANDARD ELFE-S3

By GEORGE MOFFAT

THE Elfe is a bit of a paradox in this day of mould-pressed sailplanes, but a paradox that goes like mad, as a 1—4—6 placing of the three entries in the recent World Championships shows, and just to prove that it wasn't merely dull consistency that did the trick, an Elfe won a quarter of the contest days.

Why a paradox? First of all, the Elfe is no glass wonder but quite an old-fashioned type collection of sticks and glue, Dart-style. Secondly, the Elfe doesn't come from some giant factory like Switzerland's FFA (Diamant makers), a Goliath of the glider world. The Elfe is produced by a David, alias Albert Neukom, plus a couple of helpers in one half of a farmhouse cellar near Schaffhausen. In a day of mass production, no two Elfes are quite alike.

The Elfe is a ship of many frustrations, but one thing it does superlatively. It performs. Most particularly, it climbs. In 100 hours of Elfe flying, the only ship that really seemed to outclimb my Elfe was the old Weihe. For sake of comparison I would say the Elfe climbs about even with the SHK. The other thing that the Elfe does well is penetrate. Ka-6's, Fokas, Edelweisses, Darts and the like drop rapidly behind as the speed gets above 70 knots. Penetration, like climb, is on an SHK level.

How does the Elfe stack up alongside the other good new Standard Class ships?

After hours of comparison flying against Libelle Standards, ASW-15 prototype and various Phoebuses, the ships that dominated the first ten places in Poland, I would say there is virtually no difference between the ships. The top Standard Class ships have reached a sort of plateau of development under the present rules. I found that individual Elfes and Libelles varied more than did the types. The Phoebus-15 offers more of a problem. Some Phoebuses go extremely well in any conditions, some are easy to outclimb. One would attribute all this to pilot capability if one of the relatively non-climbers weren't Rudi Lindner, one of the world's best. All sorts of esoteric theories were batted around Poland as to why some Phoebuses went so well (say, Hans Nietil-spach's, fully equal to the Elfe in all departments) and some so badly. Some say CG placement is the big trick, others feel that a 5 mm. aileron droop works the magic. Some feel light wing-loading is necessary. All agree that the Phoebus airfoil is separation sensitive. You pays your money and takes your choice.

What is it like to fly the Elfe?

The first thing one notes is a cockpit built for long, thin types. I, 6 ft. 2 in., and about 12½ stone, find the cockpit perfect, snug but not tight, and very comfortable. There is another three inches of rudder travel available for even longer types. How unlike the Phoebus, which I can't get into at all without one of those special German shoulder-perching parachutes. While length is good in



George Moffat, who won two days in the Standard Class. (Photo "Flight")



This Elfe S-3 was flown by Urs Bloch, Switzerland. (Photo "Flight")

the Elfe, width is not. Anyone much wider than I am doesn't get in at all, shoulder room being especially tight. Once in, one finds visibility so-so, about like a Ka-6. The sloping canopy tends to reflect the instruments badly. Ventilation is of the Ka-6 type, a bit primitive. The instrument panel is excellent, capable of holding five large and two small instruments plus a radio, all of which can be seen easily. Controls are all within easy reach.

In flight, one notices immediately light and pleasant control forces. English pilots brought up on Skylarks will find the nearly neutral stick forces strange, but such an arrangement is efficient and obviates endless trimming. In fact the Elfe doesn't even have a trimmer, a nuisance, since one has to hold slight back stick on climbs and forward stick for high speeds. My cure on my ship was a cat's cradle of bits of shock cord, various bits looped over the stick for different speeds. Effective, but hardly the sort of improvisation one should have to make on a £2,200 sailplane.

Ailerons are first-rate, giving a 45°-45° roll in about four seconds. Violent application of controls does not seem to cause any separation, so one can wrap into a core as quick as one pleases, Ka-6 style, without any losses. An interesting feature of the Elfe is the stallproof wing. This characteristic results from the fact that the all-flying tail stalls about three knots before the wing does. The trick is to drop the speed until the stick falls back in your lap (a bit disconcerting at first). Nothing untoward occurs, the nose drops a degree or two and the ship keeps right on flying. This feature is especially pleasant in low, feeble thermals and cloud flying. Best climb speeds vary rather widely with angle of bank from 38-48 knots. My experience is that the ship climbs best at steep bank angles, say 40°-50°, and higher speeds. In Poland one could frequently circle up through the middle of the ubiquitous gaggles, using this technique.

Between thermals the ship gains speed quickly. Best L/D occurs at 50 knots, but one does best, relative to other ships, at 70 knots and over. Near best L/D there is only a slight margin over Ka-6's, Darts, *et al;* it is at the higher speeds where the Elfe really shines. From 90 knots up, one holds the stick with both hands to guard against the pitch-ups and bunts inherent in all-flying tails. I experienced no flutter at speeds up to 120 knots in rough air at the higher figures.

The dive brakes on the Elfe look enormous but are in fact disappointing. While they speed-limit nicely, they are so far back on the wing that they produce no lift reduction, only drag. The effect is like that of a tail parachute; one can come in fast and steep (and float, and float, and float) or slow and flat, but not both. Angle of approach is similar to the SHK and makes one wish for good old Slingsby super-effective, honest-to-Pete dive brakes. The wheel brake is stick-mounted and really works. The

wheel is well forward so that the instant "nose rubbing" characteristics of Libelles are avoided.

For rigging, the Elfe is a pain. True, one can do it promptly (3½ minutes for OSTIV) *if* all the many bits are neatly laid out in position, but the best either A. J. Smith or I managed from the time of opening the trailer door was 10-11 minutes. The problem is the three-piece wing. The centre section weighs 180 lb., ridiculously heavy for a Standard Class ship, and screws on with four bolts, three control connections and a hatch. Outer panels are light (50 lb.) and are attached by a bolt, an aileron connector plus two hatches. The tail takes two people to install although the system is simple. When one compares all this with the Libelle Standard (two people, 90 seconds), one wonders . . .

Construction of the Elfe is mixed. The fuselage has a glass nose back to the wing, then straight plywood construction. The wing has a dural spar, ply ribs and a balsa-plywood sandwich skin. The tail is also balsa-ply. This construction makes for good surfaces and easy repairs. However, designer Albert Neukom tells me that future Elfes will be all-metal, Schreder style, with a two-piece wing.

To sum up, the Elfe is a ship of superlative performance with several annoying minor features. The all-metal version, which should be considerably lighter than the 480-500 lb. of present Elfes, will be a ship to keep an eye on.

FINAL RESULTS — Western Regionals

Pilot	*Sailplane*	*H'cap %*	1 1000	2 1000	3 295	4 1000	5 1000	*Total Points*
1. P. M. Scott	HP-14	86	840	1000	159	1000	755	3754
2. J. B. Goldsborough	Sky	112	1000	539	175	940	1000	3654
3. P. W. James	Skylark 4	98	782	593	295	686	645	3001
4. A. J. Watson	Ka-6E	96	848	749	113	259	980	2949
5. R. S. Waller,	Ka-6E	96	262	—	73	—	850	2641
C. Pennycuick			—	543	—	913	—	
6. J. L. Smoker	Skylark 4	98	531	482	0	711	828	2552
7. T. A. McMullin,	Skylark 3	100	827	—	185	—	934	2538
M. C. Fairman			—	453	—	139	—	
8. J. A. Findon	Dart 17R	90	850	365	183	920	113	2431
9. J. B. Bellew,	Ka-6E	96	0	—	223	—	775	1871
T. W. Marlow			—	193	—	680	—	
10. R. J. Smith,	Ka-6CR	100	273	—	70	—	894	1818
V. J. Hurd			—	145	—	436	—	
11. M. H. B. Pope	Dart 17R	90	756	385	155	243	188	1727
12. M. B. Hill,	Ka-6CR	100	267	289	—	364	712	1724
F. Purchase			—	—	92	—	—	
13. G. E. Tudge,	Ka-6CR	100	0	—	115	—	—	1667
G. P. McBroom			—	417	—	360	775	
14. R. C. Stoddart	Dart 15	98	264	399	50	647	264	1624
15. R. H. Perrott	Skylark 2	108	741	530	3	169	128	1571
16. J. E. Parkes,	Ka-6CR	100	67	—	185	—	52	1470
K. W. Haynes			—	381	—	785	—	
17. E. A. Hull,	Dart 17R	90	268	—	253	—	110	1183
R. Q. Barrett			—	407	—	145	—	
18. D. W. Corrick	Std. Austria	104	474	111	267	117	—	969
19. J. W. A. Webster	Ka-6CR	100	279	36	70	173	354	912
20. T. W. E. Corbett	Dart 17R	90	0	721	187	—	—	908
21. G. E. M. Smith,	Olympia 463	102	282	—	94	—	60	746
C. E. Andren			—	185	—	125	—	
22. D. W. H. Roberts,	Olympia 463	102	0	121	—	52	—	591
J. Gibbons			—	—	52	—	366	
23. B. Latimer	Skylark 3B	100	273	—	0	193	0	466
24. R. A. Walker,	Skylark 3B	100	79	—	70	—	0	304
E. Hall			—	0	—	155	—	
Below								
16. H. Grimes	*Dart 17R	90	*0					
	Skylark 3 (HC)			410	0	152	681	1243

WESTERN REGIONALS

Nympsfield 15th-23rd June

By MIKE HARPER

AFTER last year's washout, the weather this time allowed us to fly on six days—marvellous. Long before the closing date we were fully subscribed, and it looked as though there would be one Cirrus and three HP-14's at the top end, handicap-wise. However, only one of the HP-14's appeared on the startline and no Cirrus.

Unfortunately, John Fielden, who was to task-set, was not able to come, so I was thrust in at the deep end. Luckily, Doug Jones and Peter Scott were able to give some good advice for which I was very grateful. Another encouraging factor was the remarkable accuracy of the met. information, provided by Bruce Bishop and Tim Bradbury. The tug pilots worked well and all 25 gliders were launched within the hour on every day, even on the day when the dropping zone was seven miles away.

SATURDAY, 15TH JUNE.—Peter Scott formally opened the contest. There was a light easterly wind with moderate thermals, 2-4 knots, and odd areas of weak lift. We set a 125-km. triangle: Malvern School, Broadway Tower, Nympsfield. Eight pilots completed the course with Barry Goldsbrough winning the day in his Sky, followed by J. Findon and A. Watson even without handicap. When handicaps were applied, Peter Scott, who was second fastest, dropped to fourth place. Only five failed to score, one of these being Joe Grimes, who unfortunately damaged his Dart 17R undercarriage in a rough field. He obtained the use of a Skylark 3F and completed the competition *hors concours*.

SUNDAY, 16TH JUNE.—At 16.00 hours we scrubbed the task as the forecast clearance did not reach us.

MONDAY, 17TH JUNE.—Light variable wind, with weak to moderate thermals at 2-4 knots; cloud base 4,000 ft., some clouds building up to 12,000 ft. Distance on a line was set, around Wells Cathedral and from there on a line through Gaydon Airfield. Unfortunately, a sea-breeze front came in rather sooner than expected, and most people came down either at Wells, or between Wells and Nympsfield. Mike Pope, however, rounded the turning point and then climbed to 10,000 ft., and eventually landed near Winchcombe. Too few people managed 70 km. to Y, and so it was a no-contest day, but with a good deal of publicity from the local Press.

TUESDAY, 18TH JUNE.—The weather looked very scrappy and we decided to set a free-distance task. At 14.00 hours, when a line of ragged cu appeared over Nympsfield, a mad scramble to get off while the weather held, ensued, and all but one got away. This turned out to be the only soarable period at Nympsfield, when visibility was at a safe limit to launch. North of the Severn Valley was forecast the best area, and pilots were soon reporting good conditions as they got beyond Gloucester. Some, as they reached Worcester, decided to go east of the Birmingham Control Zone; of these none got further than Nottingham. Those who went west of the zone got much further, including Peter Scott who managed 267 km., landing north of East Moor Airfield, North Yorkshire, to win the day. Tony Watson was second and Tim Corbett third.

WEDNESDAY, 19TH JUNE.—A strong south-westerly wind with moderate lift, 3-4 knots. The task set was a 108-km. triangle, Broadway Tower, South Cerney Airfield, Nympsfield. Unfortunately, an area of clamp formed along the second leg and only two aircraft reached the second turning point, and both landed there. It was *just* a contest day, with four aircraft passing Y at 70 km. Peter James won the day on handicap with 295 points.

THURSDAY, 20TH JUNE. — Westerly wind, 15 knots, with moderate thermals about 3-4 knots, and clouds building rapidly to form showers. Conditions were ideal for the new task—out-and-return with a choice of turning points at Malvern School, Defford Airfield, Evesham Railway Station and Broadway Tower, all between 86 and 94 km. Cloud base was reluctant to rise to a safe height over Nympsfield, so take-off time was start-time and the dropping zone was 7 miles to the north-west, where cloud base was 3,800 ft. Nine pilots got back with Peter Scott fastest by a considerable margin at 71 km/h. around the shortest course. From the competitors' point of view this task was thoroughly enjoyable, but for the scorers . . .!

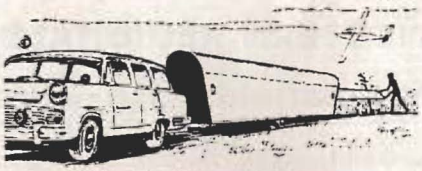
FRIDAY, 21ST JUNE.—Our met. forecast was for the best day so far, with a 15-knot westerly and good thermals of 4-6 knots. A cross-wind out-and-return to Cosham, 210 km., was set. After waiting for the day to develop, which it didn't, we changed the task to a goal race to Dunstable, 122 km., with the option for those wishing to get 300 km., to overfly. Tony Watson managed 108 km/h. but was pushed by handicap into second place by the Sky man, Barry Goldsborough, at 92 km/h. Eleven pilots reached Dunstable but no one bothered to overfly.

This was the last day that we could fly as after this the weather finally packed up.

On the social side the competition went off very well, and on Saturday, 22nd, a barbecue was arranged, one of our farmer friends having paid his subs with a pig.

The competition was closed with Roger Barrett presenting Peter Scott with the Egbert Cadbury Trophy, and cash prizes to the first three places, and myself presenting a bottle to the highest placed team, C. Pennycuick and R. Waller.

To my surprise the competitors had collected a present for the canteen staff and one for myself. Thanks to all. I am now busy preparing for next year's event. The date will be 14th-22nd June, 1969, and entry forms will be available from Nympsfield from 1st December, 1968.

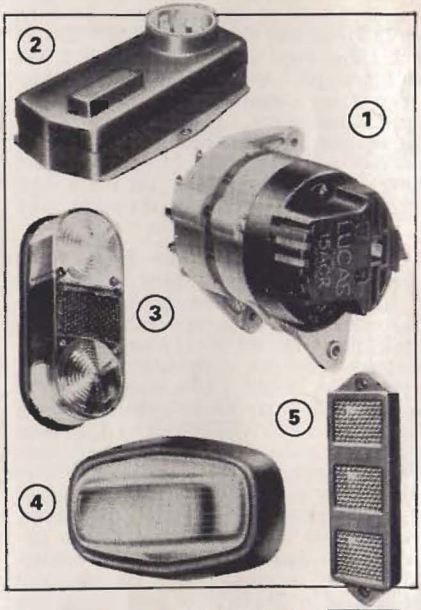


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SO I WENT GLIDING

By RITA M. KNOWLES

I ONLY wanted a quiet break. A week off from the kids and the house and the dressmaking and you know how it is. So I went gliding. I must have been mad! Not, mind you, that I didn't enjoy it, but cast from your minds that grand idea of peaceful, silent drifting, far from the madding crowd. Sorry, girls! It just isn't like that!

Well, as things turned out, I didn't learn much about flying, but I'm positively a dab hand with a tractor and can make quite a nice Arran pattern when knitting cables, particularly winch-attached ones!

But let's start the day. That longed-for day of dreamy drifting. First, push out the glider—half a mile across the airfield because the wind's in the wrong direction. Lug out the signalling bats and the field telephones and the logs and appoint a midfield bat, doomed to sit all day, freezing and forgotten, poor soul, till he finally drops from frost-bite or someone remembers. Hold it! Move everything. The wind's changed.

But never mind! Hope lives yet. As the only woman on the course you've been put first on the list, so the utter heavenly bliss will be yours after all.

The instructor explains everything and you take in nothing, except that the winch is rapidly taking up the slack on that incredibly thin bit of wire that's going to hoist you into the blue. EEeeek! You're off. Whistling upwards, upwards, the wind screaming at you, tearing at you, and what price peace and beauty now?

What on earth can you hang on to? Not a nook or a cranny anywhere, so grab the stick. Haul it back, back. Hang on, hang on, hang on. Suddenly you realise he's yelling at you. "Let me have her," and the 9 st. 7 lb. ballast you reluctantly admit to is putting up a pretty good fight against his 220 lb. He wins, wrenching it from your grasp, despite the wobbling wings. The cable back-releases. He wipes the sweat off his forehead and laughs. To give you confidence? Or nervous reaction? Amazingly the flying hulk has steadied and your knuckles are slowly losing their whiteness and you dare to take a peek over the side. Oh, God! Better not do that again!

A sudden pitch. In a flash you grab the side once more and stare horrified. "Heaven help me, he's totally mad." One wing down, the ground reeling and the one person you were relying on to get you out of all this has suddenly gone berserk. "Yok, yok, yok." A deep belly laugh rolls up from his toes. Bang! bang! bang! goes his fist on the altimeter and "yok, yok, yok" again followed by turn, turn and upwards ever upwards.

"Great fun, this," he says, in between yoks and bangs.

"Er—yes," you whimper with your eyes shut tight as you thermal up to 4,000 ft.

Then, somehow, you've landed and there seems to be a gap somewhere in your comprehension and the ground you were so longing for has suddenly in its turn gone mad, rocking, heaving, in company with your tummy and the breakfast bacon.

"Take that wing," he bawls above the

SALE PLAN OF GLIDING ITEMS

A sale has been planned and the items below are available at very reduced prices for a limited period. (Closing date 31st October, 1968.)

POSTCARDS Black and White

	Price including postage Standard dz.	Sale dz.
Capstan T-21B, T-31, Eagle 3, Olympia 2, Swallow, Skylark 3F and 4.	8/-	4/-
Coloured — Swallow	11/-	5/6
MINIMUM ORDERS OF 1 DOZEN		
	each	each
BGA Car/Bicycle Badges.	14/-	9/-
'Standard Repairs to Gliders' (loose leaf without cover), by R. Stafford Allen	38/6	20/-

These and many other items at standard prices are available from:

British Gliding Association,
Artillery Mansions, 75 Victoria Street, London, S.W.1.

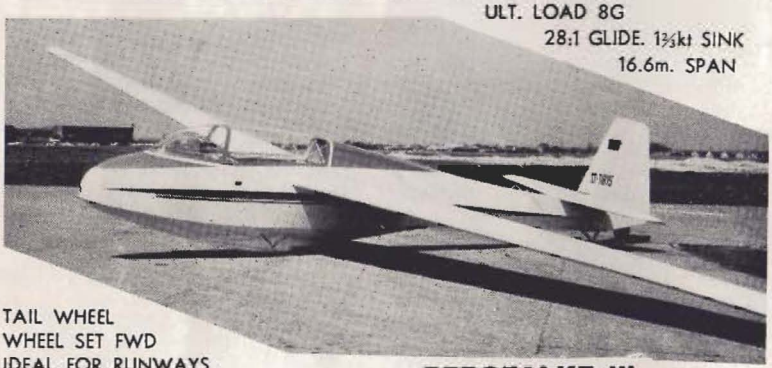
tractor, and you allow it to carry you back to the starting line, praying that no one can tell how green you are!

The days pass. You're assumed to have learned something. You're assumed too to have known at least a little something before you started. Too bad you didn't. There he goes, yelling again. "Stick and rudder together. Together! Rudder—R-u-d-d-e-r—RUDDER!" All right. I heard you. Don't shout. Now then, more rudder? Less rudder? No rudder? Which *is* the rudder? Try everything, one by one. The stick is wrenched away again and you leer into the faces of the peasants scattering on the hill and drag out the gorse that is back-combing your hair. "Let him fly it then if he wants to," you mutter to yourself between clenched teeth. For two pins you'd jump out and slam the door and say, "Drive it home, then", but it's not quite the same as the car!

But you progress, slightly. By the weekend you can actually not only go up without holding on to anything, but can do it all by yourself. What a pity landing's harder. Much harder! You're lined up nicely on the approach. "The secret is to look well ahead," he says. Once again the ground begins its frenzied racing. You stare steadfastly at the horizon with lollipop eyes. "Let her float," he bellows. "I haven't got her," you reply, doe-eyed, innocent, shattered, and he hasn't even time to look astonished as you belly-flop to a crunching halt from 5 ft. up. And really, even if he does think you're NBG, does he have to show it so clearly by his expression? You're only a beginner after all, and next try will surely be better. It was, too, but isn't it strange how a little thing like a hare lolloping across a ploughed field can rivet your attention? Even though he's desperately and hysterically shrieking "nose up, nose up", it simply doesn't penetrate—until you see the hill making a pass at you again. But by then you're getting quite blasé about those vertical pivots on one wingtip, and the actual landing was quite smooth.

"Well, er, you didn't land quite where I intended and your approach was somewhat unorthodox, but not bad, not bad at all." Souls of tact, these instructors!

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INTERNATIONAL MOUNTAIN COMPETITION

Vinon, 22nd - 30th June

By HUMPHRY DIMOCK

THE third of these French mountain competitions started with gorgeous blue skies which seemed wonderful to us, but produced long faces for the organisers because it meant that an anti-cyclone with a low inversion was sitting on us, and the thermals would start late and finish early; in any case they would be pathetically weak. It was the same last year when I flew a Dart; this time I took my new Diamant 18.

Accommodation was in tents, except that my "bedroom" was in the trailer on a comfortable foam mattress. Normal dress was teeny weeny bikinis for the girls and bathing trunks for the boys. The water supply was from a pump near by, very cold, and here everybody cleaned their teeth and washed. It was a common sight to see a girl being washed all over by a group of boys, or a boy being washed and pumped on by a group of girls. Good clean fun!

By the end of the comps., I felt that I was getting used to lying down in the bullet-shaped cockpit, quite comfortable, but unable to move around. I still look back with pleasure to the days when flying the Eagle and Skylark 3, I could reach behind for the picnic basket and pour out a cup of coffee while looking around the countryside in an upright position. However, we must have the best, and amenities must suffer for the sake of efficiency.

The Diamant 18 was really going well when thermals and anabatic lift were available and I judge that it can do what the makers claim for it.

Gliding in the anabatic wind up the steep face of a mountain facing the sun is as near as possible to ski-ing in reverse. Great gushes of hot air rush up the escarpment, and one had to fly close to one's own shadow to get the full benefit. With a low inversion the lift ceased at about 30 ft. above the ridge With a high inversion the anabatically generated thermal carries on up.

Although at first it seems dangerous to be flying between mountain ridges with only slopes and a gorge at the bottom, one gets to realise that the slope of the valley below is always steeper than the glide angle of the Diamant, and even if caught out, the gorge (provided that it is wider than the wing span) will open out occasionally into an alluvial plain where one should find a field of some sort to land in.

The whole business of mountain flying is so terribly thrilling; beauty beyond description opens up as one climbs up each ridge and peeps over the top. One has the feeling of treading where man could never have trodden before when flying only a few feet above a sharp ridge.

There were two innovations; the first was that barograph sealing was done away with completely. The barograph chart itself is inspected and signed by an official who inspected it at the end of the day for the competitions, or for record claims. All the barographs were put in an aeroplane and taken up for calibration purposes before the competition started. There were 22 competitors.

The second innovation was the launching. It was always a designated start, organised as per BGA, but the tug towed the gliders to the start line at 1,000 m. and that was that, you had started. On the way up the tugs made turns in thermals which could be looked for on release. I liked this method very much.

Saturday, 22nd June.—The task was a 138-km. triangle and first take-off was delayed to 13.15 hrs. My time was 2:01:00 and this gave me 2nd place. The next day it rained, and no contest was set, so we went to Cannes to visit friends.

Monday, 24th June.—The Mistral appeared as promised with wonderful wave clouds everywhere. The surface wind was 30 knots and aloft it was 60 knots. At Lasham all gliders would have been in the hangar or trailers, and the trailers lashed down. A 132-km. task was set and

cancelled, but a second task, a 76-km. out-and-return along a 3,000-ft. mountain range was given. I figured it out that I should be able to get to the windward side of the mountain and climb at 60-70 knots without circling. However, I found that I only just made it, and it took me 1:43:00 to reach the turning point and 19 min. to get back. Poor me had never experienced wave before, and there were no lenticulars to mark the wave. The winner took only 45 mins. and the two runners-up 47 mins. They were locals and knew what to expect. I was 11th, but now 6th overall.

Tuesday, 26th June.—Task, a 98-km. triangle; my start time was 13:35:00 and the journey took 1:24:00. I was told on landing that I was second. As the forecast was for weak thermals to 4,500 ft. and the thermals had gone strongly to 5,500 ft., I was cockily confident that I could better my time and made a second attempt. However, I was forced to land at Oraison and was extremely well looked after by the Gendarmes; they became so interested in the glider that they sat in the cockpit, and then helped to derig. They also guided my crew to the landing spot and gave us an escort through the village and round some hairpin bends on the way back. On return to the aerodrome I was told that I had been first for the day after all, and was greeted with a great ovation from pilots and crews in the canteen.

Wednesday, 26th June.—206-km. out-and-return. The forecast was for very poor thermals up to the 3,000-ft. inversion, so I chose a "safe" route via two aerodromes in a valley, but had to land at the second one. The only pilot to complete was a 19-year-old in a Ka-6, who had never been in a competition before.

Thursday, 27th June.—This was a dreadful day for me. Glider gremlins set to work and the rigging bolt stuck. Experts from France, Italy, Germany, Switzerland and Belgium, each knowing best what to do, elbowed me out of the way and argued with each other in many languages. Finally, the rigging tool was broken by a German, leaving the screwed end in the bolt. They threw up their hands and left me, so I used common sense and a 4-lb. hammer and removed the bolt.

By this time I had visited several workshops and managed to get a new rigging tool made, and the broken-off screw out of the bolt; it was 17.00 hrs. before I set off on the 148-km. triangle. There were no thermals left, and a cornfield was the only place to land. I judged my landing, reducing airbrakes until near to the stall and 12 inches above the crop with no brakes at all and then plunged into it. The Diamant stopped as if caught by an arrester hook and was hidden from view except for the T-tail. The wings remained level, but instead of being airborne they were cornborne. The farmer arrived soon after, and telephoned to base before fetching me wine and cakes!

Another competitor landed, as he thought, carefully in another cornfield but with full brake, so at a higher speed. One wing caught the corn first, and accelerated the other wing which rose above the corn as the fuselage broke away in three places. A cautionary tale.

Friday, 28th June.—A 108-km. triangle



Appropriate . . .! (Photo H. Dimock)

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with the usual low inversion and poor forecast. This time the first turning point was at the base of a 5,500-ft. mountain facing the sun with a slope of 70° generally. The anabatic wind lifted me above the inversion but no higher than the mountain itself, and gave me a straight run to the second turning point, which was St. Auban, where I landed on Wednesday, scraping all the little hills on the side of the valley. The sun was burning hot, but thermals were almost non-existent.

Twelve miles from base I found myself above a two-mile shallow valley with the town of Monosque at the end, where it fell away 500 ft. to the main valley of the Durance river. A sudden downdraught put me below the ridge with no escape except over the town of Monosque and no fields to land in except beyond the main valley. I cleared the roofs of the town at its lowest by only 100 ft., well below the houses and gardens on the escarpment above. Boy, was I scared! With heart pounding, I had selected a cropped field by the Durance, but at 300 ft. a real thermal came to life, slowly at first, but I took it to 2,000 ft. to make sure of the last 9 miles. I was third this time, only 1½ min. behind the winner. On landing I was bathed in sweat from heat and fright!

Saturday, 29th June.—The met. forecast a temperature of 38°C (100°F) required to get thermals through the low inversion; as this did not develop, no task was set, so we all went swimming in the waterfall where the river Verdon poured water from melted snow over rocks beneath the bridge.

In two years I have not experienced what they call a good day, but I had some wonderful gliding and hope to go back next year for some more.

Final Leading Results

Abeille (France)	Edelweiss	4507
Barrois (France)	Foka	4458
Doutreloux (Belg.)	Ka-6	3935
Waldenberger (W. Ger.)	Libelle	3841
Priegler (Austria)	Ka-6	3729
Dimock (Gt. Btn.)	Diamant 18	3514
Gianty (France)	Ka-6	3256

WILLS GLIDER PILOT COMPETITION 1968

THE fates must have wanted the 1968 competition to be a success, because the day planned for the flying tests, 2nd August, was the only flyable one for nearly a week! Under the critical assessment of Sqn./Ldr. Douglas Bridson, RAF, and Ed Meddings, the new National Coach, the 10 finalists each flew the Capstan and the Bocian on aerotow on a cold, grey English summer day. The examiners checked on correct spin recovery, accurate flying, good look-out, emergency procedures, last-minute change of landing area, and general competence as a pilot.

On Saturday another lot of examiners, including Ray Stafford Allen, the BGA Chief Technical Officer, tested the finalists on navigation, meteorology, air law, parachute care, fault finding on glider Daily Inspection, and trailer driving—backwards. Lastly, on the Sunday morning, all finalists were interviewed by a Panel consisting of Air Chief Marshal Sir Theodore McEvoy, Vice-President of the BGA, Frank Irving, Chairman of the Technical Committee, and Roger Barrett, Chairman of the Flying Committee.

The prizegiving lunch, presided over by Peter Scott and Peter Stride of W. D. & H. O. Wills, was very enjoyable to everyone except the 10 finalists, who had nothing to do now except wait until 3 o'clock for the results. Outside, the two Ka-6E's the two Ultra Radios, and the two Winter barographs waited to be claimed by the clubs which had trained the 1st, 2nd and 3rd best pilots.

Congratulations to the Cotswold Club on producing the only girl to reach—and win—the finals, to the Ulster and Shorts Club for gaining the highest individual marks, and to the Airways Club for having their 16-year-old among the 10 best of the 155 entrants in this year's competition.

Sincere thanks are due to Wills for their generosity in running this competition, which does so much to stimulate such high standards of club flying training.

* * *

IT'S ONLY A BEGINNING

By GILLIAN HOWE — Winner of the Southern Region

AND there we were. Ten finalists in the briefing room at Lasham at 09.00 hrs. on Friday, 2nd August, 1968. Ahead was a nerve-racking weekend of flying, written tests, practical tests and interviews. And at the end of it all, new, blue and white Ka-6E's for two of us.

The weather was not good, so we started with the general written paper. We all survived, and by 11 o'clock the sun was almost shining, so we moved on to the flying tests. The Southern area flew the Capstan in the morning and the Bocian in the afternoon, and the other way round for the Northern area. (". . . but please, I've never flown a Bocian before . . ." applied to most of us.)

Several hours later, still reeling from hairy aerotows (it was turbulent over the trees!), full spins, slow flying, fast flying, unintentional spins, accidental approaches, etc., etc., we were putting the aircraft away with what strength we could muster. One day gone, and sixty-two per cent of the marks already accounted for.

Saturday didn't last long either, once it got under way. From splicing and trailer driving, into the deceptively innocent-looking blue and white marquee, which contained such formidable exhibits as maps, dividers, photographs and various meteorological posers.

TYPICAL: Here is a cut-out of a weather map from a well-known daily newspaper:

QUESTION: Will it still be raining in Little Soaring Under Edge at two-and-a-half minutes past ten, six Thursdays



Peter Stride of W. D. & H. O. Wills with the two winners.

from now?
You get the idea. (I didn't.)

Nobody was saying very much by the time Airworthiness came round. There was Ray Stafford Allen's Capstan with a number of rigged faults (ending up possibly with a few introduced by over-zealous contestants?); instruments to connect (Ugh! I still shudder at the thought of all those bits of rubber tubing that had to go somewhere); parachutes to check; barographs to smoke and gains of height to be read off.

And throughout all this, CFI's and supporters drinking countless cups of coffee and trying to look nonchalant.

The briefing room was quiet on Sunday morning; only the occasional forced and hollow laugh was to be heard as we waited to be led, one by one, into the interview.

By this time, the two Ka-6E's had been rigged and were pegged out on the grass for all to see. New, elegant—so near and yet so far.

Lunch was a magnificent affair, but 135 minutes passed agonisingly slowly for ten candidates who sat in a haze of cigar smoke with glazed eyes fixed on the Judges, waiting for some sign . . .

And then we were outside and there was Ann Welch calling out the names . . . My name. And then there were photographs and handshaking and people who had only been names in books till now coming up to say "Well done", and flowers and champagne and de-rigging and the new Ka-6E and seeing it off to Aston Down.

After the hard work of the last few months, and the excitement and tension of the week-end, the aftermath is something of an anti-climax. Suddenly, there's no need to dash home from work to get in a couple of hours on Vector triangles, or swot up Theory of Flight and Air Law. No more waking up in the middle of the night realising you've forgotten to practise trailer driving last week-end and what are the signs of an approaching warm front?

Much of the value of the competition lies in the fact that so many people, instructors, contestants, club members, have been brought to a greater knowledge, through the training programmes, of the environment in which we fly. We all know a little bit more of the "hows" and "whys" and, above all, we have a greater awareness of safety in flying and on the ground.

The competition was only a beginning,

and there's still an awful lot to learn. For the two of us who were lucky enough to win, the new gliders tucked safely away in our clubs are a symbol of all that we must live up to, and of the work and effort that still lies ahead if we are ever to become really good pilots.

But no account of the Competition would be complete without a sincere acknowledgement to W. D. & H. O. Wills. Their enthusiasm and generosity in offering such valuable and coveted prizes ensured that a really high standard was set and maintained throughout. For helping so many of us at the beginning of our gliding—many thanks.

* * *

WILL THEY LET ME FLY IT . . .

By L. J. McKELVIE — Winner of the Northern Region

THE agony, waiting for the results, and the wonderful twinge of pain on being kicked to make sure I wasn't dreaming. Thus the culmination of the W. D. & H. O. Wills Glider Pilot Competition of 1968.

On a similar basis to that of 1967, the competition proceeded in stages from March until the beginning of August, when the finals took place at Lasham.

The flying tests were scheduled for Friday, and so as not to be outdone by last year, the weather did its best to prevent them taking place. Therefore, after much synchronising of watches, it was decided to polish off the 50-minute general written paper, not without some thought-searching head-scratching, when it came to the safety questions.

The weather slightly improved (for want of a better word), at least sufficiently as to permit the aerial "gyrations" which followed. How courageous the examiners must have been!

The practical tests followed the next day, and as we had completed the written paper on Friday, we all had a free period to commiserate — or perhaps "start swotting"?

We were asked to DI a Capstan, which had a "few" (?) defects. "See how many things you can spot wrong," we were told: "pipe up this instrument panel", "make ready this barograph", "read off this gain of height", "inspect this parachute", and "you have one minute left to fit it on properly". It must have been cold in the hangar, I was shaking so much; but wait a minute, I couldn't have been cold, I was sweating at the same time.

Then there was a Land Rover and trailer to be prepared for a night re-



Immediately after the presentation. (Photo "Flight")

FINAL RESULTS

Northern Region		A 550	B 70	C 70	D 70	E 70	F 70	G 90	*Total* 990
1. L. McKelvie	Ulster & Shorts	393	57	53	56	63	54	71	747
2. A. Blackburn	Derby & Lancs	380	63	43	66	68	51	69	740
3. M. Johnson	Staffordshire	375	55½	56	63	45	35½	63	693
4. R. Bowhill	Ouse	425	53	46	52	14	28	58	677
5. W. Barcroft	Blackpool & Fylde	256	54	46	46	45	34½	55	536½
Southern Region									
1. Gillian Howe	Cotswold	368	55	54½	60	63	40	69	709½
2. B. Collings	Essex	345	59	50	61	60	48½	65	688½
3. G. Jansen	Kent	390	48½	38	59	46	40½	58	680
4. P. Wybrow	Cornish	368	55	45	61	47	42½	57	675½
5. J. Millward	Airways	333	49½	24	49	36	35½	45	572

Column A=Flying; B=Written; C=Airworthiness; D=Trailers; E=Navigation; F=Meteorology; G=Interview.

trieve. "I want to hear you think aloud . . ." said the examiner, but on a quick glance in and around the trailer, I knew I dare not do that, ". . . on the points you are looking for", continued the examiner. Then the trailer had to be reversed round an island, and as a prize for doing this at no less than the third attempt I was given a piece of rope to splice at both ends.

We were quickly to find three pinpoints on three maps, and then enjoy ourselves with some Vector triangles: draw weather maps, make forecasts, advise a pundit on whether to attempt a 100-km. triangle, and with the weather as it was a suggestion of a paddle in his luggage locker wouldn't have gone amiss.

The practical tests were at an end, along with our desire to continue.

The interview followed on Sunday morning and with it the end of the competition. It now only remained to attempt the delicious luncheon, and await the outcome.

The fact that such high-performance aircraft were the prizes added fuel to our fire of nerves, and the generosity of W. D. & H. O. Wills must not go unnoticed but be gratefully acknowledged. I must here mention the splendid coaching by our CFI Grenville Hill, without which, naturally, none of this would have been possible, and also the tremendous moral support both he and Joe Taggart, our club technical officer, provided during the finals.

As an afterthought, now that we have such a marvellous glider in the club, I wonder will they let me fly it . . .?



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IF AT FIRST YOU DON'T SUCCEED . . .

By BERT ZEGELS

Bert, at 20 years, was the youngest competitor at the recent World Championships in Poland. Here he gives an account of his five years in gliding.

AS a small boy, my parents often took me to the airfield at Deurne (Antwerp), and for hours on end I would just sit and watch what was going on. It was then that I knew that I must fly myself!

When I had reached 15, my father wrote to the National Centre at St. Hubert to book me on a course. Three months later he was told the courses were fully booked and I experienced my first big disappointment. However, father would not give up so easily. He booked me on a course at the National School at Terlet (Holland), but as I was a foreigner, the course cost double the price.

However, before going to Holland, we visited the club at Keiheuvel, where we were welcomed, and before we knew what was happening both father and I were airborne for the first time ever, in a Ka-7.

On hearing that they also trained pilots, father booked a course for me at once, and on 22nd July, 1963, I started the course in a Rhönlerche with my instructor Mon van Gestel (an international footballer and a jet pilot).

Nine days and only 18 launches later, I had to fly the Rhönlerche solo. It was the best day in my life. The club rules stated that 40 hours solo had to be done before one was upgraded to fly the Polish Mucha; this, of course, meant that the three Rhönlerches were always busy, so I decided to get all my flying done on the old Goevier which nobody wanted to fly any more.

At the beginning of 1964 I only had 10 hours solo, but by the end of the year this had been increased to about 40 hours; but I still had not got my five hours like so many of my fellow members who seemed to be able to stay aloft in anything.

My flying became worse and worse, and consisted mainly of circuits of 10-15 minutes. Completely disheartened, I asked the instructor to take me back on the two-seater to sort my flying out. Anyway, this did not happen, but one day a girl arrived at the club (she also flew at Lasham later) who was the "cat's whiskers" in Belgium at that time, as she had gone solo at 14. She had come to do her Silver distance and the instructor gave her a glider and permission and away she went. Well, I thought, if *she* can do this, what about me? So I went over to ask permission too, but the instructor was not quite as keen; however, in the end he said I could take the Rhönlerche. "But," he said before I took off, "mind you don't fly it to pieces." Well, that was the start for me. I had no maps of the course I had to fly, but a tug pilot told me about the landmarks I should see and how I should recognise Antwerp. Of course, I got hopelessly lost almost immediately, and 2½ hours later I was in a field 55 km. away.

On the following day, the weather was excellent and I flew my 5 hours and height and I was the happy owner of a Silver C. A few days later I was at last converted to the Mucha, and from then on I began to get the hang of it. I taught myself cloud flying, making sure no one knew about it, as I would have been penalised if they had.

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REPAIRS, A/R/B, WELDING,
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In 1965, the club had its first Ka-8. By then I had logged about 150 hours, and I was allowed to take it on cross-countries. The club had also organised a three-day competition for young pilots, and my instructor gave me this brand new Ka-8 to fly in this competition.

The first two days we had nothing but rain, but the last one was flyable. On the 150 km. triangle set, I climbed to 2,800 m. and managed to round the TP and landed on the second leg, twice as far as the 2nd place for the day— what luck!

Later on, a friend of mine, who was older and a much better pilot, took the Ka-8 and I was allowed to fly the Ka-7, the same one I had had my very first flight in. The Ka-7 gave me my Gold height and also the Belgian two-seater height record. After that, I flew a distance of 296 km. and made 28 more field landings; once I slept in the Ka-7 for three nights after I had landed in a field in Germany.

I had now done a total of 6,000 km. cross-country flying and had taken part in many competitions, but never once did I complete a task or was even in the top places.

In 1967 the club bought a Ka-6CR and my friend started to fly this, leaving the Ka-8 free for me. I was now 19 years old and that year I flew the Ka-8 to 4th place in the Nationals between the Ka-6E and Foka, etc. This was achieved mainly because I had taught myself cloud flying, which was the only way to keep up with the better gliders, as we don't have a handicapping system.

Because of my 4th place, I was allowed to go to d'Angers with 10 other Belgian pilots. This contest was used to select the pilots for Poland in 1968. I was given a Ka-6 to fly—the first time I had flown one. The results were good for me and I managed a 10th place (4th in the Belgian team). Rudi Seiler won this contest and George Burton was second.

In between performance flying, I had now also done my tests as an instructor, but the first time I had failed in theory. So whenever the weather wasn't good I would study theory and practice, while during good weather I was off on triangles, etc. I also did a little power-flying, but this didn't amount to much.

During the winter '67-'68, I was

SUCCESS!

Final results of the 1968 National Sport Class Championships show EIGHT Ka 6E's and ONE Ka 6CR in the first TEN places, with a K 8B in THIRD place! Of the 40 gliders entered in the contest, more than half were from the Schleicher stable – proof enough of the popularity and competitive prowess of Schleicher products. These include:

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selected as 4th pilot for Poland, so I concentrated on competitive flying both at home and abroad. One of the nicest contests was at Hahnweide (Germany) just before leaving for Poland. I managed to secure a 3rd place with the Ka-6 ahead of George Moffat. This was a tremendous boost for me, especially as I had not flown in hilly country before.

Because of my 3rd place, Alfred Röhm (the world 300-km. triangle record holder) offered me an SHK, provided he could be in the Belgian Team for the 1970 World Championships in the USA. Well, this was fine, and of course the SHK was a different kettle of fish from the Ka-6 for the Open Class in Poland. So, never having flown an SHK, there we were in Poland, and as most of the practice week was rained off, I had to start without any previous experience on this glider. For me it was a big change, as at the beginning of the year I was still on Ka-8's, then Ka-6CR, Ka-6E, A-15 and then the SHK.

In fact, I had expected Poland to be much tougher, but I still learned a lot. Of course, one learns something from every competition, however small it may be—or for that matter, from every flight, provided that one is willing to learn.

I sometimes feel that the more I fly the less I seem to know about it. As everyone knows, in order to take part in large competitions one really has to prepare well and do a lot of training. One should be able to use the various aids available such as new instruments, etc., but above all one should know as much as possible about meteorology and be able to interpret it while flying. Cloud flying, wave and mountain flying, navigation, etc., are all equally important, but successful use of this knowledge is still based on making the right decision at the right time. This is now, and probably always will be, the deciding factor in the end.

For me personally the highlight of this year was when, on returning from Poland, I was given Henry Stouff's Standard Libelle to train on. I then took part in the competition at d'Angers, where, with the help of this fantastic machine, I was placed first, beating Aart Dekkers of Holland in a Diamant 18.

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Oct. 2 Bill Bedford, of Hawker Siddeley. Talk and film on Harrier vertical take-off fighter.

Oct. 30 **AGM** followed by slides and tape on the investigation of the Loch Ness monster by David Janes, M.P.

Nov. 6 1st Night Art Soc. Exhibition from 6th-19th November.

Dec. 4 Ken Owen will talk on Aviation and Computers.

OPEN CLASS NATIONALS

JOHN DELAFIELD, RAF, flying an SHK, won the Open Class National Championships held at Husband's Bosworth from 24th Aug. to 2nd Sept. Peter Scott was 2nd, followed by A. Gough, C. Greaves, H. Dimock, C. Withall, R. Jones, D. Innes, M. Smith, B. Fitchett. Daily winners: R. Jones, H. Dimock, J. Delafield, B. Fitchett, P. Scott, C. Donald.

Handicapped markings, to be used in compiling the Rating List, gave the final order as: Delafield, Greaves, Scott, Withall, Gough, Dimock, Smith, Zealley, and Daily Winners included Chris Wills, Mike Garrod and Carr Withall.

Full report in our next issue.

THE GLIDERS AT LESZNO

By FRANK IRVING

FROM most points of view, except perhaps those of the winners, the 1968 World Gliding Championships had a curiously unsatisfactory air about them. It was compounded of the 5-day monsoon starting half-way through the practice period, the lack of social occasions, the much-criticised marking system and the task-setting. The latter, as the Good Food Guide once remarked about the service in a certain Chinese restaurant in London, was inscrutable. Moreover, it seldom gave the better machines and their pilots the opportunity to really extend themselves: so, although the glass-fibre gliders undoubtedly triumphed, there were few mighty feats to report.

As Ann Welch has already observed, these Championships represented the end of an era: this was true not only of the organisational arrangements and the overall philosophy, but also in terms of the types of gliders. The British Team felt this latter situation particularly keenly, for reasons which will emerge. So, in writing about the gliders, it seems more profitable to dwell upon generalities rather than to pay too much attention to specific types.

Like jet airliners, glass-fibre gliders are becoming fairly standardised in layout and appearance, for perfectly good aerodynamic reasons. They are mostly quite slender in all directions, except for the surprisingly thick wing of the Cirrus, and are mainly distinguished to a casual observer by the various tail arrangements. Several designers have failed to realise that people are getting bigger, particularly in affluent countries. The Diamant is notorious in being a tight fit across the hips even for fairly normal citizens, and the Libelle comes with two sizes of canopies, to accommodate stunted Europeans and giant Americans respectively. Several types suffer from flutter; Malcolm Jinks, of Australia, had two outbursts of flap flutter in a Diamant 16.5, and rudder mass balances have suddenly become fashionable on Cirri, presumably to discourage the rear-fuselage-twisting/rudder-flapping phenomenon suffered by Anne Burns during the German Nationals. Both of these modes seem to have occurred at less than the never-exceed speed, suggesting that the low Young's Modulus of glass-fibre tends to produce rather floppy structures with more interesting modes than those foreseen by the writer of Airworthiness Requirements.

This feature of modern gliders was hammered home with some vigour by Professor Fiszdon in his opening address to OSTIV, and possibly explains why most of the glass-fibre machines have not yet achieved full certification. This situation is rather unsatisfactory; machines such as the BS-1, Diamant and Cirrus are being sold with only Permits to Fly when they are known to suffer from quite alarming snags such as flutter. This is not just sour grapes from a country which has yet to produce a machine of comparable performance; there seems to be an important principle at stake. Meanwhile, there seems to be



Malcolm Jinks (Australia) in the Diamant 16.5. (Photo A. E. Slater)



Rolf Spänig's BS-1. (Photo "Flight")

slight consolation in observing that the flutter is usually of the "soft" variety and, whilst alarming, seldom seems to lead to disaster.

There is no doubt that the overall concept and the standard of finish and fits of most of the glass-fibre gliders are superb. Most of the Open Class varieties achieve glide ratios of about 44:1, and flying a BS-1, for example, is an exhilarating experience. But, apart from the flutter problems, they are not without their snags Some of the detail design, particularly in the Libelle, is excellent; equally, some of it is very second rate. The BS-1, for example, is littered with cables running in nylon tubes bonded on to the structure. These cables are mostly uninspectable, cannot be removed without cutting and give an unpleasant scratchy action to the minor controls.

At the present state of the art, owners of glass-fibre gliders are likely to find that their friends have deserted them at rigging time. As a consequence of the difficulty of dealing with concentrated loads in a glass-fibre structure, a fairly standard centre-section joint has been evolved in which the spar of each wing runs right across the fuselage and plugs into the root rib of the opposite wing. The spar on one side is bifurcated, and the whole affair is held together with one relatively light pin, whose function is simply to stop the wings disengaging sideways. In the course of plugging one wing into the other, fuselage fittings are also engaged. In principle it looks delightfully simple, but in practice the unfortunate chaps carrying the wing root may find themselves trying to enter five pins simultaneously, and with considerable accuracy, whilst supporting a great weight close to delicate edges of fillets. This is roughly what happens as one applies the starboard wing of the Cirrus, with the issue even further confused by the tendency of some self-aligning ball sockets to become self-mis-aligning. The Italian Team, next door to us in the trailer park, brought to bear a deal of Latin verve and grace to this operation. Now, the general concept is largely dictated by the nature of glass-fibre, but much of the detail is not. Rigging would become much easier if pins of assorted lengths were provided, and more attention paid to the design of self-aligning devices.

Several of the glass-fibre machines are also tending to foster the myth that one of the prices of high performance is poor handling. There is an almost universal reluctance to use elevator trim tabs, whether the tail be all-moving or conventional. One can argue that the inevitable slot along the leading edge of a tab adds drag, but, in view of the incredibly small gaps achieved elsewhere (e.g. around air brakes), this seems a rather feeble excuse for their omission.

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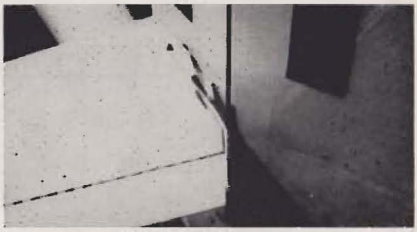
With an all-moving tail, and in the absence of mechanical moments applied to the elevator system, the tab is always neutral when the machine is in trim, so there is no extra drag due to tab deflection. Be all this as it may, most of these machines have spring trimmers, with the notable exception of the Libelle, which has a variable incidence tail for trimming and a conventional elevator.



The tail of the Standard Libelle.

Now a spring trimmer with an all-moving tail as on the BS-1 can produce less-than-ideal stick-force/speed characteristics. Suppose the machine is trimmed at some moderate speed—say 60 knots—and we observe the stick force which is then required to fly the machine at various other steady speeds. In theory, the stick-force/speed gradient should vary inversely with V^3, so if the gradient is reasonable at our assumed 60 knots, it is likely to be quite large at low speeds and very small at high speeds. This, of course, assumes that the tail is pivoted at its aerodynamic centre so that there is no "aerodynamic" stick force. Moreover, without a geared tab, there are considerable disadvantages in trying to pivot the tail anywhere else. Now this situation can lead to a very twitchy elevator at high speeds, not so much on account of the low stick-force/speed gradient, but largely because there is no aerodynamic stick-force per "g". On the Ka-6E, incidentally, this situation is disguised by the inability to trim at high speeds.

Exceedingly light stick forces can be satisfactory, as on the Standard Elfe, but if the natural frequencies associated with the elevator system and the airframe (largely the former) happen to be rather too high for the human servo-mechanism to follow, the results can be highly unpleasant. The HP-14 originally intended for Nick Goodhart came well into this category, and was a splendid breeding-ground for Pilot-Induced Oscillations (PIO's) at speeds around 90 knots. It was swiftly sent back to the works to have a tab fitted. In my opinion, the BS-1



Tab on HP-14c.

could well give rise to similiar problems; even mild turbulence at 110 knots makes it something of a handful. On the other hand, the Cirrus, with a conventional tail and a spring trimmer, does give some measure of aerodynamic stick force. It still needs thinking about, but it is much less tricky than the BS-1.

This sort of thing seems rather unnecessary; if the elevator requires so much attention and if, for all practical purposes, one cannot let go of the stick when cruising, the practical performance may well suffer. And, of course, the situation can get downright dangerous. It would be interesting to know how many pilots have reported flutter when they meant PIO's.

Flaps are now almost *de rigeur* for the Open Class, ranging from the simple plain variety for camber adjustment, as on the HP-14, the BS-1 and the Diamant, to the elaborate full-span Fowler flaps of the Zefir 4. The outer sections of the Zefir's flaps doubled as ailerons and,



Flaps on Zefir 4. (Photos F. G. Irving)

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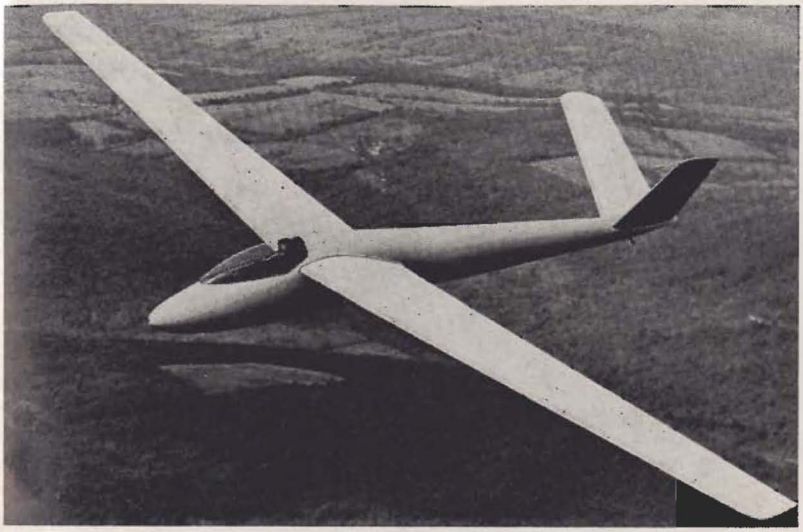
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when extended, also moved part of the upper surface of the wing so that the gap did not vary too much. In this sort of respect—and various others—the Zefir represented the end of the line for

now, I hope, taken with the appropriate grain of salt. The latest brochure figure which is quoted rather gaily is the Rough Air Speed. Quite suddenly this figure has become equal to the Never-



Zefir 4's. (Photo "Flight")

the wooden glider. It looked as if a certain amount of styling, on the lines of the U-2, had been incorporated; at any rate, it would be difficult to defend the sharpness of the nose on aerodynamic grounds. Perhaps carried away by an enthusiasm for flaps, and by analyses based on thermals with strong core velocities and steep velocity gradients, wing loadings are getting higher. Certainly the circling performance of many current "hot" ships does not match the feeble English thermal particularly well.

Reverting to flaps, there does seem to be a tendency to over-complicate their use. For the purpose of ameliorating the lift-drag polar of the wing section, there is a theoretical optimum flap setting for each lift coefficient (i.e. for each speed). In practice, about three flap settings would cover the useful speed range with no significant loss of performance and a great reduction in cockpit work-load. The Cirrus goes to the unfashionable extreme of not having flaps at all, allegedly to simplify its operation and to de-clutter the cockpit. It certainly achieves the latter; the cockpit is probably the best available in terms of neatness, layout and general finish.

Calculated "brochure" glide ratios are

Exceed Speed. This may be all fair and above board, but I suspect that in most cases the quoted Rough Air Speed is that at which the glider withstands the OSTIV moderate gust, whereas in former times it was the speed appropriate to something like the OSTIV severe gust, or the BCAR rough gust. This sort of juggling with figures, particularly on the cockpit placard, can be very misleading if it is not accompanied by a specific statement of which gust is involved.

Ailerons are also suffering from neglect, or are simply too small on some of the flapped machines. Those of the original HP-14 design were simply terrible, mostly due to grossly excessive stretch in the control circuits. Slingsby's had stiffened Nick Goodhart's machine, but they were still far from ideal. In the air they were bearable, but failed to prevent a couple of ground-loops on take-off. The ground-looping tendency of the Slingsby HP-14c was accentuated by having the towing hook in the wheel-bay, so that the tow rope tension gives no righting movement. The HP-14c was not alone in indulging in ground-loops; one Zefir was very severely damaged and a Diamant and a Libelle performed similar antics. Good cross-wind take-off characteristics are essential for World

Championships, since the organisers often have a strange reluctance to take off into wind, and an aborted launch can result in a long delay and missed opportunities. Thinking of glass-fibre machines which I happen to have flown, the BS-1 has quite light but rather ineffective ailerons, whilst those of the Cirrus are moderately heavy and reasonably effective. The stick grip of the Cirrus is rather a long way forward, so the pilot can easily find himself trying to operate the ailerons by applying a sideways force with his arm almost at full stretch, thus getting an exaggerated impression of their heaviness.

However, despite all these shortcomings, the glass-fibre ships are very successful and are obviously here to stay. No doubt with further development we will see the balsa in the sandwich replaced by plastic foam, and controls and structural stiffnesses will improve. At present nearly all of them use glass-fibre/balsa/glass-fibre sandwich construction, with the rather startling exception of the ASW-12's rear fuselage, which is simply balsa with internal plywood frames and glass-fibre on the outside. The inside is protected by a layer of resin. One neat essay in glass-fibre was the Brazilian Urupema. It looked like an even more slender Foka, with quite a sophisticated structure which used foam filling in the sandwich. When it damaged its nose in an aerial encounter with a Swiss Elfe, a most astonishing chemistry set was produced in the workshop.

The Libelle, a mature design by now, has been generally acclaimed as perhaps the best all-rounder in the Championships. It comes in two forms—Open and Standard—and I must confess that I only had time to look closely at the former variety. It is beautifully made, small, light and very manageable. Also it has a full C. of A. The canopy is of the unfashionable bubble variety with



Canopy catch.

an ingenious catch which enables the pilot to lift the leading edge of the whole canopy about half an inch to provide a real blast of ventilation when required. The whole thing gives the im-



Brazilian Urupema. (Photos F. G. Irving)

pression of being an elegant entity. Other bouquets should be handed out to Dick Schreder for the neatest T-tail (with conventional elevator) in sight, and to the designer of the Standard Elfe for the elegant fuselage/centre-section joint. It had a three-piece wing; the centre section was lowered on to the top of the fuselage and secured by four bolts in tension.



. . . the neatest T-tail.
(Photo F. G. Irving)

The Foka 5 won the OSTIV prize. Compared with the Foka 4, the cockpit has been enlarged, the wheel moved further forward—but not far enough—the wing area increased slightly and the tail altered. This has now become a T-tail, still with marked sweep on the fin, and the horizontal tail attachment is surprisingly rigid. Apparently its handling is quite excellent, apart from the rather large friction in the elevator circuit due to the arrangement of pulleys and cables running up the fin.

Metal gliders are still something of a rarity. The Russians and Hungarians were flying A-15's, which now look distinctly paunchy. They look all nice and shiny in the photographs, but the riveting on the mostly unpainted structure is pretty rough and they scarcely belong to the low-drag era.

Apart from minor bits of steel tubery at the more *dé modé* end of the Standard Class, the other metal gliders were all Schreder derivatives: Dick Johnson's rather hybrid HP-13M, Dick Schreder's almost equally hybrid HP-14 and Nick Goodhart's much modified Slingsby HP-14C. The 13M was a mixture of HP-12 fuselage, HP-14 wings (original span) and various alterations and additions. Dick Schreder's machine was wearing Slingsby-built 18-metre wings with his own very fine finish.

Mention of Nick's HP-14C really gets us to the British Team. The original intention was to fly British-built aircraft, accepting that those in sight were unlikely to match the performances of, say, the BS-1 or the ASW-15. The only way to achieve a British 15-metre machine was to do a quick job of re-treading the Dart 15. So they emerged, rather belatedly, with Wortmann wings, long canopies and some minor tidying up. They were, in fact, sawn-down 17R's with a fixed wheel picking up on the attachments intended for the retracting undercarriage. In the event the promised performance gain at low speeds did not seem to have been entirely achieved, and they were just outclassed. The long canopies also looked surprisingly bulky compared with those of the opposition. Moral: bodging front fuselage lines doesn't work. They had the established merits of the Dart—good rigging and excellent manoeuvrability—but these are not enough to win. All rather a pity, since a surprisingly large amount of design time was involved in producing just these two machines.



The Foka 5, winner of the OSTIV *Prize.*

As revealed above, the first HP-14C, with an all-moving tail fixed about a third of the way up a conventional fin, was scarcely flyable. The next variety had a longer nose, to simplify various personal pilot-clearance problems, and was fitted with a geared elevator tab to provide some aerodynamic feel. This was not a trim tab, surprisingly, and the



◀ *Dart* 15w

▼ *The A*-15



trimming was done by a remarkable spring contrivance affixed to the stick. This version became flyable and soarable too, after much readjustment of the tab gear ratio and datum setting during the practice period. The performance of the HP-14c, particularly in relation to its price, is really quite impressive, but success in World Championships is unlikely when fundamental adjustments to the machine are being made throughout a fortuitous period of rain in the practice week. Against this background it was just as well that George Burton decided to take his SHK, to achieve the distinction of being the highest-placed competitor in an "old-fashioned" wooden glider. The moral for the team, as we knew already, was that everything must be ready and proven well in advance of the actual event; and the moral for Slingsby's is that the production aircraft must have better finishes and improved details. By the same token, compressed air for operating the flaps at high speeds is simply not acceptable. (The production aircraft will have manually-operated flaps as an approach control and a tail parachute as a speed-limiting brake.)

So much for my thoughts on some of the details and design philosophy. Some of the foregoing may well be thought excessively academic by the average gliding visitor who saw the launching grid before take-off. 100-odd of the most beautiful machines ever made can scarcely fail to stir the blood on a sparkling morning, even if one is so insensitive as to ignore the atmosphere which pervades the grid, compounded of anticipation, crushed grass and exhaust fumes.

And so we look forward to 1970, which, given reasonable foresight and luck, should get us into the Sigma era and the beginning of an even more expensive rat-race. Regrettably, no British Standard Class machine can be foreseen at the moment, although a lot can happen in two years.

COMPETITION COLLISIONS

By ANN WELCH

. . . Is the best competition pilot the one who can go fastest from A-B starting at the time of his own choice, or is he the one who can go fastest from the time of the organisers' choice? . . .

IT used to be possible to say, with a fair amount of truth, that collisions took place when there were only a couple of gliders in the sky. They happened then because the pilots were not looking where they were going; if there were many gliders in a gaggle, collisions did not happen because pilots were so frightened that they really did watch out. However, the last two World Championships, quite apart from other contests, show a changing situation with collisions between the gliders in gaggles.

Whether such collisions occur or not depends on a large number of parameters, some of which are listed below:

Pilots. Skill, imagination, fatigue, eyesight, ability to keep a good look-out, freedom of neck movement, manners and experience in gaggle flying.

Aircraft. View from cockpit, quality of canopy transparency, freedom from obstructions on canopy, seating position (a supine pilot has less freedom of neck muscles than one sitting upright), manoeuvrability, colour of the gliders and their ease of identification (if all gliders look the same the pilot finds it more difficult to keep a mental tally of those near him—"Bloggs just behind, red wingtip on right, where did blue fuselage go to?").

The environment. Horizontal extent of lift, vertical ditto, roughness of the air, height of sun, visual background, visibility, number of directions from which other gliders are approaching the thermal, rate of arrival of new gliders, and total number of gliders in the thermal.

While many of these factors are outside the control of the task-setter, some are determined by the way in which he undertakes his duties. The most important factor in his control is that of congestion.

Let us consider, first of all, a day of no wind. If each pilot has a free choice of launch and start time, he will choose his time to suit his assessment of the weather, hang around until he thinks the right moment has arrived, and go on his way. Since different pilots have different opinions, the take-off and start times are likely to be spread over a certain length of time. Any outside restraint on the take-off or starting period must reduce the length of time during which starts will be made, and automatically increase the congestion.

If there is a wind, the same considerations apply, but with a big additional factor; the separation of gliders will be much less when starting upwind than downwind. If this seems untrue, consider the following: If the wind speed is equal to the effective speed of the gliders, progress against the wind will be impossible,

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and all gliders launched during the day will remain milling around in thermals in the vicinity of the airfield, regardless of whether they were launched at 12.00 hrs. or 14.00 hrs. If the course had been downwind, the glider launched at 12.00 hrs. would be some 120 miles away when the 14.00 hrs. launch took place.

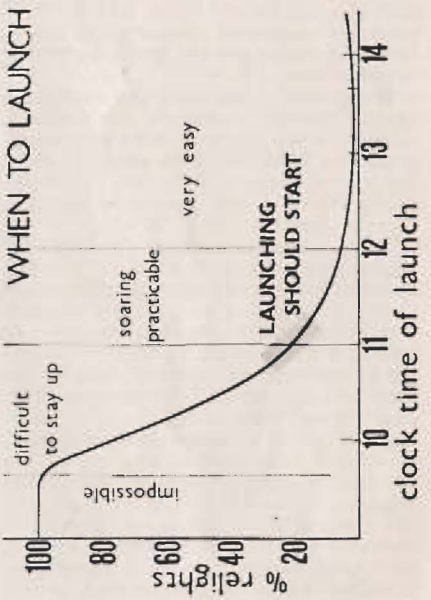


A cross-wind route, whilst theoretically not quite as good as one downwind, is in practice probably better at scattering gliders, since a greater band width is used to make good the desired track.

A further advantage in setting the task with a downwind leg first, particularly for big flights, is that gliders can get away earlier; it is only necessary to just stay airborne to go in the right direction. This in itself leads to a wider separation of aircraft.

Starting time. If the time of launch and the opening of the start line is to be determined by the organisers and not by the pilots, then some increase in congestion is inevitable. The problem of the task-setter is to ensure that this is minimised; he has to relate the benefits of giving everyone the chance to go at the same time with increase in collision hazard. To illustrate: 50 gliders in a "yacht race" start gives a theoretically equal chance, but it also gives the maximum congestion throughout the flight, regardless of wind direction.

The safest, and in the end probably the fairest, is to start launching as soon as it is known that a glider can make progress on the line of the first leg and open the start line at the same time.



On any flight pilots will endeavour to cross the line at the time they consider most advantageous to themselves, and this, particularly on a short triangle, will lead to congestion; even so, this congestion will be less than that caused by any arbitrary shortening of the starting period by the organisers.

Since, for practical reasons, the grid start has come to stay in big competitions, it is essential that the organisers provide for themselves, and effectively use at least two thermal sniffer gliders equipped with radio, and keep on launching them until they provide the information needed to say "Go". Only in this way can the best compromise between equivalent opportunity and minimal collision risk be achieved.

A WORLD CHAMPS AS SEEN FROM 37th PLACE

By B. W. BULUKIN

BEING completely fresh regarding a competition of this magnitude, I expected to learn quite a lot when arriving in Poland. It turned out so, and I also now understand better why the bulk of really successful soaring pilots are to be found within the age group christened "middle aged".

If one can accumulate the experience gained through numerous competitions, keep up one's flying abilities and eagerness, and in addition be able to afford (or persuade the club to buy) a super-duper West German glass-fibre machine, success should be within reach.

In a competition like this, superior thermalling techniques seem to pay less dividend than in ordinary not-so-crowded flying. Thermalling in a gaggle together with, say, twenty others, centering and optimum flying might as well be forgotten if you want to keep the plane in one piece throughout the competition. Tactical flying (middle age again), both when it comes to thermal selection with the aid of other competitors, and by use of radio, permits a lot faster flying than when one is left all by oneself, especially on difficult days. On easy days with plenty of cumulus, it is possible to pick one's own thermal and do a bit of concentrated flying. But watch out if you have hit a fat one; all of a sudden—out of nowhere—you have produced the gaggle of your life.

Navigation in this flat country gave me a headache in the beginning, used as I am to marked geographical details (mountains, valleys, rivers) as easy check points. The thermals surprised me too: weak often with two or three cores. I spent a lot of time centering one of them, only to realise that other gliders making use of all cores in lazy flat circles gained on me. This must be part of the explanation for the unexpected low placings of the "locals", I guess the Poles just couldn't believe the conditions were *that* poor. And what about conditions which die completely—just as though they were switched off—when they ought to be at their peak?

The solid success of glass-fibre planes shouldn't surprise anybody, but is at least as impressive as any sales brochure, fancy as they might be. The Standard Libelle in particular may well emerge as the new-generation Ka-6, and if quantity production could really get started in sailplane production, a radical reduction in price should be more than a faint hope.

If I qualify for the next World Championships (in Texas), I won't need an artificial horizon (which didn't work properly this time because of a u/s inverter), leading to the fact that no equipment is better than equipment which cannot be trusted, because said piece of equipment invariably chose just the right time—when I was in the thick of things—to "call it a day".

So of course next time I will have a brand new plane which I just have managed to get 100 hours training on, radios and instruments which all work flawlessly, and, most of all, I will not spend the two months ahead of the Championships welding up the trailer in my spare time. And I'll bring my wife with me like the Yankees did, and—who whispered about economies?

LASHAM REGIONALS July 27th-August 4th

By B. B. C. Watson

THE Lasham Regionals were opened by Nick Goodhart, who, after reminiscing back to the first post-war British Competition at Bramcote in 1947, looked forward to the future when starts might be simultaneous as in sailing races. Perhaps the World Championships of the 1970's will feature a vast 3-dimensional model of the course with computers flashing the relative position of all pilots on a thermal-by-thermal basis. Before the war, downhill ski races used what

was known as the geschmozzle start. This was sporting if not entirely equitable, and eventually had to be changed to stop the races going to the heaviest and strongest. Now in competitive gliding the pendulum may swing the other way and we may see geschmozzle starts replacing the present system. *Plus ça change . . .*

The weather was unkind to us even by English standards, and it was only a courageous decision by Wally to up-sticks to Compton Abbas on the 7th day that achieved three contest days out of a possible nine. The first four days were dominated by an anticyclone which gave us a firm inversion at 3,500-4,000 ft., a good deal of strato-cu and NNE winds of 15-20 knots.

SUNDAY, 28TH JULY: Task—179-km. triangle, Compton Abbas, Upavon, Lasham. First launch around noon, by which time conditions were quite reasonable, although thermals varied a lot in strength with narrow cores. Soon Mike Gee, Hugh Mettam and David Ince could be heard near Salisbury announcing in confident voices heights of 3,000 ft. plus. Conditions over Compton Abbas were fine, and many pilots made good speed over the second leg, although it was into wind. Ray Foot went up-wind after launching, nearly got sunk over Guildford and did not cross the line until 2 p.m. However, he then made Compton Abbas in one hour, and two thermals more took him to Upavon. Here the wind had freshened and a spread of strato-cu made conditions on the final leg quite difficult. The air was full of heart-rending cries: "Final glide —only it's not". John Smoker "Half-a-mile to go and 300 feet—I shan't make it—no landing fields so I've got to". (He did.)

First, Ray Foot in Skylark 3 (49.2 km/h.); second, David Ince in his Ka-6E, and third, Mike Gee in a Dart 17R. Nine pilots got round and twelve landed out. Anne Burns (Cirrus) and Peter Scott (BS-1), flying *hors concours*, each got round in three hours.

MONDAY, 29TH JULY: Task—309-km. race to Perranporth. Apart from the wind direction (20 knots north-easterly), it did not look a classic "Perranporth" day, and the forecast was cautious. Briefing was postponed until 12 o'clock, by which time the snifter (George Collins in a Diamant 16.5) had been soaring for three-quarters of an hour and the cloud streets looked promising. Everyone was raring to go. "Perranporth it is," said Wally, "the task I always swore I'd never set." Launching started at 12.45, and with conditions promised better to the west, most pilots were off at once. However, surprises were in store. "It's by no means easy" changed to agonised "scraping over the railway" and pure despair "landing Micheldever" (ten miles out). Even for those who hung on to anything they could find, disappointment was in store. West of Salisbury the sun was shining, but vast areas of blue skies were splodged with decayed-looking cu. Ray Foot, out in front, confirmed first impression: "Over Yeovil, nothing ahead —gliding it out". Three times he was reprieved when below 1,000 ft., but finally "600 ft., this is it". Most of the first batch were on the ground by 4.30 p.m. Meanwhile, back at Lasham . . . the early fall-outs were back for relights. "It's all a bit academic," commented "Dinosaur" to Paul Thompson, "but I suppose we'd better have a go." Dinosaur (alias Richard Brisbourne in a Skylark 4) actually crossed the start line at 3.15 p.m. Conditions were reasonable and he kept going to land near Honiton at 6.10 p.m., to find himself the winner for the day. Others who started late also scored reasonably well, including Paul Thompson in 65 and Bill Wills in 54. Bobby Cole did exceptionally well to come second in his Eagle, landing at Chideock at 4.45 p.m. Ben Watson got control (and his crew)—quite excited with talk of thermalling over the sea at Sidmouth—however, the small voice on the phone had to admit that it must have been Bridport. Best distance was 161 km., and 19 out of 21 pilots got beyond X.

Three days of depression followed. Tuesday we sat on the grid and prayed for the temperature to break through to 70°, but it only made 64°, so we gave up. Wednesday, 8/8th cloud and fog all day; Thursday the same, though it cleared towards evening.

FRIDAY, 2ND AUGUST: An eventful day. Briefing 9.30, decision to up-sticks —not an easy decision in view of past history of these attempts. Some joker had declined the verb "to up-sticks" on

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the blackboard; third person plural, "they-stayed-behind-and-soared". Anyway, the caravan of twenty-one trailers set off for Compton Abbas at 10.30 a.m. with pilots busily computing the possible task Compton Abbas, Dunkeswell, Compton Abbas, distance along a line through Nympsfield. Wind 20 knots, northerly. We arrived with only one minor prang and conditions looked superb. John Thorne, the owner of Compton Abbas, did a marvellous job in providing every facility for us. Eventually even the Polish Vanguard arrived, and we assembled on the grid at 1.30 p.m. facing cross-wind/downwind for final briefing. Conditions at Lasham were now reported soarable (subsequently found to be untrue), and the task was changed to a goal race to Lasham via Dunkeswell. This was, in fact, a much more satisfactory task, although no one completed it. It gave all competitors a hard cross-wind grind on both legs. The strong northerly wind meant that most pilots kept on seeing the sea on both legs. However, the convection was deeper than on the other two competition days; cloud base 4,500 ft. asl, and climbs up to 6,000 ft. asl in cloud were made.

Radio interference was very bad on both channels in this area for some reason. The opening bars of Beethoven's Fifth became so monotonous that the only solution was to switch off.

All pilots were launched by 4.30 p.m., and although one or two came back for relights, most of us managed to get reasonable heights after the first hour. As we went west the cloud decreased, and although thermals were sometimes strong, they were also short-lived. But the wind was the problem: "Near Dorchester", "still over Dorchester", "Chard in sight". The T.P. was only 45 miles away, but no one had rounded it two hours after take-off. At least, that's what we thought until we realised that David Ince was using code and playing it very close to his chest. "Tookay move to A.3" —cool, confident tones. Panic—he may be halfway back to Lasham—must press on at all costs. In fact, David Ince was in the lead—though not by such a great margin as we feared, and he won the day with a flight of 130 km., landing east of Dorchester at 6.30 p.m.

Conditions remained soarable until late, and some optimist was still "3,000 ft., climbing" at 7 p.m. However, the lift was hardly strong enough to beat the wind, although Howard Torode in the Bocian did very well to round Dunkeswell after being over Bridport at 2,500 ft., at 6.15 p.m. Ray Foot was second—landing near Dorchester at 7.25 p.m. after being way out at sea in the last thermal of the day. Ted Jerzycki in the Dart 17R was third, landing so close to track as to make one wonder whether he had forgotten the radius rule.

Well, that was it. Saturday, the French depression had moved in closer—so that the only possible up-sticks operation would have been to Perranporth with a race to the Scilly Isles. Improvement was forecast for Sunday, but it never materialised. So we had the prize-giving at 12 o'clock with the prizes kindly presented by Lady McEvoy.

In spite of the conditions a very enjoyable competition; one thing about bad weather, at least it gives an opportunity to get to know the other competitors.

Our weathermen did us proud; Tim Bradbury, an experienced Gold C, and Tony Graham, at his first but we hope by no means his last gliding comps. Their sensible and accurate predictions and good humour were in the best traditions of this vital and difficult job.

All praise to the organisers: Harold Drew as Chairman of the organising committee, Wally Kahn as Director with Chris Day as his deputy, Dave and Leslie Low, Maurice Gates, Ted Hatch and others—not forgetting Gerry Burgess as scorer with his philosophical problems (2+2=?—wait a minute now—3 wholesale—5 retail)!

FINAL RESULTS — Lasham Regionals

	Pilot	*Sailplane*	*H'cap %*	1 1000	2 1000	3 948	*Total Points*
1.	R. A. Foot	Skylark 3F	100	1000	875	861	2736
2.	D. H. G. Ince	Ka-6E	96	947	734	948	2629
3.	R. P. Brisbourne	Skylark 4	98	784	1000	690	2474
4.	E. Jerzycki	Dart 17R	90	745	603	857	2205
5.	B. B. C. Watson	Skylark 4	98	531	790	809	2130
6.	G. R. Paddick	SHK	86	799	403	754	1956
7.	A. J. Watson	Ka-6E	96	542	703	507	1752
8.	E. Stark	Ka-6CR	100	533	688	525	1746
9.	P. Minton,	Eagle	110	625	—	144	1691
	R. T. Cole			—	922	—	
10.	M. I. Gee,	Dart 17R	90	876	—	441	1665
	F. R. Ward			—	348	—	
11.	J. Barrows,	Skylark 3F	100	835	—	525	1462
	P. R. Horne			—	102	—	
12.	S. B. Wills	Olympia 460	106	340	452	516	1308
13.	J. Krzystek	Pirat	98	524	371	375	1270
14.	G. E. Collins,	Ka-6CR	100	203	—	—	1227
	D. Waring			—	610	414	
15.	J. Smoker,	Skylark 4	98	729	—	399	1192
	G. K. Smith			—	64	—	
16.	D. L. Pratt	Skylark 4	98	324	860	0	1184
17.	H. S. Mettam,	Skylark 3B	100	807	—	0	1166
	P. B. E. Thompson			—	359	—	
18.	J. Vivian,	Skylark 4	98	337	0	—	1063
	J. Cochrane			—	—	724	
19.	A. G. Burne,	Skylark 4	98	335	424	—	1051
	Philippa Buckley			—	—	292	
20.	N. Hughes,	Bocian	114	317	—	—	895
	J. Torode,			—	0	—	
	H. Torode			—	—	578	
21.	E. A. Cunningham	Skylark 4	98	0	325	370	695

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THE STANDARD LIBELLE

By HENRY STOUFFS

JUST after the World Championships at South Cerney in 1965, it was quite obvious that the Standard Elfe was the best available at that moment. I had the opportunity of flying quite a few times with Ritzi and was very impressed by its climbing ability and glide ratio compared to the Ka-6CR/PE (with Wortmann section) I was flying.

All this resulted in taking an option on a plastic glider, the Standard Libelle —to be used in Poland. I was sure it would be a reasonable decision, as the manufacturer had been producing the Hütter 301 for quite a time, and the Standard Libelle would only have a new wing, with most other problems already sorted out.

Glasflügel made a prototype wing which was not up to expectations at high speed, and without hesitation they made a second prototype. This second wing was used to make the mould.

I had the opportunity to fly both these gliders, and take part in the Hahnweide Competition with the second prototype just before the World Champs. Before the Hahnweide contest started, George Moffat and I made a few comparison flights with his Standard Elfe. I think I would be right in saying that his Elfe climbed slightly better than the second prototype Libelle I flew (it was heavier than the production models), though I had the advantage on straight glides.

During the contest I had a lot of trouble with this glider, caused mainly by having the T.E. (PZL) the wrong way round, and it leaked. I could never climb in weak weather and went "aux vaches" on three tasks. I also had stability problems, but this was probably due to the CG. After all this, I had some doubts about the glider until I flew one of the series production ships.

All was now OK—no stability problems and much improved ailerons (lighter and well balanced), and with just one flight of 44 minutes I was now convinced I would have one of the best Standard Class ships available.

I received my own glider two days before the practice week in Poland and made the first flight at Leszno, to find that some of my instruments were faulty, but was fortunate enough to sort this out while it rained.

I will not make any comments on my flying during the championships, as the results are published in S & G. Pity there was an eighth task, though!

By looking at the results you will see that the Libelle was always very good on the speed tasks as well as in the medium weather. With only a few hours' flying on the type, I could outclimb the Ka-6E's and would say the Libelle is as easy to fly. The wing section, though, is more critical and I doubt if one will reach perfection in flying the Libelle in under 100 to 150 hours.

Just to show how good the Libelle is, its performances on the only good tasks (where most pilots came back to Leszno) were:

	Placing	*km/h.*	*Pts.*
1st Task	1st	78	1000
5th Task	3rd	80	953
6th Task	1st	69.1	1000



Henry Stouff's Libelle. (Photo "Flight")

The Libelle won four of the eight tasks, the Elfe two, and the ASW-15, two.

Now may I make some further comments on the glider?

THE AIRBRAKES.—Something has to be done about these; I had a lot of trouble with them at between 80-200 km/h. and over.

On the first day I crossed the startline at 250 km/h. and the two top plates covering the brakes came out; this gave me a serious shock (I could see this by looking along the wing); reducing the airspeed, I climbed to over 1,000 m. and everything came back to normal. After that my startline crossings did not exceed 220 km/h. M. Defosse had similar trouble on one wing. I don't know what happens on the under-surface as this cannot be seen in flight.

The speed is now restricted to 220 km/h. I tried to make stronger springs but could not find any wire stiff enough for the purpose; it was also very difficult to do, as on the ground they looked OK and fitted well. A suggested modification is shown in the drawing and could be incorporated on the Libelles still being built. It consists of stronger springs and the attachments to be fitted further out.

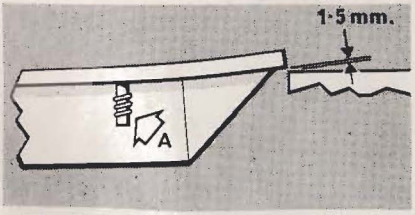


Figure A shows what happened to the Libelle I was flying.

THE ELEVATOR.—With my CG position, the elevator becomes very sensitive at speeds of 150 km/h. and higher. It is very difficult to keep it from moving.

WHEEL FAIRING.—This could be better adjusted in front, and could probably have an extra layer of glass-fibre. I had to mend both my fairings as I broke them on each of my away landings.

Further possible improvements include:



Henry Stouffs

Better airbrakes (already mentioned).

Slightly better rudder efficiency.

Wing fillets, joining wing and fuselage.

High angle-of-attack of the wing on the fuselage. This could be partly overcome by the use of a retractable wheel; we all hope it will be allowed in the near future.

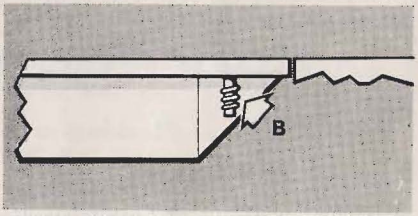


Figure B shows the suggested modification.

The rigging of the glider is perfect and very easy. On one day, my wife and I rigged it alone! I should like to mention that the empty weight with instruments (radio, horizon and 4½ kg. battery) came to 194.4kg.—my own weight is 86 kg. with parachute. The two put together gave me a 28.6 kg/sq. metre wing loading.



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TAIL FEATHERS



By Platypus

BROWSING through last month's "S. & G." caused a sudden spasm of poetry to break through my writer's cramp. Inspired by Doc James's epic 500 Kms. and other nuggets of hot news (including Mr. Strawn's—sorry, Strachan's —conversion to the true gospel according to Platypus on speeds-to-fly), I was impelled into a flow of doggerel which can only be stemmed by a swift suit for libel. This last should not be long in coming, but before the handcuffs snap on I have only to say that the chief factor determining the content of these verses is the ease of rhyme or scansion to which the illustrious names lend themselves. Williamson and Goodhart are safe yet, but we are working on it.

MAKING HASTE SLOWLY

On a speedy young pundit called Strachan
Evident truth does now dachan
He who flies fast
May well finish last
Or even land short in the cachan



GLASFLUEGEL UEBER ALLES

Praise that Fibre
and moral Cal-ibre
(A pretty Pfennig
That Diamond cost Brennig)

HP SAUCE OR STRICTLY FOR THE BIRDS

Watch how Scott
Doth hunt the Pott!
Do buzzards snift
The Maestro's lift?

HIGH LIVING AND LOW FLYING

A bon vivant pundit named Kahn
Exclaimed, "Oh dash it and dahn!
I only catch Carrow
In lift broad not narrow
That'll keep up the door of a bahn"



HANDICAPPING OR SOME ARE MORE EQUAL

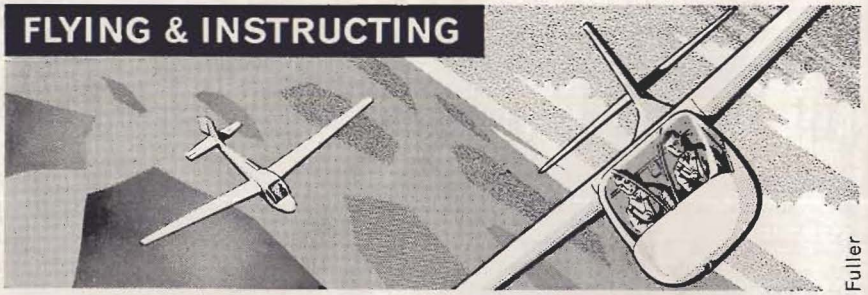
Said a wiley old pundit called Dee Dee
"I've balanced the slow and the speedy"
I say, "Do it for girls
And give diamonds and pearls
To the plain and the fat and the weedy"

As you can see, my poetic vein is getting a bit varicose and the odes more odious; let us eschew the venomous quill for another month or so.

* * *



FLYING & INSTRUCTING



Pilot Grading Schemes

WHEN a club begins to expand with more members, gliders and instructors, CFI's tend to find that there are difficulties in keeping a check on the progress of pilots in their charge. Situations begin to crop up where a pilot's ability and experience may be unknown to the instructor-in-charge on any given day. This problem is particularly apparent in clubs that operate seven days a week.

To help in overcoming this situation, several clubs are now following the example of the Lasham Gliding Society by using coloured card grading schemes.

The purpose of this article is to outline the way these systems work, so that clubs that wish may adopt them. I must stress that the BGA does not want to force grading schemes on its members—a CFI is entitled to run flying as he wishes—but the facility for pilots visiting other clubs to have their ability made easily apparent is very useful.

Clearly, for a grading scheme to be interchangeable the level of experience ought to be roughly similar between clubs. Site and aircraft problems will interfere to some extent, but generally it should be possible to be fairly standard.

All the systems use the following stages: Basic Training, Red, Yellow and Blue cards.

Basic Training

Up to and including early solo flying. After solo, the pilot will be subject to dual checks on every day that he flies until a senior instructor is satisfied that these checks are no longer required. At this point "Off Checks" is recorded in the pilot's logbook. During this phase, after the first solo, the pilot must pass the C Air Law Paper. This is especially important in clubs which operate near or under controlled airspace.

Red Card

REQUIREMENTS:

(1) 25-35 solo flights, including some aerotows, if applicable.
(2) Test on Air Law and local regulations.
(3) DI approval.
(4) Passed appropriate flight check.

RESTRICTIONS:

(1) Must be briefed by an instructor before flying on any day.
(2) Must remain within easy gliding range of base (maximum distance five miles).
(3) May not enter cloud unless card appropriately endorsed.

Yellow Card

REQUIREMENTS:

(1) Bronze C plus 20-40 hours solo.
(2) Specified number (3-15) of flights at site.
(3) Approved to DI and de-rig club gliders.
(4) Received lectures on: navigation, field selection and landings, local and controlled airspace regulations.
(5) Passed oral test on (4).
(6) Passed flight check, including 2-4 spot-landings in a delineated area, on two separate days.
(7) Carried out observed solo spinning.

RESTRICTIONS:

(1) May fly only the aircraft endorsed on their cards.
(2) Must obtain briefing for all flights leaving the local area.

FURTHER TRAINING:

Yellow card holders will receive further training in field landings, aerobatics and instrument flying before having their cards endorsed.

N.B. Some clubs use a further Yellow Two rating which is given after the Silver C plus other cross-country flights. With this rating the cross-country briefing requirement is waived.

Blue Card

REQUIREMENTS:

(1) Experienced in flying at other sites and in competitions.
(2) In current cross-country practice.
(3) Experienced at hill-soaring.
(4) Be able to assess whether conditions are unfit for flying.
(5) Should have carried out at least two flights to a goal of more than 50 km. away.

CHECKS:

All pilots, regardless of rating, will be subjected to checks at intervals determined by the CFI. As the spectrum is negotiated, the frequency of checks generally reduces.

RENEWALS:

(1) All cards are renewable annually by applying on an appropriate form.
(2) Pilots not in current practice may be downgraded.
(3) Renewal is contingent upon the pilot being a paid-up flying member of the club.

Typical Rating Card (Yellow)

INCIDENTS

Bloggshire Gliding Club
FLYING CARD

Name .....
Club .....
Expires .....
Signed ..... CFI

Holders of Yellow Cards may normally fly locally the gliders indicated without special briefing.
Cross - country flying is allowed if the card has been endorsed and after briefing.
Cloud flying is not allowed without a cross-country endorsement and then only with the consent of the CFI or Deputy on the day in question.

Approved to fly:
1. Swallow
2. Olympia
3. Skylark 2
4. Skylark 3
5. .....

Endorsed for:
Cloud flying .....
Cross-country .....
Aerobatics .....

The author will be glad to hear from any CFI about the grading methods in use at their clubs.

ROGER NEAVES.

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THE BGA MOTOR GLIDER COMMITTEE

THE new generation of motor gliders promises to provide superb fun flying, but in few countries does legislation yet exist which will encourage them and help them develop in the right direction. But before the legislation problem can be tackled we must know exactly what a motor glider is—and is not. As a start the BGA Committee has stated what it considers to be the purpose of the motor glider, and has produced a draft definition in general terms, prior to working out a detailed schedule; these are printed below. The Committee would be glad to hear from people in other countries concerned with the same problem.

Purpose

The motor glider is an aircraft which extends and improves the sport of gliding and does not detract from it. The purpose of the motor is to launch the aircraft so that it may soar, or reach areas where soaring is possible, to enable the pilot to return to base, or to retrieve himself from away landings, to investigate waves, sea-breeze fronts and other meteorological features, and, specifically in the case of the two-seater, to speed up and improve elementary gliding training, and to widen the scope of advanced training.

Draft general definition

(i) Performance and handling characteristics to be similar to gliders in current use.

(ii) It should be capable of being landed, power off, safely in small fields.

(iii) The pilot's view must be similar to that of gliders in current use and be acceptable for thermal circling with gliders.

(iv) It should be capable of taxying unaided in normal conditions and be able to take-off unaided from grass and concrete and have an acceptable rate of climb.

(v) It should be simple to rig and de-rig, and be easily transportable on a glider-type trailer.

(vi) The engine should make as little noise as possible.

(vii) A motor glider shall not have more than two seats.

(viii) It shall have a minimum span of 14 metres.

(ix) In the gliding configuration, it shall satisfy BCAR Section E (glider airworthiness requirements).

ANN WELCH, *Chairman.*

GLIDING CERTIFICATES

DIAMOND GAIN OF HEIGHT

No.	*Name*	*Club*	1968
3/78	S. G. Davies	Airways	9.3
3/79	M. P. Garrod	London	10.3
3/80	T. W. Slater	Chilterns	6.3
3/81	F. A. Plumb	Bicester	6.3
3/82	P. B. E. Thompson	Surrey	11.3
3/83	S. A. White	Airways	24.4
3/84	A. H. G. St. Pierre	Clevelands	9.3

DIAMOND GOAL

No.	*Name*	*Club*	1968
2/253	G. F. Bailey	Bath & Wilts	5.5
2/254	K. J. Nurcombe	Coventry	26.4
2/255	A. J. Hogg	Bicester	28.2
2/256	T. R. F. Gaunt	Moonrakers	14.4
2/257	C. Garton	Surrey	25.4
2/258	P. B. E. Thompson	Surrey	14.4
2/259	T. Green-wood	Dorset	20.8.67
2/260	R. A. Neaves	Airways	12.6
2/261	C. G. Day	Surrey	6.6
2/262	S. A. White	Airways	25.4
2/263	M. A. Horan	Midland	9.6
2/264	F. Crisp	Leicester	6.6
2/265	J. C. Galizia	USA	30.6
2/266	L. E. Frank	Coventry	9.6
2/267	G. W. Scar-borough	Wycombe	9.6
2/268	B. Kirby	618 GS	14.6

GOLD C COMPLETE

No.	Name	Club	1968
194	A. J. Hogg	Bicester	10.3
195	C. Garton	Surrey	25.4
196	F. A. Plumb	Bicester	6.3
197	P. B. E. Thompson	Surrey	14.4
198	A. J. Watson	Surrey	3.4
199	L. E. Beer	Thames Val.	13.4
200	D. J. Glossop	Fenland	12.5
201	R. A. Neaves	Airways	12.6
202	S. A. White	Airways	25.4
203	M. A. Horan	Midland	9.6
204	S. B. Wills	P.O.G.	3.6
205	I. Vesty	Leics.	2.6
206	M. T. Hill	USA	11.6
207	(Pending)	—	—
208	F. Crisp	Leics.	6.6
209	J. C. Galizia	USA	4.7
210	G. W. Scarborough	Wycombe	9.6
211	A. J. Burton	Surrey	23.6

GOLD C GAIN OF HEIGHT

Name	Club	1968
S. G. Davies	Airways	9.3
V. J. Hurd	London	6.3
T. R. Perry	Chilterns	6.3
T. W. Slater	Chilterns	6.3
J. B. Macintyre	Phoenix	6.2
D. A. Bowley	Phoenix	6.2
F. Crisp	Leics.	21.4
T. E. Linee	Dorset	3.6
A. M. Cameron	SGU	9.3
C. B. Golding	Thames Val.	9.4
J. R. Greenwell	Northumbia	20.4
S. E. Richard	Essex & Suffolk	3.6
D. A. Wilson	Northumbria	20.4
P. J. H. Purdie	Moonrakers	6.3
D. J. Connolly	P.O.G.	15.3
R. G. d'Erlanger	P.O.G.	11.3

GOLD C DISTANCE

Name	Club	1968
P. S. Bryan	Norwich	14.4
G. F. Bailey	Bath & Wilts	5.5
K. J. Nurcombe	Coventry	26.4
T. R. F. Gaunt	Moonrakers	14.4
T. Greenwood	Dorset	20.8.67
G. E. King	Surrey	14.4
C. G. Day	Sunrey	6.6
A. F. Thomas	South Wales	5.5
A. T. C. Gurney	Thames Val.	13.6
L. Barnes	Moonrakers	9.6
J. C. Galizia	USA	30.6
P. J. Evans	Southrn Com.	26.4
B. Kirby	618 GS	14.4
I. L. Napier	P.O.G.	14.4
J. S. Astley	Thames Val.	11.3

SILVER C COMPLETE

		Club	1968
2227	Matthews	Surrey & Hants	28.5
2228	A. Smith	Clevelands	12.5
2229	G. F. Rowland	London	6.4
2230	R. Beck	Clevelands	5.5
2231	J. R. H. Elliot	Moonrakers	26.4
2232	B. Voisey	Crusaders	20.4
2233	R. Rothnie	SGU	18.5
2234	T. L. Jones	Bannerdown	12.5
2235	C. Willcocks	Cambridge Univ.	1.6
2236	P. G. King	London	6.6
2237	D. Langford	Bicester	12.5
2238	A. D. Sneyd	Cambridge Univ.	31.5
2239	B. Ward	Staffordshire	31.5
2240	R. Brown	Cambridge Univ.	1.6
2241	A. F. Gough	Bicester	23.5
2242	A. M. Cameron	SGU	9.3
2243	V. Russell	London	12.6
2244	R. H. Cooper	Crusaders	6.6
2245	R. I. Rea	East Midlands	30.4
2246	P. D. Turner	Doncaster	1.6
2247	K. R. Snape	Humber	1.6
2248	G. E. Neal	643 RAF	6.6
2249	L. Dawson	Airways	9.6
2250	R. L. McLean	Doncaster	12.4
2251	B. J. Brennan	Coll. of Aeron.	9.6
2252	R. M. Barnes	Airways	9.6
2253	D. R. Cutler	Phoenix	3.6
2254	D. Cockburn	Cranwell	9.6
2255	C. D. Richards	Bannerdown	15.6
2256	C. D. Street	Dorset	12.6
2257	P. H. B. Cole	Southern Com.	9.6
2258	E. M. Andrew	Dorset	12.6
2259	R. F. Gunner	Bristol	9.6
2260	C. A. Lagus	Airways	9.6
2261	G. R. Downing	Cambridge Univ.	21.6
2262	A. F. Thomas	South Wales	5.5
2263	G. R. Harrison	Surrey & Hants	9.6
2264	G. J. Hinder	Swindon	15.6
2265	M. J. Allison	Wrekin	21.6
2266	J. C. Green	Essex	9.6
2267	I. B. Foster	Kent	1.6
2268	P. Gibson	Moonrakers	9.6
2269	T. E. Linee	Dorset	19.5
2270	M. A. Greaves	Ouse	23.4
2271	A. K. Bryan	Bicester	3.7
2272	I. R. Phillips	Airways	5.7
2273	R. Nawarski	Thames Valley	5.7

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OBITUARY

PETER DAWSON



PETE DAWSON, who lost his life in a gliding accident at Colerne on 14th August, will be greatly missed by very many people in the gliding movement. Not only was he a very competent sailplane pilot but had been a member of the RAF Team in the Nationals for five years. He was also an outstanding gliding organiser and infected everyone with whom he came into contact, with his tireless zeal to effect more launches and gliding hours.

Pete started gliding in Germany with the RAF and first made his gliding mark with the East Anglia Club at Duxford. During his time there he gained an instructor's rating and devoted himself totally to the club. On many occasions he worked right through Saturday night, repairing gliding equipment so that flying could take place on the Sunday. Some of his more exuberant engineering feats in this respect will always be remembered by his contemporaries.

He returned to Germany in 1964 and was CFI of the Phoenix Club at Brüggen. Again his endless enthusiasm and flair for improvisation helped the club to achieve its best hours. He gained his Diamond height at Issoire last year and followed this with a 500-km. flight into France in the Ka-6CR, to become the second RAF and the ninth British Diamond C pilot.

He leaves a wife and seven children, all equally devoted to gliding, and it is perhaps appropriate that his eldest son, Tony, soloed shortly after his 16th birthday, in the year in which Pete achieved his Diamond badge.

J. S. WILLIAMSON.

FINAL RESULTS — Northern Regionals June 29th-July 7th

	Pilot	*Sailplane*	*H'cap %*	1 335	2 220	3 1000	4 1000	5 957	*Total Points*
1.	K. W. Blake	Skylark 3B	100	335	0	908	276	957	2476
2.	R. Cousins	Dart 17R	90	0	0	290	815	1000	2105
3.	N. Stevenson	Skylark 4	98	0	0	1000	1000	0	2000
4.	G. F. Brook	Olympia 463	102	32	220	856	536	343	1987
5.	V. Tull	Skylark 3F	100	0	0	853	926	0	1779
6.	M. Honey	Skylark 4	98	17	0	706	271	569	1563
7.	D. Hatch	Olympia 463	102	0	0	130	919	343	1392
8.	D. Millett	Skylark 3B	100	0	111	491	711	0	1313
9.	B. Keogh	Skylark 4	98	0	0	107	695	482	1284
10.	A. Beckett	Dart 17R	90	8	0	0	334	927	1269
11.	D. C. Snodgrass	Dart 17	90	0	0	511	571	0	1082
12.	G. C. J. McPherson	Skylark 4	98	55	—	0	331	441	827
13.	R. Frith (HC)	Olympia 2B	125	0	217	—	280	—	497
14.	F. W. Hinchley, J. R. Clark	Olympia 2B	125	0 —	— 0	0 —	— 98	0 —	98

Tasks : *Day* 1—Distance along a line through Husbands Bosworth and Sutton Bank. *Day* 2—Distance along a line from Camphill through Disforth A/F. *Day* 3—Distance along a line through Netherthorpe A/F and Richmond, Yorks. *Day* 4—116-km. triangle, Netherthorpe-Hucknall-Camphill. *Day* 5—Out & Return, Dunstable, 360 km.

BOOK REVIEW

Learning to Fly.—KTG Know the Game Series. Published by Educational Production Ltd. in collaboration with the Air League. Price 3s. 6d.

IT is a pity that one is not told anywhere in this manual the name of the author; for, whoever he may be, he has written in simple language a very adequate description of the procedures on which a novice must embark in order to learn to fly.

Well illustrated with line drawings and half-tone blocks, the text gives reasons why everyone should know something about flying and suggests that the best way to find out is actually to become a pilot. The necessary qualifications for pilotage, some types of aircraft, the flying training programme from first trial lesson to the goal of the Private Pilot's Licence are all thoroughly described. Even the higher goals, such as an instrument rating or the obtaining of a Commercial Licence, are not omitted.

Published in collaboration with the Air League, this is, one believes, the first occasion on which the subject has been covered in a booklet published at such a modest price. It is in many ways the counterpart for Power Flying of "Elementary Gliding", the text-book which has been helpful to so many people in the "ab initio" stage of gliding. For the qualified glider pilot who wants to take up power flying in order to become a Tug Pilot, or merely so as to broaden his air experience and range of flying, this book is a "must".

J. E. G. H.

CORRESPONDENCE

LOGWALLYMARKS

Dear Sir,

On reading your last number, my pleasure at finding a contest winner admitting he had read "The Arm-Chair Pilot" was tempered by Wallington's somewhat scornful dismissal of my suggestion ("Logwallymarks", Correspondence, April/May, 1965) that the logarithms of placings should be used in a marking system.

This distresses me, first because he does so for the wrong reason. I did not put forward a "probability theory involving logarithms (which) is not appropriate", but a straightforward appropriate mathematical argument leading to logarithms. The statistical content of the last paragraph of my letter may be forgotten by those who find it confusing. Secondly, I see little point in honing a marking system down to the last mark when it contains an obvious fallacy (the cure is less obvious).

Wallington says that "the difference in marks between two pilots should be directly proportional to the number with intermediate performances". I disagree for the fundamental, relevant and non-stochastic reason given in my letter. Let me enlarge on these with a different example.

Suppose one hundred pilots set out to fly 100 km., and one lands each kilometre (at 0, 1, 2, . . . 99 km. points). Well, the first kilometre was pretty easy, because 99 out of 100 pilots (99.00%) managed it, but the second was just a little more difficult, because 98 out of the 99 pilots who started it completed it (98.99%). And so on, until the penultimate kilometre, which was evidently rather difficult because two pilots tried it and only one (50.00%) coped. And the last kilometre of all was so difficult that no one managed it (0.00%).

But Wallington's "impeccable umpire" ruled each kilometer equally difficult! On the contrary (as I pointed out in my letter), even the above figures err on the side of uniformity, because the first pilots to land were, on average, the least competent, so the yardstick of difficulty was changing as well (the yardstick against which Wallington erroneously calibrates his rubber ruler).

Lest any remain unconvinced, here is another version of the statistical argument. Suppose the difficulty really were constant—would we expect evenly-spaced landings (approximately)? Certainly not—for the reasons I gave both in my letter of 1965 and an earlier one (August, 1963). On the 1963 occasion I was trying to persuade Brennig James to abandon his misguided attempt to introduce the Poisson distribution in this context; now my task is, in effect, to dissuade Wallington from introducing a uniform distribution which ends abruptly in a cliff. The correct distribution was in 1963, is in 1968 and shall be in 1973 the negative exponential.

I should be most interested (though, as a professional statistician, somewhat disturbed) to read a reasoned rebuttal of these arguments. Dire and unsubstantiated warnings against "squares, cubes, logarithms or any other clever functions" will lead the argument nowhere. Besides, if logarithms be emotionally unacceptable, just multiply the placings for the different days instead of adding them. It comes to the same thing as taking logs.

Dept. of Statistics,
Univ. of Aberdeen.
ANTHONY EDWARDS.

LESS SUCCESSFUL?

Dear Sir,

Having carried out equal amounts of cross-country flying in the south and north, one sometimes wonders whether the lack of big flights from northern clubs is due to the smaller number of attempts or the fewer good thermal days. Piloting ability seems to be about equal, judging by competition results, although there are presumably fewer pilots trying big tasks north of, say, Camphill.

The 9th June, however, is interesting in retrospect. Sutton Bank had a full grid of private owners by 10 a.m. and a goal race to Camphill had been set. One pilot declared Camphill return and I decided on another go at Castle Donington and return. At 11.10 a.m. cumulus which had been forming to the north and west of the site erupted above the club and to the south, and we were away. Conditions did not seem exceptional and in particular visibility in the lee of the Leeds-Sheffield sector was appalling at cloudbase, which peaked at 5,200 ft. Some cloud tops were up to about 8,000 ft. The wind was a very light westerly drift. Leaving Hucknall at about 3.15 p.m. and emerging into clearer, almost cloud-free air, I arrived at Castle Donington just after 3.30 p.m. and ran out of height after rounding the turn.

Upon arrival back at Sutton Bank it was learned that one pilot had rounded Camphill and got back as far as Rufforth, while others had considered conditions inadequate for anything over 100 km. tasks. Much was our amazement, therefore, to learn of the successful Dunstable 300 km. triangle, which was being followed over the radio, and especially of Brennig James's big triangle. It seemed additionally ironic that while the Skylark was motoring downhill from Hucknall, the Diamant was probably performing the oracle nearby!

Thermals had been stopped at Sutton Bank by the passage of a sea-breeze front at about 4 p.m., so a return was out of the question, especially in view of the slow outward leg.

I hope the above may be of some interest to those wondering what the "day of days" was like in other parts of the country.

Market Weighton, York. M. J. C. WILSON.

RADIO PROCEDURE

Dear Sir,

In the BGA Competitions Handbook it is stated that for RT procedure "Crews should not normally initiate a radio conversation." I think that this instruction is very wrong, and that when the trailer is following the glider it should generally be the crew who should call the pilot, and for the following reasons:—

(1) Bearing in mind that VHF and UHF radio contact is virtually only possible if in "line of sight", it is useless for the pilot to call the car radio if the car is in a town and blanketed by buildings, or in a heavily wooded valley.

(2) If the pilot gets no reply, he has to call again and again and again, thus blocking the already overcrowded channels.

(3) If communication is weak, both pilot and crew ask for continual repeats, thus interfering even more with others who have messages to pass.

(4) The best way is for the crew to call the pilot from a clear spot on high ground, where "line of sight" is expected to be good, and there is then less likelihood of garbled messages being repeated. If the pilot is threatened with forced landing, then the trailer can wait there for instructions.

There must be many competitors who agree with these points, and I hope that they will lend support in asking the BGA to remove the instruction N.M.7.9 on page 4 and substitute a suitable precis of the above.

Alverstock, Hants. HUMPHRY DIMOCK.

THE PROFESSIONAL APPROACH

Dear Sir,

I really must take issue on this topic since I feel Roger Neaves is way off beam in his article (*S. & G., Aug./Sept., p.* 316). It may be true that 21 pilots out of the first 50 have a professional background but I doubt whether any of them has ever been the captain of a big jet "with 150 lives in his hands". I would think that, including Service pilots, there must be several hundred professional pilots with Silver C's or above; the fact that only 27 have managed to get into the first 200 is a much more telling statistic. In fact, it is only during the last five years that professional pilots have made much impact on the rating list. In the RAF until recently many of their best pilots were not General Duties at all—John Williamson, for example.

I think that until a pilot has 300 hours' experience of gliding, the basic airmanship which a professional pilot has instilled into him is very important and, of course, the majority of pilots will not fly 300 hours in their total gliding career.

Airmanship is to gliding what handwriting is to poetry, essential but somehow irrelevant. To get to the top in competition gliding you need a good deal more than skill in the basic tasks of gliding. There have been contests when most of the tasks degenerated into gaggle flying, where the purely mechanical pilot did very well; however, there is little pleasure in winning this sort of contest. The outstanding post-war pilot in my view has been John Fielden, who has frequently stayed airborne when everyone else's backsides were firmly applied to the ground, and he did this simply because he used his imagination to "read" what the weather was doing better than anyone else. This, for my money, is what gliding is all about.

Marlow, Bucks. DR. BRENNIG JAMES.

ROGER NEAVES comments:—Brennig seems to have completely missed the point of the article. Competition flying was only a small illustration of the theme. However, to argue this small point, I very much doubt if there are "several hundred professional pilots with Silver C's or above". Further, very few bother with competition flying, but it is significant that those that do are near the top.

There has only been a rating list for about five years, so it is difficult to see how Brennig can say that professionals have only made an impact in the last five years. Earlier than that names like Foster, Forbes, Goodhart, Mallet and Nielan spring to mind, not forgetting Welch, Bedford (records, not competitions), Piggott, etc. Gliding, thank goodness, still needs that indefinable something that makes Olympic Champions, and this is its appeal over all other forms of aviation.

With regard to poetry, if a poet cannot write, he gets a typewriter. A pilot who has no airmanship gets killed.

Finally, Brennig, the modern word for Beaver is Localiser.

POWERED GLIDING

Dear Sir,

With reference to Mr. Warren's letter in the August/September issue, calling for a "powered glider", I feel bound to have my two-cents' worth.

My feelings in this current debate are that the Nelson T-49, aye, and the Motor Tutor before it, are the thin edge of the wedge. If development of these types continues at the pace demanded by some "gliding" enthusiasts, gliding will just become

another facet of powered light aviation. However, I do agree that launching is the "biggest bottleneck in gliding", but the answer to this is more efficient launch organisation, better equipment, NOT hanging sundry engines on gliders.

All Club Treasurers the nation over, I know, will instantly counter that this better equipment I call for costs money. True, but if this better equipment, be it a winch, tow car or a new bungee, increases the number of launches per hour from 8 to 12, or 15 to 20, it will pay for itself in increased flying revenue.

To me, provided the wait is not overlong, waiting for the cables at the launch point is part of the "atmosphere" of gliding. If Mr. Warren wants to walk on to an airfield and instantly be hurled aloft by an aero-engine, my advice is to join a flying club.

One man's meat . . .

Winchmore Hill, N.21. J. FELIX.

EYEWEAR FOR THERMAL DETECTION

Dear Sir,

In reply to Mr. Harper's letter in the August/September SAILPLANE & GLIDING, may I point out how fallacious is the widespread lay concept of "eye-strain". We would do well to remember that the eyes have evolved their own light-limiting devices over the millennia to deal with an enormous range of light intensities.

There is certainly no question of protective eyewear being *necessary* for the kind of visual function that Mr. Harper mentions. But, as always, there may be individual matters of personal comfort and idiosyncracy. Further, if there are people who wish to hide their appearance and expression behind dark glasses, by all means let them do so.

Referring to his second point, there are probably some grounds for at least a theoretical concept that the use of Polaroid lenses might, in certain conditions of lighting, facilitate the visual discernment of bodies of air with differing densities and turbulence. Anglers have certainly found them of considerable value in certain water/air interface conditions.

I doubt if anyone needs to be reminded that gazing at the sun, whether from a glider or the ground, and with or without protective glasses, is likely to be distinctly damaging to the sight. This is not quite the story of Icarus, but the moral is the same.

Sussex Eye Hospital. "FIAT LUX", F.R.C.S.

PROTECTIVE EYEWEAR

Dear Sir,

There appear to be two schools of thought as to the best optical appliance for aiding the glider pilot in spotting thermal activity. The first group favours the use of polarising sun specs. These will, under certain circumstances, aid the glider pilot in two different ways. Light is energy and travels in a wave motion, but although the direction of travel is straight, the plane of oscillation is random under normal circumstances. When light is reflected from a surface, only the light waves that have been oscillating in a plane parallel to the reflecting surface will be reflected and the resultant reflected beam is "plane polarised", i.e. the reflected light contains light whose wave direction is uniform and in one direction only.

Polaroid sheet has the property of absorbing all light except for light whose wave motion is in one particular direction; in the case of polarising sun-glasses, the direction is vertical, thereby absorbing all the reflected horizontally plane polarised light which causes glare.

Thermal vortices rising will contain dust and other particles capable of reflecting light, and there will therefore be a small amount of plane polarised light coming from the thermals, which, theoretically, will make the air in the thermals appear a little dark if viewed through polarising glasses under certain conditions when thermal soaring. The second way in which the polaroids will aid is by accentuating the "mirage effect" seen as a result of a layer of hot air. Hot air being less dense it has a lower refractive index to colder air, i.e. its ability to bend or refract light is

less than colder air; the result is that light travelling in certain directions in the cold air is reflected off the warmer air, and this reflected light will be plane polarised.

An example of this is the appearance of a pool of water on the hot road when driving on a sunny day, which is accentuated by the use of polarising sun spectacles.

Secondly, tinted lenses may be, and have been, used for spotting small differences in cloud formation, which is of importance particularly on overcast marginal days, and spotting the beginnings of fine weather cumulus cloud. Sun spectacles with the correct transmission curve, will increase the contrast of the clouds if these filters have a value for least absorption for wavelengths around 555 mμ, which is the wavelength to which the human eye is most sensitive. Theoretically, a yellow filter, such as is used for photographing skyscapes, is best, but although light is absorbed by the filter, it gives the impression of extra illumination and is therefore uncomfortable. The lenses most favoured have a pink/brown tint, which gives good contrast consistent with comfortable vision and reduced illumination. New sun-glass lenses are now available which will combine the properties of definition and polarisation.

Finally, let me end on a note of caution—it is unwise to wear sun spectacles that have a high absorption, i.e. are too dark; although excess illumination can result in glare and discomfort, tinted lenses can reduce visual acuity and produce a hypersensitivity to light. Remember to only use tinted visual aids when needed; check constantly at the end of the day to see if they are still required. Don't be like the pilot who made a bad landing in the evening, then took off his sun-glasses with the remark: "Oh! it isn't so dark as I thought it was"!

Bearsden, Dunbartonshire. P. B. LINFIELD, F.B.O.A., F.S.M.C.

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SKYLARK 3F, including trailer, instruments, parachute. £1,100 o.n.o. G. S. Neumann, 55 Moorfield Road, Duxford, Cambridge. Tel. Sawston 2068 (evenings).

T-31, built 1953, Mercury V8 engined winch. Offers to the Secretary, Avro Gliding Club, Hawker Siddeley Aviation, Woodford, Cheshire.

SKYLARK 4, meticulously maintained, prang free, automated lightweight trailer. Good homing instinct. Available late October. £1,350. Alan Purnell, 63, Southway, Croydon (01-777 3570), or Hugh Hilditch at Lasham.

DART 15, Wing Mod. Incorporated. Basic instruments and trailer, £1,400. Parachute, Radio, Horizon, Barograph, Oxygen available. I. Vesty, 70 Beatrice Road, Leicester. Tel. 24271.

SHK, immaculate condition, fitted with tail-chute. Full instrument panel, barograph, covered trailer. £2,500 o.n.o. Zotov, A. & A.E.E. Boscombe Down, Amesbury, Wilts.

FOR SALE (continued)

CAPSTAN and SWALLOW both with C. of A. to year end. Good condition and always professionally maintained, for full details contact Bill Dean, Pale Farmhouse, Chipperfield, Herts. Tel. Kings Langley 3122, office 01-606 8888. Ext. 235.

M-100s Standard class Sailplane complete with instruments and lightweight trailer, £1,250. Parachute, barograph, radio available. Hooper, Maiden Castle Farm, Dorchester, Dorset.

FOR SALE—Single drum Winch Buda petrol/paraffin motor, 6 litres approx., fluid flywheel drive, good condition. Can be inspected at Court Gate Farm, Harbourneford, Nr. South Brent, Devon. £125. Tel. Luppitt 687/8/9.

CAPSTAN T-49 (December, '64), excellent condition, low hours. Price, including instruments. £1,575. Kent Gliding Club, Challock, Ashford, Kent.

DART17R with Slingsby trailer, competition panel. All in good condition. No accidents. £1,650. Humphry Dimock, 20 North Cross St., Gosport, Hants.

Ka 13. New March 1968. £1,900. Fully instrumented for cloud flying. Complete with parachutes. Sale due to ill health. Box No. S.G. 298.

WANTED

WANTED — covered trailer suitable Olympia 460. R. Emerson, 17 Kilnfield Road, Rudgwick, Sussex. Telephone Rudgwick 600.

WANTED—one pair of Slingsby Falcon Glider Wings (as manufactured before 1938). Reply to T. C. Pattinson, Rayrigg Hall, Windermere.

SUPERLATIVE 17R wanted with trailer and complete instrumentation. Full details please to Box No. S.G. 296.

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SURVEY YOUR LIFE ASSURANCE Glider pilot—Life Assurance Consultant will gladly advise pundits.
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SITUATIONS VACANT

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FINANCE

FINANCE for your glider or aircraft purchase can be arranged by telephoning or writing to Colin Donald (B.G.A. Instructor), Burghley Finance Company Ltd., 177 Lincoln Road, Peterborough. Tel. Peterborough 68818.

PUBLICATIONS

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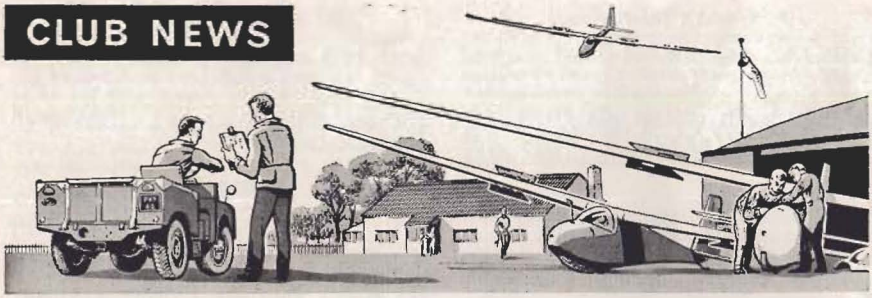
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CLUB NEWS



THE quality of the contributions to this section is, as anyone can see, extremely varied. Many have obviously been well thought out with a view to interesting the majority of readers of this magazine as well as members of the club concerned.

But alas, this is not universally the case. One gets the impression, from some of the material received, that it is rushed to us at the last moment regardless of whether there is anything noteworthy to report. To such contributors we would say: why not read through what you have written before posting it? You may find that you can do a lot better. Why not go further and try to make your club news more interesting to read than anyone else's?—EDS.

News for inclusion in the December-January issue should reach me, typed double spaced, by the 16th October, and that for the February-March 1969 issue by the 4th December. Please note my new address: **11 Great Spilmans, Dulwich, London, S.E.22** (*not S.E.21, as previously stated*). Telephone 01-693 3033.

14th August

YVONNE BONHAM (MRS.)
Club News Editor.

ALBATROSS

IT was not until early May that conditions were right to test our new Prefect to the full. Another frustration made itself apparent, that of seeing both our aircraft airborne (and staying there), with an idle winch waiting for work. For founder members, it was another milestone in the history of the Club—to have company on the ridge that for so long had been dominated by our sole T-31. There was further cause for celebration when, between them, the two aircraft notched up the completion of 3 Bronze C certificates, 2 C flights and one A & B qualification.

On the ground, development continues in several spheres. The purchase of a Land-Rover for airfield work and future retrieves has inspired the canteen department to plan an extension of their facilities by converting a van into a mobile canteen/control unit.

The hangar site has been levelled and materials are to hand, but after a long delay whilst the Local Council considered and finally authorised the project we have only just started the air-tests on our new pick-axes and shovels. Colin Scott, Dave Windebank and Barry Kingdon eye our concrete mixer with some trepidation as another possible source of snags; fortunately they have been strengthened by the presence of Terry Robinson, whose engineering experience and willingness to "have a go", has done much to keep us flying, and also to take an active part in our first long retrieve—that of our Bergfalke 2 from Dachau in Germany. This is our third Club aircraft, and we believe it to be the first of its type in this country.

F. C. S.

BATH AND WILTS

THIS year has been one of disappointment after such a promising start to

our thermal soaring season with its spate of Silver legs and a Gold distance.

Add to the atrocious weather conditions the fact that the use of the site has been restricted by combined Services exercises and one can imagine the high degree of frustration experienced particularly as the elements and Services appear to have ganged up on us and decided not to use the airfield on the same week-ends.

Had it not been for the great hospitality extended by our friends in the Bannerdown Club we would have suffered even greater frustration. We did our best to increase their bar profits and boost their launch total in return.

Since the last issue we have had a change of CFI. Gordon Mealing has had to retire owing to pressure of business and his place has been taken by Ron Lynch.

One rather unusual occurrence to record. Liz Wiltshire thermalled the Skylark 3F for over five hours to complete her Silver and on the same day husband John did his Silver distance in the Olympia 2B.

K. N. S.

BLACKPOOL AND FYLDE

WE have now confirmed that the Fair Snape bowl works well in a north-west wind, when winch launches to hill top height allowed our Olympia 2B to contact an easy beat of good lift, with no lurking traps. We are confident that all westerly winds from SSW to NW will be suitable for regular club flying. This confirms what the aeromodellers told us; and they recommend the east faces, which work better than the west ones in light breezes. We are eager to try them.

We were very pleased to see Bill Barcroft taking part in the finals of the Wills Competition, just beating Jack Crossley for this honour. He didn't bring home a prize, but gained very useful experience, and we were happy just to see our house flag being waved in public.

John Gibson has generously offered his Fauvette for club operation. He is our V-tail exponent and we now share his enthusiasm for its handling, performance and appearance.

K. E.

COTSWOLD

THIS time last year we had a club Ka-7 and Olympia 2 together with an Olympia 2B belonging to a syndicate. We have since added a T-21 to our two-seater fleet. On the syndicate side the Olympia has been joined by a Ka-6CR, Skylark 3, Blanik, Olympia 463 and a Dart 15 in that order.

Ron Hayne kicked off the soaring season by making Silver distance to Northampton in mid-March which must have been one of the earliest award gaining cross-countries of the season; up till now Club pilots have flown more than 1,000 km. whilst picking up 17 Silver legs on the way.

In May we held an Inter-Club Competition with the Worcester G.C., which was marred by poor weather, but we just managed to grab the few winning points that the weather permitted, which seemed a trifle unfair after the tremendous hospitality they gave us.

The most important thing that has ever happened to the Club is, of course, Gillian Howe's first place in the Wills Glider Pilot Competition, bringing home the Ka-6E for the Southern area. It was a truly magnificent effort and we all feel very proud.

D. G.

COVENTRY

FROM flaming June we have progressed into dismal July and August with a succession of cold, overcast, north-easterly clampers. Despite this, however, on a not too good a day at the end of July Claude Woodhouse obtained his Gold distance with a flight to North Hill via Alton.

Work proceeds at a feverish pace to get ready for the Nationals at the end of August and we have taken the opportunity presented by the bad weather to slap a coat of paint on everywhere so that our club will be a fit place for the pundits!

To conclude, we were honoured on 11th August by the spectacular high-speed arrival of Colin Donald in his new Diamant, followed a few minutes later by his own luxuriously equipped tug to retrieve him—how the other half live!

B. F.

CUMBERNAULD

WITH the excellent spell of weather between June and August, flying has been better than in any other year in the club's history. Although soaring has not been at its best our launch rate has increased in leaps and bounds. Three more B certificates have been obtained, one each by John Allan, Tony Pacitti and Mike Read. A good effort by all concerned.

The course held in June was reasonably well attended and this contributed to the above-mentioned solos. The new bus winch is beginning to take shape and will be a welcome addition to the site when completed, especially as our present winch engine has done 80,000 miles in a car and well over 1,000 launches this year.

T. J. G.

DERBY AND LANCASHIRE

WE seem to get spasms of wave activity at Camphill when wave appears imminent for several week-ends in a row. On Friday, 19th July, Mike Armstrong contacted in a Capstan and took a bemused course member to 11,000 ft. He left the wave with 4 knots on the vario as the member's time was up!

Club member Ken Blake won the Northerns this year in his Skylark 3B No. 37, followed by Messrs. Cousins and Stevens. Though the entry list was shorter this year, and only a moderate amount of publicity was attempted, Press, TV and Radio seemed very keen and CFI Eric Boyle was chased up for an interview by Radio Nottingham. We have been visited lately by the Sheffield Rotary Club, the local holiday home and the Scouts, some of whom recently joined a course.

Malcolm Blackburn was placed second in the finals of the Wills Glider Pilot Competition. We were all very pleased with his success and the glider radio he won is a most useful item of equipment for the Club.

Our Tost winch—bought as the Ultimate with its 5.4-litre 240 b.h.p. engine —broke! It's been repaired but our confidence is shaken.

A very noticeable piece of field levelling has just been carried out, and the soft topsoil has been shown to be capable of decelerating an Olympia 2B from flying speed to a dead stop in 6 ft.

R. H.

DEVON AND SOMERSET

REGULAR week-end training courses for club members are now in full swing in addition to the weekly courses run by volunteer club instructors. These, together with evening passenger flying, have kept both pilots and equipment fully occupied.

The first club Task Week commenced on 1st July, and as the wind and weather varied from hail, thunder and intense heat to a cracking day on the Wednesday, the task setter's job was no sinecure. Ron Hunt emerged with a Silver C distance having flown the Swallow all over the S.W. quadrant eventually to reach Milton Abbas in the cool of the evening. With the aid of radio, John Hancock and Roland Trott made some professional and speedy retrieves from their various excursions in the Dart.

Mid-July produced a number of first solos. Peter Cooper completed his Bronze C and Vivienne Fitzgerald soared the Ka-6 for over 5 hours to claim her duration on 27th July.

The persistent northerly winds blew in a few old friends from Compton Abbas and Tarrant Rushton, amongst whom were Joe and his son Terry Linee flying Dart and Olympia 463 respectively, the rest of the family being en route for the retrieve.

Practice parachute jumps from neighbouring Dunkeswell for the Air Days at Yeovilton, Exeter and Plymouth provided us with an interesting spectacle in addition to the magnificent views of Exmoor and Dartmoor to the west.

A. E. R. H.

DORSET

THE Dart 15w flown at the World Championships this year, is now firmly in the grasp of our CFI, Allen Palmer. Having been gliderless since he sold his beloved Eagle last year, he has been up at every opportunity getting to know the new machine. His first cross-country was a triangle of something over

200 km. to Warminster, Lasham and back.

Surrounded as we are by growing crops, with narrow launching facilities, it was necessary to devise a pulley launching system, to ensure that the cable did not fall amongst the crops. The pulley was built by Arthur Parrott and Tom Webster, and proved more successful than expected. (Arthur and Tom were also responsible for the design and make-up of our glider transporter for towing rigged gliders to the launch point; it's a long hard haul up our runways.)

In addition to safeguarding the corn, using the pulley has raised the launch rate, and gives a consistent average of 1,200 ft. for solo standard pilots. We also average only one cable break per 90 flights.

In June this year, our club achieved the highest number of launches of any one month since the club started in 1961. The introduction of a new Training Syllabus has led to uniformity of instruction. Each flying member under instruction is required to have a copy, thus eliminating those doubts as to what is required.

S. P.

DUMFRIES AND DISTRICT

WE have had several good week-ends recently enabling our members to have many good soaring flights; the warm weather making them arrive a little earlier in the morning, which we are very pleased to see.

The 'Olly Boys" have at long last brought the glider out of its glass case and we wish them "good soaring".

After a lot of hard work by the Haswells, Ian Slack and Jack Reid, we now have running water in the clubhouse, thus we can now offer our visitors a cup of tea!

We welcome the steady flow of new members, and with the recent good weather the T-21B is never out of the air.

J. P.

ESSEX

CHANGES have taken place at North Weald since our last report. The most important one being the resignation of CFI Peter Treadaway whose job has been taken over by our Chairman, Owen Harris. Peter, who had been the Club's CFI for three years and an instructor almost since the Club began, has now left and our sincere thanks go to him for all he did for the Essex Club.

The Committee has expanded taking in more members, and Don Drury has taken over as Secretary from John Unsworth.

Despite poor weather, we've managed to keep flying and have collected a fair share of Silvers and Bronzes, C certificates and solos.

We have had an influx of private owners this year, and are already looking forward to next season.

P. J. P.

ESSEX AND SUFFOLK

HERE at Whatfield during June there was a very good sea breeze front resulting in gains of height up to 7,000 ft. Our CFI Eric Richards obtained his Gold C height during this month.

Other achievements include several new solos. John Bradley has passed his Bronze C and is now commencing his instructor's course. Ralph Brooker has obtained a Silver C height and achieved an assistant instructor's rating. This brings our total strength of instructors to five full instructor ratings and one assistant rating. Our ratio of instructors to members is now 1:5. We have eight tug pilots including John Wilson, recently solo, who is qualified to tug.

Distinguished visitors to the club include Norman Fox from Cambridge with his Olympia 463 and an old member of ours, Peter Treadaway from North Weald, of whom we hope to see a lot more.

M. J. B.

GLASGOW AND STRATHCLYDE UNIVERSITY

ANY University gliding clubs or groups are invited to send details of their activities to E. Kohn, 26 Kingsborough Gardens, Glasgow, W.2, who represents the above Universities. If enough interest is forthcoming it may well benefit all Universities to form themselves into a University Gliding Association.

KENT

THE consistently bad weather through most of June and July has resulted in a minimum of achievements to report. Most seriously affected have been our weekly courses, the majority of which have been partially curtailed by weather and a couple disastrously so, which is very disappointing since we had succeeded in completely filling nearly all of them.

However, congratulations to Alun Thomas and John Harvey for getting their A & B certificates and to Tony Carr for completing his Silver C with a 90-km. flight from Compton Abbas in his Ka-6.

Ron Cousins followed up his 8th place in the Dart Championships with a 2nd place in the Northerns at Camphill and we all hope this secures him a place in next year's Nationals.

We are very pleased with Graham Jansen's third place in the finals of the Wills Competition, which won us a barograph for the second year in succession —we'll win a glider to put round it next year!

Plans are well advanced for our "At Home" on Sunday, 15th September, which is designed to be a P.R. effort, rather than a money-maker.

As a new venture, we shall be running two advanced courses and four approved instructors' courses during the winter period, under the auspices of our resident instructor, Buzz Wilson.

M. H.

LAKES

OUR Summer Courses were a resounding success, being held in excellent weather with plenty of flying for everybody. We were delighted to welcome new instructors from Lasham, Derby and Lancs, Lympsfield and Long Mynd to assist with the courses.

Local wave conditions are being explored more and more by aero-tow and several flights have been made recently to 12,000 feet.

Surrounded by mountains and the sea, our site presents a challenge for cross-country flying; it is pleasing to report that Peter Redshaw and Ron Hawkes have both just completed all legs of their Silver C from Walney and are now working for a full instructor rating.

Ian Ronald landed the club's Olympia in the Yorkshire Dales, his air map spread out in the cockpit. A puzzled farmer peered into the machine and announced to his son, "See thee 'ere lad, 'e's broughta map of the sky wi' 'im."

The club is going from strength to strength; come and see us, you may get some soaring in our T-53.

P. E. G.

MIDLAND

DURING July two new syndicates appeared on the Mynd. These bring the number of those permanently based with us to ten, being three Darts, two



Lakes Club course members had an excellent flying week in early August; they managed 140 *launches on the T-21 and one member soloed. (Photo P. Gillett)*

Skylark 4's, two 460's, two Ka-6E's and a K-13. The new arrivals are Peter and Kay Marsch's Ka-6E and Louis Rotter's K-13.

To coincide with the arrival of Louis's K-13 his father came for a short visit from Hungary. On 9th August Mr. Rotter celebrated the fiftieth anniversary of his first flight. Congratulations.

In recent weeks, although the week-end weather has not been very soarable, a very useful amount of flying has been accomplished. A further group of first solos has added to the demand for the Swallows. On 4th August, using only one single-drum winch, we achieved 122 launches. This constitutes a record for a week-end day and although short of the weekday record it seems quite probable that it will be passed before long.

To increase the number of social events an "Italian Evening" was held recently and is to be followed shortly by a "Greek Evening" and, who knows, perhaps an "Hawaiian Evening". Paul Stevenson has restyled the bar, which now looks very smart with its panelling and new shelving. Thank you, Paul.

K. R. M.

NEWCASTLE AND TEESSIDE

WE have just completed our second members' course this year, with well over 200 launches in six days. During that time soaring flights were there just for the asking. Brian Richmond was able to complete his five hours. His first attempt was foiled after being "investigated" by a Vulcan bomber flying beneath him twice!

Phase one of the clubhouse "mods" has been completed and measurements, etc., are being prepared for phase two. Quite a large amount of scrap has been collected together on the site, and the money from this will go towards other alterations. The kitchen (to be) and dormitories have been piped for running water and we will have the luxury of being able just to turn on the tap. Eventually the water will be filtered and heated by an Ascot heater.

We have been able to obtain the services of a local farmer to come and move the silt from the "monsoon" ditches and spread it on the southern area of the main runway. The area will be grassed, and with the other areas already grassed it will eventually improve the impression of the site both visual and physical.

Recent good weather and publicity have attracted several visitors to the club, quite a few, I am happy to say, joined and are thoroughly enjoying themselves. As well as visitors from local organisations, we have been able to entertain some visitors from Yugoslavia, who were in the area for the Teesside International Eisteddfod. After spending a whole day with us they left after making many friends and firm promises to correspond.

N. McL. J.

NORTHUMBRIA

WE have had more than our share of misfortune over the past two months, both the winch and cable-retrieving tractor have been unserviceable. The former required a major overhaul and the latter had a damaged gearbox.

Field levelling is also at a standstill as the equipment removed by the army for their Summer Camp has still not been returned by British Rail.

The club Jaskolka missed several week-ends' soaring while mandatory mods. were done on the flap mechanism.

Despite these setbacks the club continues to grow at a prodigious rate, one-third of the present membership joined this year. Negotiations are well advanced for grants to finance the hangar project, the first phase of our expansion programme.

J. R. G.

OXFORD

MALCOLM LAURIE, our Chairman, has done it again! We record with the greatest pleasure and thanks, his very generous monetary gift to the Club. Ideas are prolific on how it may be used to best advantage but serious deliberations at the last Committee meeting suggested that it ought to be set aside to strengthen our chances for a new site if we ever have to leave Weston-on-the-Green—heaven forbid.

The expedition to Lasham early in July to sample their thermals and landscape was most successful. Flying in the K-13, Olympia and Skylark 3F took

place on three of the five days. This excursion has revived interest for future trips away as it is a long time since club aircraft flew at Edgehill.

With better weather so far this year winch launches, aero-tows and consequently the hours are up on last year by almost 25 per cent. Some of these can be attributed to our two keen young lady enthusiasts, Ann Godfrey and Jackie Crouch, who must be congratulated on their recent first solos.

C. J. T.

PERKINS

1968, "The year of the clag" . . . or so it will be recorded, as the stuff has certainly affected this club's usually busy month. Winds have been generally easterly in direction forcing us to use our shortest runway, so it was quick circuits from a 700-ft. launch. As if this wasn't bad enough, the area suffered the worst bit of precipitation for years, causing severe flooding, which made cable retrieves over our grass runways virtually impossible. Our flying weeks were so affected that only three days out of the ten were operational, and although cloud base then remained at 1,000 ft., visibility below it was exceptional . . . sufficient for us to view Hunstanton (32 miles away, bathed in sunshine, with cloud cover increasing as it came inland).

Our future (financial problems excluded) seems settled for the next two years as our host has given us permission to use Postlands Airfield until at least 1970, and has also offered us the unrestricted use of his own "homestead airstrip". Although site limitations exclude the latter from ever being a club operational airfield, we hope that when the proposed extensions are made, we will be able to use it for aero-tows, in conjunction with Postlands.

We have now been able to ascertain the minimum winch launch heights available to us. In our T-21B in light wind conditions, these range from 650 ft., wind north-east to 1,100 ft., wind northerly.

To enable qualified pilots without aerotow experience to receive the necessary aerotow checks, it is hoped that Ray Stafford Allen can come over with his Capstan for this purpose.

V. V. L.

SCOTTISH

RECENT weeks of easterly winds have proved to the more hill and wave bound members of the club that there are other ways of staying aloft, by good old-fashioned thermals!

In the latest batch of first-solo flights there are two more girls, and a course comprising wholly of Lasham Air Scouts resulted in seven out of the eight members going solo here.

We are fortunate to have the use of Glenrothes airstrip, three miles away, for our own Air Scouts plus club pilots until the extensions to our own airfield come into operation. Meanwhile, our hangars are getting a "facelift". Silver paint for the outside, and large blocks for the floor being laid by some of the members assisted by a selection of Tom Docherty's mechanical devices.

Sadly we have lost the services of Chas. Morgan as an instructor and tug pilot, as he has been posted south of the border. Mrs. Mac, too, has gone after being with us for about twenty years.

Our energies and efforts are now being concentrated on the forthcoming Wave Competition due to take place from 28th December to 5th January, and to the host of visiting pilots scheduled to be here in the interval.

M. B. R.

SOUTHDOWN

OUR new £5,000 clubhouse was officially opened by the Chairman of the East Sussex County Council on Sunday, 28th July. The weather was on our side for once and a NE wind prevailed all day giving good thermals, thus allowing our non-gliding VIPs a glimpse of the real sport. The opening ceremony and the day's gliding went smoothly, thanks to the organisers, Derek Bunker (ceremony, etc.) and Ray Funnell (flying).

Chris Hughes was towed over by the Condor of the Tiger Club and gave a fine aerobatic display in the Swallow.

We have now acquired a brand new Ka-13, thanks to the generosity of Geoff Creffield, the owner, who has lent it to the club. Everyone who has flown it agrees that it is a beautiful aircraft to fly, having exceptional visibility and a high degree of pilot comfort, as well as

a very reasonable performance. The Ka-13 is not intended as a replacement for the T-21B but will be used for advanced training and soaring instruction.

P.C.

ULSTER AND SHORTS

THE Ulster Club is no longer in the Belfast Control Zone. We haven't changed our site from Long Kesh nor moved the airfield, but thanks to Nicholas Goodhart the Control Zone has been moved some few miles away from us, leaving an escape route.

During the last three years we have acquired by one means or another a Blanik, Capstan, Olympia and Ka-6E. We are still using the pulley launch with tension gauge and radio control through a duty controller, and would not consider any other existing system. With value for money from the pulley we sold the Terrier due to lack of use. We are on very good terms with Air Traffic at Aldergrove, and have use of a tie line from the airfield met. station. We have experienced unusual weather this year in that we have scarcely had a day since January without soaring, and pupils have actually complained that they are not getting enough landings.

Jeremy Bryson completed his Silver C within a month, getting height in cloud on one flight and being observed throughout on another by the retrieve car with radio across the border 109 km. to Swanlinbar. On his arrival there he soared locally for another two hours to complete 5 hours. The waiting crew then photographed his field landing.

Joe Taggart flew 5 hours in the North West Club's Skylark 2 ex-Ulster at Magilligan; and Sir Ivan Ewart, Wally Galloway, Terry Simmons and Dave Thomas completed Bronze C.

Roger Neaves and Ken O'Reilly visited us during July for our first Instructors' Course and gave everyone plenty to think about and practice in order to achieve their high standard. Have you tried the lazy eight yet? The results can be very illuminating.

We are more than indebted to W. D. & H. O. Wills, the BGA and all the task setters and examiners for an enjoyable competition in which Laurence McKelvie won for us a Ka-6E. Winning this lovely aircraft has put us about two years ahead in our growth policy.

G. M. H.

WEST WALES

OUR Pirat has at last arrived from Antwerp. Wally George who was towed across the English Channel in it commented that picking ships was a change from picking fields. Bernie John has become one of the few who have gained their Silver height over the airfield, in fact he has done it twice this year, once without a barograph.

The courses have been going well this season and we are fully booked to the end of September. We were pleased to see our many friends from Coventry visiting us during Show Week. This time they brought with them an Auster, a Turbulent and a Bocian 1E, so our hangar was nice and full at night.

J. D. O.

WORCESTER

WHAT a period of change and advancement it has been here at Worcester during the past year.

At the end of the 1967 season it had been found necessary to curtail any further increase in membership due to lack of general facilities on the field and it was decided that during the winter, flying would have to be restricted to a certain extent so that the club's plans to correct this could be implemented and although this was a hard pill to swallow, now it has paid off.

Money donated by the club members has transformed the club from a draughty, muddy, inhospitable cold, old clubroom to a cedar-wood clubroom containing a bar, a dining room and a kitchen. Attached to the clubhouse we now have washing and toilet facilities, a kiosk shop for club members, and a bunkhouse, all rooms being fitted with twin-bedded accommodation. To add a finishing touch a terrace facing the flying field has been built on to the clubhouse so that not only will club and course members benefit from the new facilities, but their families as well.

We have laid a hardcore road from end to end of the field which now means we can use the tractor on retrieve all

through the winter.

Whilst all this activity was taking place Bob Baker, our resident instructor, has been away from the site but appeared recently with a new two-drum winch which he had completely built from scratch; and the power-packed launches we are getting from it are certainly proving his workmanship and value to the club.

Laurie Watts from Coventry is our new CFI who, together with Lorne Danialls, has increased our launch rate to double that of last year. Under Laurie's guidance we held a task-week for the first time and invited members of the Cotswold Club to take part. Regretfully the weather was terrible and nothing was really accomplished apart from a very friendly inter-club relationship being established.

The club fleet remains unchanged, but we missed the Tiger Moth this season, due to the necessity of a major overhaul; however, syndicate-owned machines have increased by the addition of a Bocian, Ka-6CR and a Skylark 3. The club is justifiably proud of the advances made since its inauguration six years ago, when only one aircraft was owned and that was left tied to the fence at night when everyone went home.

P. B.

SERVICE NEWS

BANNERDOWN

IT is with great sorrow and a deep sense of personal loss that we write after the passing of Pete Dawson. Others are better acquainted with, and more qualified to speak of Peter's flying career, but at this time he was *our* CFI, and he came to us not long ago when we were in real need of leadership.

He watched quietly, made little comment; he made his decisions and he made them known. He then initiated and led every activity. He was builder, carpenter, cook, engineer, painter, mechanic, defender, writer, negotiator, organiser, mentor and friend. He raised our efficiency, our morale, our flying endeavour, our tempo and made new club records. From time to time he flogged us, and rightly so, but it was done with a rare integrity and often with irresistible charm.

Seven months ahead he was already organising a club expedition to Issoire, especially for those whose pocket would not normally take the strain.

He was most proud of our picture of his fleet and equipment on the recent Inspection Day. He was determined to see us at the top of the GSA table.

We all loved him. We shall all miss him. We shall always remember him.

(See Obituary, page 416.)

P. H.

WREKIN

WE have lost two of our instructors—Abbo Maunton, who has been posted to St. Mawgan, and Malcolm Allison, who has gone to Germany. The Club extends its thanks to them for their untiring efforts both on the field and in the hangar. We welcome "Budge" Burgess and Dave Grieg back to the fold after a six-month break. Dave is filling one of the gaps in our instructor ranks.

Several Silver legs have been gained as well as a number of Bronze C's and A & B certificates. By gaining his Silver duration at the Long Mynd Malcolm Allison has completed his Silver C.

Tony Phipps and Sandra Walden were married on 31st August and Malcolm Allison and Pat Freer were married on 7th September. Congratulations are sent to both couples.

At the open day at Cosford, Norman Smith gave a most polished display of aerobatics in the Skylark 2 and managed to bring gasps from the 15,000-strong crowd watching the show.

C. B. B. & P. H.

PHOENIX

SINCE our last enclosure we have a change of committee, due to the usual Service upheavals. Don Austin has taken over the reins of CFI, with Colin Elliott as Deputy and Mike Cairns Officer i/c plus Treasurer. A recent and very keen member, Mike Slater, has taken over as our Aircraft Member as Dennis Bowley has now returned to the UK: just before he left, together with Jimmy Mac, they flew in the Germany Regionals

at Butz, and received a special trophy for the best foreign competitors. Dennis Bowley's final effort was a frustrating 295 km., disappointing but a good excuse for a drink! Harry Baker and Mike Smith have also recently left for UK—best of luck to all of them.

In the recent RAF Germany Gliding Competitions held at Detmold, Malcolm Medland and Dave Cutler represented the club and both did extremely well, Malcolm coming first, and Dave being fourth, this bringing Phoenix in for the team 1st place.

Bronze and Silver legs have been obtained, too numerous to mention, but the club is going from strength to strength and we shall soon have all three two-seaters flying.

M. J. B.

OVERSEAS NEWS



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

AUSTRALIA

WESTERN AUSTRALIA REGATTA.—This year's four-day Easter contest was the best ever, attracting all 12 serviceable gliders in the State to Cunderlin from three clubs. Weather allowed two tasks to be set, of which only one was flown, a 128-mile "downwinder" to Southern Cross. John Morgan made best time in a Skylark 2. Statistics—207 launches, 54½ hours and 450 miles—were more than double those of any previous W.A. Regatta.

GAWLER REGATTA attracted 16 gliders from four South Australian clubs; also a good number of Easter holiday-makers from Adelaide, 25 miles away. A high overcast spoiled the first day's task. Next, a 100-km. triangle was won on handicap by Don Nottle in a Ka-6, but Eric Sherwin was fastest with a Libelle. Next day, the forecast lift to 12,000 ft. was brought down by high cloud to 3,000 ft.

A weak front cleared the air for the last day and cumulus started popping before 8 a.m. A double out-and-return to Freeling, 45 miles, was set, and all went well till the arrival of a sea breeze about midday. Peter Butler, in an ES-60, made it in 1 hr. 6 min., beating the Libelle by 6 min. Finally, the Le Page Trophy for the most meritorious pilot went to Merv Gill with his tiny Spruce Goose.

NATIONAL RECORD.—Harry Schneider and Alan Killmier set up an Australian two-seater distance record in the Adelaide Club's ASK-13 on 31st January. The N.W. wind was so strong that about eight people hung on to the machine till the auto-launch. Their luggage included food, water and sleeping bags. They had to beat a cross wind to the first turning point at Angaston to avoid the control zone. Soon they were doing well with 70-80 knots airspeed plus a 25-knot wind, but this later died away. As lift finally weakened, they spotted a motel at Strathmerton, near Shepperton, and landed by it at 17.58, after covering 395 miles in 7 hr. 52 min.

Australian Gliding.

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CZECHOSLOVAKIA

VISIT TO SLOVAKIA.—I have recently returned from another visit to Czechoslovakia. While there, I revisited the gliding club in Slovakia (they are delighted to be receiving SAILPLANE AND GLIDING, incidentally, and read it avidly), and by sheer chance coincided with the Slovak National Gliding Championships which were being held at Nitra about 100 km. away. One of the members drove me over there and I had two marvellous flights—though unfortunately not in soarable conditions—in a Blanik.

SYLVIE NICKELS.

NATIONAL CHAMPIONSHIPS.—These, the 8th of the series, were held at the traditional site, Vrchlabi, from 12th to 26th May. There were two Classes, National with 38 entrants, and International with 6 entrants, including two Polish visitors, Kluk and Kmiotek.

Only four contest days are reported. The first, a 91.4-km. out-and-return on the 14th, under a 2-3/8 cumulus sky, was won nationally by Rydl at 48.1 km/h., with Dvorak 2nd at 44.1, and internationally by Matousek at 49.1 km/h., with Kluk of Poland 2nd at 45.1.

Next came a 200-km. triangle on the 15th, under 4/8 cu. Rydl won again at 68.5 km/h., and Matousek internationally at 64.7, with the Poles unplaced.

On the 19th a 115.4 triangle was flown by the internationals; the Poles Kmiotek and Kluk were 1st and 3rd, and Svoboda 2nd.

The 3rd full contest day was 21st May with a 310.8-km. out-and-return. From 65 launches, 11,869 km. were flown in 265 hr. 50 min. flying time. Wala won nationally at 63.9 and Svoboda internationally at 68.0 km/h., with Kluk 2nd at 65.8.



Briefing was held in the open air

A 102.4-km. race was the final task on the 24th. Malek won at 54.7 km/h., and Vavra internationally at 57.2.

Leading final scores were:

National. Rydl, 3,363; Divok, 2,823; Maracek, 2,821.

International: Sarny, 4,330; Kluk (Pol.), 4,168; Vavra, 3989; Svoboda, 3,235; Matousek, 3,120; Kmiotek (Pol.), 2,906.

Types flown included Foka, Orlik and Pirat, but it is not stated who flew which.

Letectvi.

DENMARK

IN the years between the National Championships in Denmark we have a "B-championships" in order to get new pilots forward for the Nationals. Both in 1966 and 1968 these B-championships have been blessed by extraordinarily fine weather which makes the results appear much better than the real championships.

From 23rd May to 3rd June, all 12 days were suitable for competitions, but "only" 10 used. Most of the 25 competitors flew for more than 40 hours. They flew seven triangles from 107 to 312 km. (the latter not fulfilled), two out-and-returns and one 311-km. goal flight (broken leg), which three fulfilled.

There was hard fighting about the leading places (the five first automatically gain access to the Nationals next year, and some of the others may have a chance too). Jörgen Mölbak Jensen, of Aviator, Alborg, won with 7,711 points by winning the final task. Bent Hagel, Vaerlöse, was second with 7,673, Jörgen Agesen, Midtjydsk, third with 7,222. They flew Ka-6CR, Ka-6CR and Foka 3 respectively.

Adam Zientek from Poland was guest instructor at the Arnborg gliding centre in Jutland this summer for four weeks, and flew for more than 100 hours, mostly in the new Bocian 1E, in which he took a big number of Danish instructors and other gliding pilots through his instructive and well-polished aerobatics programme. We hope this will lead to safer flying.

Royal persons have flown gliders in other countries, but have you ever seen a bubble containing three two-seaters with the heir to the throne, her husband, and their aide-de-camp in each of them? This sight could be seen over Arnborg on 7th August when Her Royal Highness Princess Margrethe of Denmark flew in the front seat of a new Blanik, piloted by Niels Sejstrup, His Royal Highness Prince Henrik in the front seat of the new Bocian piloted by Svend Michaelsen and the aide-de-camp in another Bocian.



Princess Margrethe.

The Royal couple flew for more than half an hour in blue thermals, and Ib Braes, who was on his way from Alborg to Arnborg, reports that he heard them on the radio discussing height and rates of climb. Prince Henrik, who is undergoing pilot training in the Air Force, also piloted the Bocian on part of the flight.

After landing they saw Adam Zientek perform aerobatics in a Foka. The chairman of the Gliding Committee of the Royal Danish Aero Club, Mogens Buch Petersen, afterwards presented each with a "logbog" with their first flight entered. The front page was filled out like this:

NAME: Henrik.

PROFESSION: Prince.

ADDRESS: Denmark.

After nearly two hours at the gliding centre, the guests returned by helicopter to their summer residence. On the same day the King and Queen of Denmark flew to Greenland by SAS, so we seem to have a real flying family.

PER WEISHAUPT.

FINLAND

THE first handicapped gliding contest ever held in Finland was flown during the first week of June at Nummela gliding centre, which is situated some 30 miles west of Helsinki. The contest was organised by Helsingin Ilmailuyhdistys (Helsinki Aviation Society), the host club of the site, and Kolmiolentue (Triangle Squadron) which is an unofficial club consisting of enthusiastic young glider pilots in Helsinki.

The handicaps used were the same as those used by the BGA, and the pilots were informed about the system well before the contest. 100 per cent handicap was given to Ka-6CR and the Finnish Kajava, while the Vasama, Foka Std., Ka-6E and the Finnish plastic ship UTU had a handicap of 96 per cent. Except for the handicapping, the photographic evidence of turning points was completely new in Finnish contests, and also it worked very well.

The pilots of 12 competing ships were present at the first briefing. The task was 198-km. out-and-return, which eight pilots completed. The second task was the "cat's cradle", a task never before flown in Finland. One contestant, Raimo Nurminen from Hämeenlinna, went beyond the 300-km. mark, and the task proved suitable also in Finnish conditions. The third task was a 106-km. triangle, which no one completed, and the fourth and last task a 113-km. triangle, flown through by four pilots.

The final results after four contest days showed that the winner's trophy, of genuine Finnish design, had gone to a young schoolboy, Raimo Nurminen, who accumulated 3,233 points. His victory was very well earned, because he flew through the tasks also on two no-contest days. Nurminen's ship was a Ka-6CR. The second prize went to the well-known competition pilot and great gentleman, Pentti Mäki from Karhula. He scored 3,199 points, flying his own UTU. The best team was Pentti Törrönen and Arto Tulkki flying the Kajava.

The organisers are already planning the next contest, to be held during the first week of June, 1969.

JYRI RAIVO.

Contest Director and Task-setter.

HOLLAND

THE summer competition for less experienced pilots took place in the first week of July at Terlet. This event has become a tradition and promotes competitive gliding amongst younger pilots and serves also as a selection system for entry into the Dutch Nationals which are usually held at the end of May of the following year.

Four tasks were flown, while on two days tropical temperatures and an inversion prevented soaring altogether and everyone rushed off to the nearest swimming pool.

The 22 pilots were sent out on a 200-km. Triangle, a 90-km. Goal race, a 309-km. Triangle and a 220-km. Out and Return. The best day (4th July) was the 309-km. triangle München Gladbach (Germany), Weelde (Belgium), Terlet, which was completed by seven pilots. Aart Dekkers claimed a new national record by flying his Diamant 18 round the course at 75 km/h. Dick Réparon claimed the national out and return record on this day, flying his Ka-6E to Oerlinghausen and back (385 km.). The leading pilots in the competition were: 1, Fernhout (Ka-6), 3,134 pts.; 2, V. Leeuwen (Ka-6E), 3,020 pts.; and 3, v. Geuns (Ka-6), 2,878 pts.

M. M. MANTING.

SWITZERLAND

TWO FATALITIES.—The following information has been sent by Flug und Fahrzeugwerke AG, Altenrhein, Switzerland:

The beginning of July was overshadowed by two tragic accidents in which two experienced pilots lost their lives. In both cases they took off from Altenrhein airport in Switzerland where the Diamant sailplanes are produced.

On 5th July, Leif Holm, 26-year-old pilot from Langshyttan, Sweden, was towed up in a Diamant 18 which he and three of his friends were buying and were going to take back to Sweden. After an uneventful tow to 3,000 ft. above airport level, he released and started circling over the neighbouring hills. Only minutes later he crashed to his death in a narrow basin below.

The cause of the accident is still completely mysterious. Leif Holm was con-

sidered an experienced pilot with nine years' soaring background. On the other hand, there is no indication whatsoever that would point to a failure or malfunctioning of the aircraft. The glider involved had been check-flown just prior to the accident by the factory test pilot. It was the same plane that had been used in the German as well as the World Championships.

The second accident took the life of one of Switzerland's top soaring pilots. On 8th July, Ruedi Seiler, 41, holder of several national records, winner of the 1967 French Competition in Angers, double task winner and overall third in this year's World Championships, was on a practice flight over the Alps in Austria.

On his way back to. Altenrhein, the thermals became weak and he slowly glided down into a valley, still in radio contact with a 15-m. Diamant piloted by his Austrian friend Erich Gehrer. While circling close to the mountainside, he unexpectedly collided with an almost invisible steel cable of a local timber ropeway. Wings and fuselage had already passed underneath the cable, which caught and almost sheared off the upper part of the Diamant's tailplane, leaving no hope of recovery.

The gliding fraternity deeply mourns the passing of these two great soaring pilots.

F.F.A.

NATIONAL CHAMPIONSHIPS. — "The Nationals of the howling winds", as some called this event, took place at Birrfeld from 5th to 11th May, with 16 pilots in the Open Class and 12 in the Standard. Types flown were 5 Diamant, 5 Elfe, 4 Phoebus, 3 Libelle, 3 Ka-6, 2 AN-66, 2 SHK, 1 Cirrus, 1 Foka. Markus Ritzi was contest director.

Sunday, 5th.—Open Class: 126-km. triangle, won by Ehrat (AN-66) in 1 hr. 44 m. 54 s. Seiler (Diamant 18) and Baumgartner (Cirrus) took 3 and 6 minutes longer. All had much difficulty getting away.

Standard Class, 150-km. out-and-return, won by Nietlispach (Phoebus 15) in 2:23:50, followed by Bloch (Elfe S3). At the turning point, Lützel, this Class had to battle with a hefty thunderstorm (heftige Gewitter).

Two days of bad weather followed.

Wednesday, 8th.—A display (aircraft, parachutes, etc.) was laid on for 3,500 schoolchildren, and the glider pilots were pestered with questions till they could get away on their tasks. Open Class: 212-km. out-and-return along a dog-leg course to Elzach via Rheinfelden; won by Baumgartner in 3:32:22. Standard Class: 157-km. triangle which only Lüscher completed in a Ka-6E, putting the "super orchids" to shame.

Thursday, 9th.—Open Class: 260-km. out (to France) and return, won by Seiler (Diamant 18) in 3:06:05. Ehrat (AN-66) took just a minute longer, but Frehner (Libelle) in 3rd place took over 20 min. longer. Standard Class: 221-km. out-and-return, won by Luthi in a Ka-6E, with a Phoebus 15 2nd and an Elfe S3 3rd.

Friday, 10th.—In the presence of many important personages, all set off on the same task, a 100-km. triangle. Winners were: Open Class, Baumgartner (Cirrus) in 1:56:07; Standard, Ruch (Elfe S2) in 2:22:12. This was the last contest day.

Leading Results, Open Class

Emil Ehrat	AN-66	3914
Rudolf Seiler	Diamant 18	3841
Kurt Baumgartner	Cirrus	3618
Fritz Wanzenried	Elfe MN	3222
Herbert Frehner	Libelle	2478

Standard Class

Urs Bloch	Elfe S3	2929
Hans Nietlispach	Phoebus 15	2573
Willi Lüthi	Ka-6E	2347

SWISS PIONEER.—Jakob Spalinger, designer of many successful sailplanes, is 70 years old. He built his first glider, the S-1, in 1915, made the first Swiss soaring flight in the S-6 in 1929. Up till 1945 he had designed 37 types of aircraft, of which 147 examples were built, 60 of them being the famous S-18 sailplane, of which 8 are still in use.

Aero Revue.

UNITED STATES

NATIONAL CHAMPIONSHIPS. — These were held at Harris Hill, Elmira, N.Y., in early July. The weather was very co-operative and provided seven contest days. Tasks were:

July 2nd: Distance along a fixed course: Harris Hill—Sidney Airport—Harris Hill—continue along a line through Lake Lawn Airport (42 56 lat. 76 26 long.).

July 4th: Speed dash to Dansville Airport, Dansville, New York, and return to Harris Hill (42 34 lat. 77 43 long.).

July 5th: Speed—Harris Hill to Scrantan Airport to Tri-Cities Airport to Harris Hill—158.0 miles.

July 6th: Distance within a prescribed area.

July 7th: Speed Dash to Seneca Falls and return to Harris Hill.

July 8th: Distance within a prescribed area. Turn points at Harris Hill, Sidney, Perry-Warsaw, Scranton, Grand Canyon State.

July 9th: Speed Task to Sidney Airport.

Ben Greene became National Champion and received the du Pont Trophy, also two Daily Best Flight Awards. Other winners of Daily Awards were John Firth, Walter Talalas and Burton Meyer. Standard Class Champion was Louis S. Rehr.

Total miles flown were 42,318.5. Longest distance flight: 289 miles by Ben Greene. Best speed flight, 49.1 m.p.h. by Gleb Derujinsky.

Leading Final Results

Ben Greene	Libelle	6163
John Ryan	Phoebus 17	5944
Neal Ridenour	HP-13	5762
Paul Bikle	SHK	5716
Gleb Derujinsky	Cirrus	5578
Geo. Squillario	Libelle	5472
James Smiley	Libelle	5421
Joe Conn	SHK	5368
Ross Briegleb	BG-12B	5359
Louis Rehr	Ka-6E	5336
John Firth	HP-11	5322
Walter Talalas	Diamant	5308

DEREK PIGGOTT writes: "I didn't do very well in spite of the rather patchy weather. However, the T53 went very well and I had a lot of fun chasing the exotics!

"The organisation, etc., was first rate —as good or better than any I have met before. The weather was difficult at times with good but widely spaced thermals. I found operating at 4,000 feet with the ground 2,000 feet rather deceptive. Magnificent countryside and good hospitality."

WEST GERMANY

NATIONAL CHAMPIONSHIPS. — This event, the eighth of its kind, was held from 25th May to 8th June at Oerlinghausen, where it had been last held in 1955. In the Open Class were 17 entries, the sailplane types being 5 BS-1, 3 Cirrus, 2 each of SB-8V, SHK and Libelle, and one each of Milomel, Kestrel and Diamant 18. Among 47 entries in the Standard Class were 18 Phoebus, 13 Ka-6, 4 SF-27 and 3 LS-1. A motorised SF-27M was flown *hors concours.*

Winner in the Open Class was Cologne dentist, Dr. Wolfgang Gross (BS-1) with 4202.0 points. Second, Emil Bucher (BS-1) 4177.4 points, and third Helmut Broch (Libelle H301) with 4005.3 points.

The Standard Class was won by Helmut Reichmann on the new LS-1 with 4077.5 points, followed by Walter Schneider (LS-1) (LS stands for Lemke/Schneider) in second place with 3974.7 points.

The SF-27M motorglider was placed 21st in the final results.

Anne and Denis Burns also took part in their Cirrus for part of the contest, but they had to leave before the end.

The tasks flown were as follows:

May 27th—118-km. Triangle. No-one completed and Anne Burns won with 84 km.

May 28th—207.6-km. Triangle. Six Open and one Std. Class pilots completed.

Open Class winner, W. Kriechbaum (Phoebus), 36.87 km./h. Std. Class winner, H. Broch (Hütter Libelle), 38.26 km./h.

May 30th—141-km. Out-and-Return. Average speeds varied from 63.22 km./h. for the winner, Dr. Gross (BS-1), to 27.4 m.p.h. Dr. Bulang (Ka-6E) was fastest in the Std. Class, with 59.04 km./h.

May 31st—311.1-km. Triangle. Thirteen out of 16 Open Class pilots completed and 17 out of 44 in the Standard Class. E. Bucher (BS-1) won the Open Class with 78.11 km./h. In the Std.

Class the three fastest were close together, with just over 68 km./h.

June 1st—508.2-km. Triangle. No-one completed but again the Std. Class did better than the Open. Furthest distances 477 km. and 451 km. respectively.

June 4th—183.6-km. Out-and-Return. Only 8 of the 60 pilots got round.

Winners: Open, Portmann (Libelle) 45.68 km./h.; Standard, Dr. Bulang (Ka-6E) 49.15 km./h.

June 6th—308.7-km. Triangle. No-one completed. Furthest distances: Open, Beduhn and Treiber, both in SB-8's, 231 km.; in the Standard, Neubert did best in his Libelle with 223 km.

June 7th—157.7-km. Triangle. Klaus Holighaus (Cirrus B) first in Open with 70.58 km./h. Kriechbaum (Phoebus 15) first in Std. Class.

* * *

Rolf Spänig and Walter Neubert, the only two German entries in the Italian Nationals at Rieti, which were held in early August, won the Open and Standard Classes respectively, Neubert also being placed second overall. Rolf Spänig flew the new 17.4 m. all-metal FK-3 (Heinkel construction) and Neubert flew a Libelle H-201, in which he was placed third in the German Nationals at Oerlinghausen. Attilio Pronzati, flying a Phoebus, became the new Italian Champion.

Professor Walter Georgii died on the 24th July in München after a short illness, three weeks before his 80th birthday. (See next issue for obituary.)

History in the making. The first Distance Diamond for a flight in a motor-glider has been issued by the German Aero Club to Williband Collée, who flew his SF-27M from Elz to Le Rabot airfield (France) on 28th July — distance, 537 km.

Collée launched himself just before 11 a.m. to a height of just under 1,000 m., switched off the engine and retracted it. The flight took about 8 hours and was carried out between heights of 800 to 1,700 m. A first quick look after landing showed that the special barograph had worked properly and clearly showed the stopping of the engine.

The value of self-launching was clearly demonstrated on this day, as the winch at the club broke down and only the SF-27M was able to take off, while the other pilots with the same task in mind had to give up their intentions for that day.

Another pilot, Heinz Sauer, had taken off from Laufenselden in a Ka-6E and also landed (just before Collée — they had been in radio contact most of the way) at Le Rabot, where an Open Day was in progress. They received a tremendous reception when it was announced what they had just done. Both pilots completed their third Diamonds with these flights. *Aerokurier*

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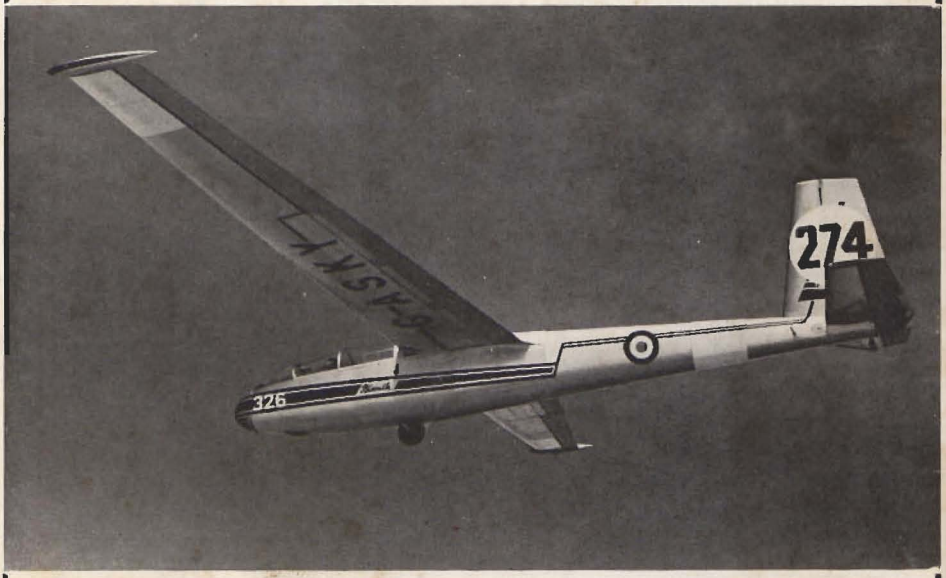
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