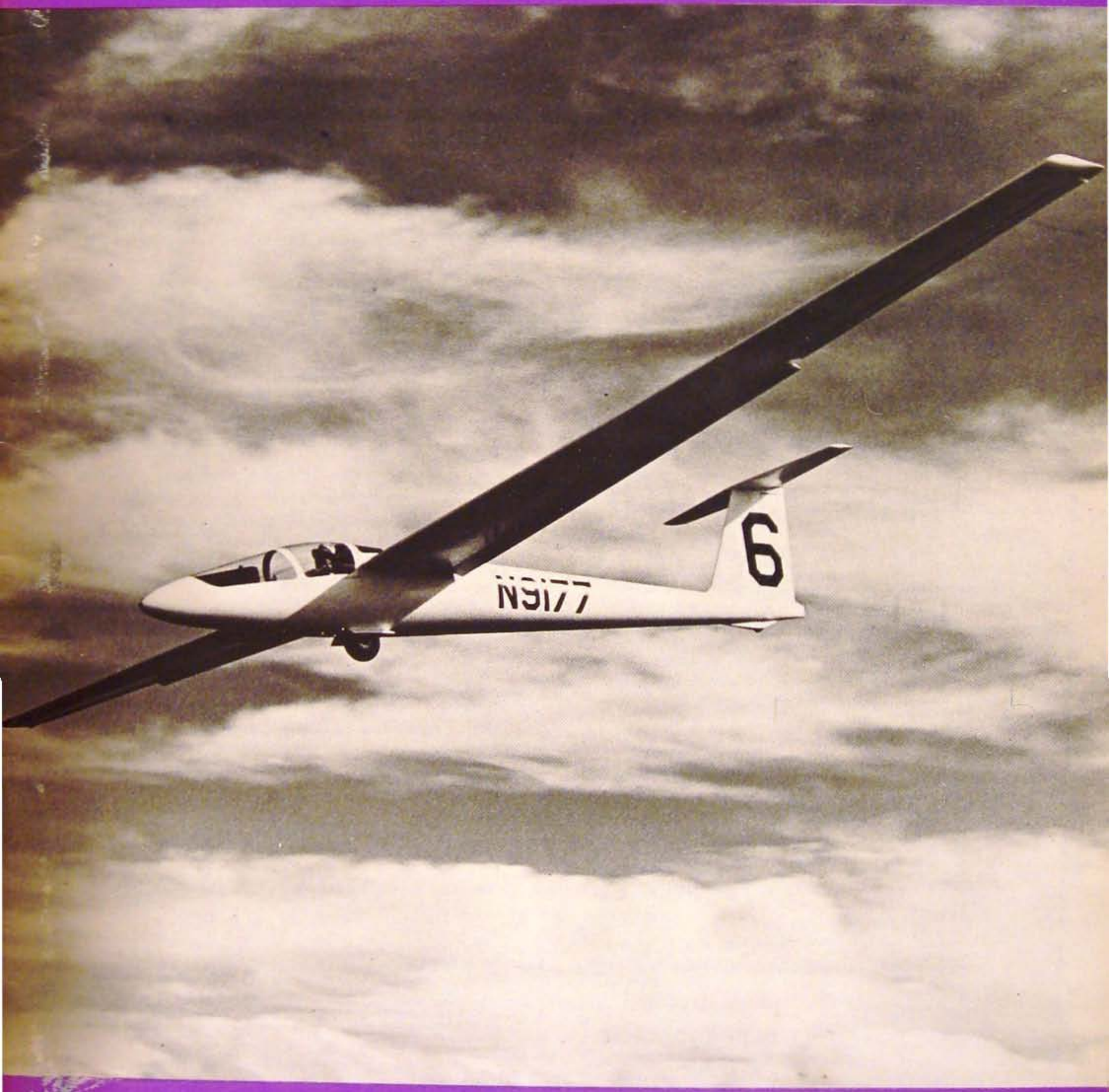
SOARING PILOT

the INTERNATIONAL gliding magazine



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Volume 1 No. 3

AUTUMN 1973

Editorial

REDRESS OF BALANCE

If, at first glance, you feel that the major proportion of this edition of SOARING PILOT appears to bear a remarkable similarity to the centre pages of THE SPORTING CHRONICLE, you will be absolutely right.

September brings to an end the 1973 competition season for most of the countries lying in the Northern Hemisphere, and we, as an International journal, have endeavoured to bring to our pages a representative selection of reports covering the outstanding of these competitions. Among these pride of place must go to The Daily Telegraph sponsored 'Euroglide' meeting which produced two action packed weeks of world class flying.

While we make no apologies for the extra coverage given to the sporting scene, we believe that competition flying is an integral and vitally important facet of gliding which has a direct bearing on the future of the gliding world as a whole, we do appreciate, and respect, the fact that many readers interests lie outside the realm of the competition pilot and would assure them that they have not been forgotten.

With these other interests in mind let us look forward to our next issue when we take a long hard look at some of the older gliders used by the clubs, in particular those which are used as first single-seat solo machines. These observations will be conducted on the lines of a 'test flight report' and we trust that our findings and subsequent revelations will give some help to those pilots preparing to embark upon their first flight in a single seat glider.

Still, with the ab-initio in mind, we shall also be presenting the first of a radical new series which have been designed to impart to the reader the basic rudiments of meteorology with the minimum of learning. Observation being the key factor here.

These articles along with major contributions from New Zealand, U.S.A, and South Africa will just be a few of the features of an issue which will be directed mainly at 'Mr Average' glider pilot.

MIKE BOND

Mike Bond.

Front Cover

Paul Bikle in his T-6 (Modified HP-14) Photo: George Uveges

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As observed by Doug Birch and Mike Bond

Day 1 – Part I

The immediate problem facing senior task setter Ian Strachan on the first day of the Daily Telegraph "Euroglide" and British National Championships was that of diminishing visibility. Low cloud, which had cloaked Lasham for the previous 24 hours, was now being insidiously replaced by heavy industrial haze from the midlands, this, coupled with minimal thermal activity of limited depth (3,500 – 4000ft.) being the root cause of the mornings apprehension.

Taking all these facts into consideration it was decided to defer the decision to announce the task until late morning; the original 212 km. and 187 km. out-and-return tasks would, by then, be very obviously impracticable.

Thoughts

It would be very fair comment to quote the first line of an erstwhile popular song when describing the pre-contest speculation of the gliding devotee's, by saying, 'The whole town's talking about the Jones boy". Already the Sports class champion and winner of every other contest in which he has flown this year, Ralph Jones the volatile professional from Membury was out to make the 1973 season his best ever by winning the "Euroglide" and British National crowns, and his form was such that he was, without doubt, the contests marked man.

The class of pilot entries accepted was supremely high, particularly in the "Euroglide" fields, with no less than 13 World Championship pilot's taking part, including the complete British team for Australia who were to use the event as their final 'tuning up' exercise.

Nine competitors from Germany, Holland, Switzerland, Luxembourg, Sweden and South Africa completed the 38 British entries to form the fields for the Daily Telegraph European Gliding Championships, while the British pilots also constituted the card for the British National Championships. Both competitions being divided into Open and Standard classes. Bobby Clifford – South African taking part **hors concours.**

Day 1 – Part II

By 13.00hrs., Sir Walter Winterbottom, Director of the Sports Council had declared the contest open; also by this time Ian Strachan had decided that he could discern signs of convection and announced that the Open class would depart upon a 132 km. (mean distance) out-and-return task with three alternate turning points in Oxfordshire. As visibility was down to two miles it was agreed that the Standard class should stand down. By 14.20 hrs. the first Open class machine had disappeared into the murk.

It was during this initial grope through the haze that pilots became aware of man-made thermals in the form of stubble fires. These burning roots were to become a lifesaver for many throughout the major part of the competition and pilots spent many hours using these 'harvest home' thermals.

John Delafield

Barrie Goldsbrough

Daan Paré (Holland)

Göran Andersson, Swedish World Championship Pilot and Crew. Solvieg, Gunnar and Ulf.

Standard Class Champion Bernard Fitchett

Otto Tonges (Germany)

Anne Burns (Centre) and Crew

During the outgoing leg very few pilots managed to exceed an altitude of 3,000ft., although Lemmy Tanner – Kestrel 19 reached a high point of 4,000ft. by the skilful utilisation of weak thermals. After the TP he made full use of stubble but was finally forced to ground at Basing after 118.6km. Through his own admission Tanner had 50 points deducted from his score for inadvertently straying into Green 1 airspace.

Working with Tanner on the way out was the day's joint winner, John Delafield – Kestrel 19. After climbing to 3,500ft. over Greenham Common he rounded the TP without too much difficulty, but on the return leg decided to fly west of track over the higher ground near Didcot where he had noticed the occasional ray of sunshine piercing the murk. This tactical move paid handsome dividends and he was able to reach Lasham quite easily.

Those pilots who flew east of track virtually all came to grief in the Thames Valley, Frank Pozerskis, Vic Tull, Ron Cousins and Barrie Goldsbrough being among the notables to do so.

It was Goldsbrough who had the misfortune to land in the field of a rather obstreperous farmer. Northern tact and diplomacy helped Barrie out of a potentially awkward situation; whoever said that farmers are usually better tempered at this time of the year after the harvest has been reaped should have a word with Mr. Goldsbrough.

The Jones boy made a late start and took a route via Thatcham to his TP lying adjacent to the "city of dreaming spires". On the inbound journey he made use of stubble and at one stage found himself in the same one knot thermal as George Burton and T.Lysakowski. At this point he decided that if he were to get home a decision must be made, so leaving the thermal he headed S.W. over Hampstead Norris airfield where he contacted reasonable convection which took him to 3,300ft. and back to Lasham.

George Burton – Kestrel 19, in the meantime, had also left the thermal and had set course for Lasham, but after passing Basingstoke fell victim to a series of errors which brought his day to a disastrous end. After commencing what was intended to be his final glide he mistook a line of Elms for those which edge Lasham airfield; at an altitude of less than 150ft. he suddenly realised his mistake and had to complete a 180° turn to land in the only suitable field; his lack of height and speed prevented the turn from being accomplished and the aircraft side-slipped into the ground. Most of the impact was taken by the under-carriage which neccessitated the fitting of a new one. A crack was discovered in the fuselage but examination revealed it to be only superficial with no structural damage being apparent. George was badly bruised but after a precautionary check at Basingstoke Hospital was declared fit.

The winner of the recent Northern Regionals, Don Austin – Kestrel 19, reported an interesting days gliding. After a moderately good trip to the TP he ran into difficulties, at Goring he had sunk to 300ft. and after a desparate scramble struggled into the dying embers of a stubble fire which gave him much needed height, to quote Don, "Beautiful but bloody rough", this was a sentiment echoed by many pilots before the end of the meeting.

Perhaps the most amusing story of the day came from Lasham CFI and glider pilot par excellence, the redoubtable Derek Piggott. After advising control that he was leaving Basingstoke on his final glide, he was later reporting "somewhere over Odiham", which was well to the east of his intended track. As the haze became progressively thicker people were beginning to wonder if Derek would in fact get back, then almost unnoticed he popped in over the boundary fence, his lack of height preventing a circuit being completed.

Of the ten pilots who made it back to base, the only foreign competitor to return was Rudolph Wilsch (Germany) – ASW–17. Commenting on his flight he said that he found no indication of thermals but they were there. He was the only pilot **not** to use stubble lift.

Thus ended the first flying day of the competition with the premier honours being taken by:—

1.	John Delafield	—	Kestrel 19	909 points
1.	R. Jones	—	Nimbus 2	909 points
3.	D. Piggott	—	Kestrel 19	907 points

Visibility during the following day remained extremely restricted and both classes had to be cancelled. The Burton crew used the time to get his Kestrel airworthy once more.

The most beautiful crew in the world?
Very few people would argue against the fact that Bernard Fitchett was the envy of all red-blooded men at Lasham during the competition; not because of his outstanding flying abilities but because of his rare choice of crew. Not content with having the delectable Dee Reeves as crew chief, he also had her sister, the equally gorgeous Susan helping as well. How can a man possibly fail when his every need is looked after by such a crew — sweetness and light was the order of the meeting for Bernard.

Westward Ho!
On the third day the weathermans prognosis was favourable. Lasham, he said, was lying in a rather narrow zone of clear convective air between the frontal cloud layers of the mid-lands and the moist 'sea air' conditions of the south and west. The whole pattern was very slow moving so it should remain soarable all day to the west of the airfield. The main hazard being a certain amount of layer cloud which would spread out from the developing cumulus.

After this information had officially been digested it was announced that the appointed tasks for the day would be out-and-return for both classes — Bradford-upon-Avon 173.8 km. (Open) and Devizes 137.82 km. (Standard).

This was a day when the majority of pilots managed to complete the course without too much difficulty, although the start was somewhat hectic at one stage, with 23 aircraft observed in two thermals directly overhead the airfield. Quite a few pilots came back for relights when they realised how rapidly the weather was improving.

In the Standard class the two British world champion-ship pilots set the pace by scorching around the course at over 60.00 kph. John Williamson — Libelle being the first pilot to complete the task followed closely by Bernard Fitchett — Cirrus, who on finding that his time was slightly slower than John's decided to go round again. On the second trip he im-proved his timeby over 5 kph. to win the day and take the 1000 points.

The main group of pilots in the Standard class fell into the trap of flying against each other instead of the clock, this is a danger that is ever present if gaggles of gliders are in the same vicinity, when this occurs one is inclined to forget that speed is the object of the task and be content with getting around the course in the company of others. It is on days like this that contests are won and lost.

Taking third and fourth places in the 'Euroglide' Standard were Peter Sand (Germany) — Cirrus and Daan Paré (Holland) — Cirrus, their performances making it quite evident that the continental opposition was going to provide stern competition throughout the meeting.

In the Open class fields Ralph Jones and George Lee — Kestrel 19 established the fastest times of the day, Jones speed being in excess of 81 kph. Third place being taken by Manfred Dick (Germany) — flying the only Kestrel 17 in the contest.

John Delafield, who finished the day in 5th position, intimated that he had been slightly wary of the weather and had not flown fast enough into wind, on his return journey he found it difficult to make contact with any strong lift and had to be content with what was available.

Alan Farmer, John Delafield, George Burton.

The Champ

John Williamson on Grid

Don Austin

Solveig Nordahl keeping real cool

Gordon Camp

Bernard Fitchett keeping the most beautiful crew chief in the business (Dee Reeves) hard at it.

Manfred Dick (Germany) preparing to embark

The second placed man in the Open class for the day, George Lee – Kestrel 19, also made a slow start, but as conditions improved near Salisbury he contacted a cloud street which helped him to the TP, here he noted the wind was nearer 20 kts. than the forecast 10 kts. On the return leg he deviated to the SW and found a thermal which he took to cloudbase and on to Upavon. From here one more climb to a cloudbase took him back to Lasham.

Jock Wishart, flying a brand new Kestrel 19, just failed to finish the course, he landed at Whitchurch 18 km. short. During the flight he made considerable use of stubble fires and swears that he would have been lost without them.

After two Open flying days and one Standard, the leader board was as follows:

'Euroglide' and 'Open'

1.	R. Jones – Nimbus 2	1909 points
2.	G. Lee – Kestrel 19	1776 points

'Euroglide' and 'Standard'

1.	B. Fitchett – Cirrus	1000 points
2.	J. Williamson – Libelle	892 points

Jocks love affair

"Every time I take off in my glider it is the start of a love affair, I talk, I shout, I swear and I coax it through the air. On one occasion I was having particular difficulty in keeping the wings level while flying in cloud, so after cajoling and threatening the machine I finally let go of the controls and shouted, If you can do any better on your own, off you go".

This, perhaps, is not everyones idea of a love affair, but it does go to show the dedication and involvement that most pilots feel for their machines. As the majority of pilots would never let their feelings be known, it is all the more refreshing to hear Jock Wishart's straightforward and honest comment's, comment's which although not generally typical, must relate to many pilots.

Back to the stubble

After a further day's delay due to gloomy featureless cloud which appeared in no hurry to move away, both classes managed to fly on day five. A 150.8 km. triangle via South Marston and Didcot being allotted to the Open class and a 133.1 km. out-and-return to South Marston being the order of the day for the Standard pilots.

A high pressure area now occupied the North Sea and Easterly winds covered most of Southern England, these anti-cyclonic conditions generating weak, but mainly blue, thermals which would be slow to develop. So once again it looked as if stubble fires would play the dominant role in the days flying.

Although grid time was scheduled for 1130 hrs. it was 1345 hrs. before the first Standard class launch was made. On detachment from the tug they all latched onto the same blue thermal to the west of the airfield, seemingly loathe to leave its comparative comfort, eventually they had to break away and by the time the Open class machines were launching only one or two remained to mark the existence of the thermal.

The Open pilots showed a more positive line of action, quickly getting on with the task in hand, realising that every minute spent over the airfield would diminish their chances of completing the task. Conditions were already showing ominous signs of deterioration and observers were confident that very few of the late starters would return.

Once the Standard pilots had finally dragged themselves away from the Lasham 'blue' they found that progress was by courtesy of stubble fires. The majority of competitors were now getting very experienced in using this type of lift, in particularly Bernard Fitchett made excellent use of the 'Farmer Giles specials'. After getting away from the airfield he made a magnificent climb to 5,200 ft. which was 1,200 ft. above the inversion level, the initial impetus for the climb being provided by a stubble fire. From this height he was able to round the TP and get a good start on the return journey. At Kingsclere he contacted lift from a decaying fire which gave

him the height from which to compute a finely calculated glide to Lasham. He became the first pilot of the day to return, his speed being 64.3 kph. This time, however, was eclipsed by that of Dick Teuling – Libelle (Holland) who recorded 66.4 kph for the course.

John Williamson had a disasterous day when he was forced to greet Mother Earth after 110.3 km. His failure to complete the task drew from him the classic quote of the competition, "Today I flew in the Great British Bonfire Lottery and drew a losing ticket".

The day was a good one for the foreign entries in the Standard class, with four out of the first six places being filled by them. Göran Andersson – Cirrus, (Sweden) saying that he was now getting used to flying in the 'peculiar stubble conditions'. This point being proved by his fourth placing for the day.

Perhaps the most unlucky man of the task was Otto Tonges – LS – 1c (Germany) who after flying a very competitive race made a slight miscalculation during his final glide. He reached the airfield but found he had not got enough height to cross the finishing line.

Of the twenty three participants in the Standard class, all but 5 completed the task. The Open class was, however, a different story with no pilots returning. The best pilot of the day being a rejuvenated George Burton who landed 12 km. short of Lasham.

Ralph Jones and Chris Day – Kestrel 19 both flew extremely well and eventually finished in the same field at Ramsdell earning joint second placings for their flights.

The only lady pilot in the competition, the well known Anne Burns – Nimbus 2, was flying with her usual high skill although at this stage had not settled down as well as was expected.

"This was my disaster", said George Lee, "starting late was a bad decision and the blue thermals were not very active, I used one stubble fire to reach the first TP of the triangle but then found it very difficult to make progress against the wind, from hereon no fires could be located and consequently I rounded the Didcot TP at a very low altitude. The struggle for height continued to Wantage where a dying stubble fire gave me hope, unfortunately it did not work for me and there was no alternative left but to land".

Lee's story was typical of the Open class pilots reports, but John Delafield, who landed at Hampstead Norris, was more critical of his flying. He was convinced that he could have stayed aloft if he had tried harder, being too eager to press on and the lack of stubble fires to help his progress was the ultimate cause of his downfall after 113.9 km. Nevertheless, let it be said that lesser aviators would have been proud to have put up a performance such as this.

For the crews this was the first real chance for them to get out and about. In this day and age of high performance ships, the job of retrieving becomes less necessary, so today provided a chance for the crews to exercise their skills in what might become an obsolete job in the not too distant future.

Result – 3 day Open, 2 days Standard

'Euroglide' Open Class

1.	R. Jones –	–	Nimbus 2	2846 points
2.	R. Wilsch	–	ASW–17	2467 points

'Euroglide' Standard class

1.	B. Fitchett	–	Cirrus	1937 points
2.	P. Sand	–	Cirrus	1659 points

British National Open Class

1.	R. Jones	–	Nimbus 2	2850 points
2.	J. Delafield	–	Kestrel 19	2447 points

British National Standard class

1.	B. Fitchett	–	Cirrus	2000 points
2.	S. White	–	ASW–15	1607 points

Jock Wishart

The Editor with a hardworking Tony Burton

Thursday 23rd August – day 6. Extensive layer cloud persisted over Southern England throughout the day. At Lasham it was depressingly overcast. Both classes were cancelled during the early afternoon.

Read all about it – local lad makes good

One of the most consistent all British gliding enthusiasts is Lasham pilot, Tony Burton, year in and year out he can always be relied upon to finish in the top ten of any competition he enters, yet until today he had never won a daily task. This oversight, however, was remedied with a vengeance in scintillating style when he became the only competitor of both classes to complete the task.

"Very small amounts of cloud will be in evidence during the morning, but the still moist upper atmosphere and a veil of thin Cirrus cloud, aided by aircraft condensation trails, will make the thermal conditions disappointing. With the high located over the North Sea, the lower layers will be very stable. Thermals will be blue, weak and slow to brew up and despite the sunshine, only extensive 'stubble bubbles' will save the day for most people", so intoned Peter Wickham at briefing on Friday 24th August, but known to all at Lasham as day 7.

The tasks set for the day seemed to be on the slightly optimistic side. For the Open class a triangle of 247.17 km. via Shaftesbury and Tetbury, and for the Standard participants a 205.06 km. triangle via Devizes and Oxford.

In the Open class it was once more the very consistent Jones and Wilsch who scooped the days honours, both managing to reach Kingsclere, situated half-way down the third leg of the triangle, before they had to call it a day. Ted Lysakowski also reached Kingsclere but landed just over 1 km. short of the leading pair and was awarded second place.

Jock Wishart and Anne Burns landed in the same field at Laycock after 128.7 km. Jock saying that on the first leg he was down to less than 250 ft. before managing to scramble away in the inevitable stubble lift. Also in the same 'bubble' was Daan Paré, the Dutch World Championship pilot.

The other Burton, George, produced his poorest form of the competition. He only managed to fly just over 50 km. to Stonehenge. This bad day quite literally ruined his chances of finishing in the top three.

While George was contemplating the Stonehenge vista, his namesake was showing them all 'how to do it'. Although he considers that he was very lucky to make it back to Lasham, it takes a little more than luck to fly over 200 km. on a day such as this.

He found the first leg of the triangle relatively easy going and at Didcot joined a hard working gaggle of gliders but was unable to make much progress, so leaving the area he pressed on. Running slightly to left of track contact was made with a weak 2 kt. thermal which by highly concentrated working enabled him to get to Kingsclere, this being the spot where considerable numbers of gliders met their downfall. Here a 1000ft. was lost but the finding of a stubble fire enabled a climb to a reputable 2,200 ft. to be made, where as he put it he "stooged around" for a while.

Being a pessimist he uses a calculator for a K–6E and not the Libelle in which he flies. He finds this a great help, particularly for calculating difficult final glides. So after his 'stooge around' he commenced a glide which resulted in him being the only arrival back at Lasham.

John Williamson drew another dud lottery ticket.

Fred Knipe also had a bad day, when landing his Libelle at Avebury he groundlooped and holed the fuselage. The damage sustained not being enough to prevent him flying the following day.

Bernard Fitchett continued in his majestic form landing just 7 km. short in the grounds of the Hackwood House estate, Basingstoke. During the race he used very weak thermals to get to Devizes but on the second leg was down to 700 ft. between Malborough and Avebury before he was able to find the inevitable saviour of the contest, the stubble fire. From this he climbed to 4,200 ft. and rounded the Oxford TP. After this point he did not find any more useful lift.

Now the halfway stage of the contest was drawing near it was possible to establish a definite pattern of progress. In the Standard class Bernard Fitchett was looking unassailable, gradually increasing his lead day by day without any apparent difficulty. In the Open class, Ralph Jones was also piling on the pressure although there were times when the opposition, particularly in the 'guise of Delafield, Lee and Wilsch, looked as if they might reduce him to mortal dimensions. Jones, on the other hand, was flying with extreme confidence and was convinced that his target was attainable. All in all everything was building up to a fascinating final weeks flying.

Results – 4 days Open, 3 days Standard

'Euroglide' Open class

1.	R. Jones	–	Nimbus 2	3871 points
2.	R. Wilsch	–	ASW–17	3490 points

'Euroglide' Standard class

1.	B. Fitchett	–	Cirrus	2755 points
2.	P. Sand	–	Cirrus	2447 points

British National Open class

1.	R. Jones	–	Nimbus 2	3905 points
2.	G. Lee	–	Kestrel 19	3387 points

British National Standard class

1.	B. Fitchett	–	Cirrus	2818 points
2.	S. White	–	ASW–15	2363 points

The Dutch challenge intensifies

The weather for day 8 was expected to show a great similarity to that of yesterday. Thermals would be similar in many ways, failing to develop until late in the day, but on the credit side they would be considerably stronger with a depth in the region of 4,000 ft.

Relatively easy tasks were set once the weather forecast had been made common knowledge, a 129.9 km. out-and-return to Farringdon for the Open class and a short snappy 103.6 km. out-and-return to Didcot Power Station for the Standard competitors. In retrospect it now appears the tasks were too easy as only one pilot failed to complete the set course.

For the only time during the contest a first place in the 'Euroglide' Standard class was taken by one of the continental pilots – Daan Paré (HOLLAND) – Cirrus. His victory displacing Bernard Fitchett from the head of this class.

Paré, a regular visitor to these shores as a KLM airline captain, was making his first journey to compete at a gliding meeting.

His tactics for the day were, initially, to wait until the majority of the Standard class pilots had departed from Lasham then joining up with fellow countryman Dick Teuling, they commenced to pair-fly the task. Flying with great care they arrived at Basingstoke where utilization of a miserable ½kt. thermal helped them toward Didcot but before arriving at their objective, they were forced to make use of a burning stubble fire which was already housing six gliders, whom they eventually trailed to the TP.

After commencing the return journey contact was lost with Teuling when he deviated momentarily to west of track. Paré then found an unbelievable 6 kt. thermal which gave him a considerable boost. On reaching the stubble fire he had used earlier in the day, he was able to further his cause as it was still burning very fiercely. After this, one more thermal 12 miles north of the airfield was all that was needed to complete the day at a speed of 76 kph. Teuling finishing a very creditable third, the partnership being separated by Tony Burton.

Bernard Fitchett had his first and only off day on this short outing. After climbing away from Lasham toward Basingstoke he joined up with Steve White – ASW–15, and they commenced a long glide toward Thatchbury which was reached at 700 ft. Here a one knot thermal was captured and worked to a respectable 1500ft. At this juncture White decided to return to base for a relight, the decision turning out to be a bad one as the weather failed to improve and although he struggled around his speed was 28 kph slower than that of Paré

Meanwhile Fitchett was still finding the going very difficult but he eventually joined a gaggle of machines over the TP. When the majority of the pilots elected to return via the west of track in order to take advantage of a known stubble fire which was burning with great ferocity (later in the day pilots reported lift of 20 kts. and more from it), Bernard decided to fly east via Goring. Later he too admitted to making the wrong tactical move. On arrival at Basingstoke his altimeter was reading 400ft. A decaying fire throwing up its last wisps of lift gave him zero sink and just as he had decided to land a flicker on the variometer indicated a ½kt, then 1 kt, and then finally 3 kts. which took him just high enough to get home. His going east lost him 25 minutes on the main body of gliders and first place in the 'Euroglide'.

John Williamson once more recovered his masterly touch and returned a very fast 69.7 kph, just 1 kph. slower than Tony Burton who for the second successive day won the British Nationals Standard class, his fine aviating placing him 3rd on general classification.

Hamish Brown – Cirrus, the RAF Four Counties pilot was now also beginning to make his presence felt, steady flying taking him to second position overall in his class.

In the Open class George Burton beat R.Jones by 2 kph. to win the day, his revival putting him once more in the top ten. John Delafield also had a good day finishing third.

The other contender for major honours in this class, George Lee, had to be content with 5th place. Although he found no untoward problems on the outgoing stage, he rounded the TP at 4,800 ft., he was dogged by poor conditions on the return trip, particularly in the Newbury area where like many others that day went down below 1000 ft. After the inevitable scratch he reached Kingsclere where help from a stubble fire gave him the requisite height for a final glide to Lasham.

The results after 5 days Open and 4 days Standard now read:—

'Euroglide' Open

1.	R. Jones	—	Nimbus 2	4834 points
2.	R. Wilsch	—	ASW—17	4204 points

British Nationals 'Open'

1.	R. Jones	—	Nimbus 2	4868 points
2.	G. Lee	—	Kestrel 19	4219 points

'Euroglide' Standard

	D. Paré	—	Cirrus	3364 points
	B. Fitchett	—	Cirrus	3312 points

British Nationals 'Standard'

1.	B. Fitchett	—	Cirrus	3453 points
2.	H. Brown	—	Cirrus	3099 points

"269 would you believe"

The task for day 6 — Open class and day 5 — Standard class was a 205.06 km. triangle via Devizes and Oxford and what a day it proved to be, particularly for R. Jones and Jock Wishart.

The weather exceeded the expectations of the forecasters and the pilots were not slow to grasp this all too rare an opportunity. The outstanding feature of the days flying belongs to the Earl of Inkpen — Ralph Jones, his spectacular race around the course was accomplished at the fantastic speed of 91.9 kph. He attributes his success to constant practise with the Nimbus 2, a point nobody can argue after his year of victories. Second man George Burton was nearly as fast as Jones, his speed being just 2.1 kph slower.

In the Standard class Bernard Fitchett redeemed himself after yesterdays off day when he roared into Lasham after a 79.6 kph. trip. His World Championship partner John Williamson soon following him to take the second spot.

On a more amusing note, the story of the day must go to the indomitable Jock Wishart, who until today had not completed a task in these championships. Five minutes before he broke his duck, control received the following message, "269 final glide, would you believe". On his arrival at Lasham he was greeted with the biggest ovation yet heard.

Every member of the Open class completed the task and only five in the Standard class failed to do so, including Tony Burton who landed 8 km. short at Basingstoke.

Results after 6 days Open and 5 days Standard now read:—

'Euroglide' Open

1.	R.Jones —	Nimbus 2	5834 points
1.	G. Lee —	Kestrel 19	5117 points

'Euroglide' Standard

1.	B.Fitchett —	Cirrus	4312 points
2.	D. Paré —	Cirrus	4201 points

British Nationals 'Open'

1.	R. Jones —	Nimbus 2	5868 points
2.	G. Lee —	Kestrel 19	5149 points

British Nationals 'Standard'

1.	B. Fitchett —	Cirrus	4453 points
2.	H. Brown —	Cirrus	3838 points

Thermals galore -- Final day for Standard class

.....and so it came to pass on the thirtieth day of the month that the great 'clag' dispersed, and it was decreed fit to venture forth.....

In their infinite wisdom the task setters declared that both classes would fly the same tasks, with a choice of two routes. 1. out-and-return via Chislebury Hill 135.34 km. 2. out-and-return via Sixpenny Handley 143.39 km.

The meteorological forecast was good. The cold air passing over the task area with its associated fresh N-NW winds was expected to generate an abundance of good strong thermals, some being of extra intensity in the larger Cumulus. Tops were expected to reach 9,000ft.

At this junction it is interesting to draw a comparison between the routes chosen and their respective results. In the Open class only John Jeffries -- Kestrel 19 took route 2. and finished 11th at a speed of 68.3 kph, while in the Standard class 6 pilots elected to fly route 2. They finished 1st, 3rd, 4th, 5th, 15th and 17th. The fastest time in this class being made by Bernard Fitchett at an incredible 83.8 kph, which was only 2.5 kph. slower than the fastest Open class time recorded by George Lee.

Even though Ralph Jones had a relatively poor day, he finished 8th, his points still totalled over 550 more than those of the next pilot, George Lee. It now seems that all he had to do to take both the British and Euroglide titles is to fly steadily and make sure that he completes the remaining days flying.

Gremlins had struck the Nimbus 2 of Ray Foot and the Cirrus VTC of Andy Wood and they were grounded for check-ups. Nothing too serious was discovered and they were diagnosed fit and well for the remainder of the competition.

At the time we were not to know, but this turned out to be the final day for Standard class flying, and like the first day the prize went to Bernard Fitchett. After watching the 'maestro' flying in every major British contest during the last five years I cannot ever remember seeing him fly with such devastating power and contempt for the opposition. If he can maintain this form he must surely rate a place among the top three pilots in the Standard class at the forthcoming World Championships next year.

Today he crushed the opposition with the exception of John Williamson, the being the only two pilots in their field registering over 80.00 kph.

Daan Paré assured himself of second place in the 'Euroglide' Standard when he led the continental pilots home with fourth place.

The other continental pilots all flew very commendable races, Peter Sands (GERMANY) still pushing hard right until the very end with a reward of third place for his efforts.

Göran Andersson (SWEDEN) finished his first British competition in a very respectable ninth place. His comments echoed those of most of the foreign pilots, "The conditions were difficult to get used to, I prefer cu. or blue in preference to stubble bubbles".

Teuling (HOLLAND), Tonges (GERMANY) and Braun (LUXEMBOURG) all flew with great enthusiasm and were a great credit to their respective countries.

In the British Nationals, John Glossop wound up his competition with a best performance when he finished the day in 3rd place, and although enjoying the competition he said he would have like to have been able to enter a few more flying hours in his log.

With a contest such as 'Euroglide' it is only the top men who get the mentions and accolades, but it must be remembered that it is the pilots like John Glossop, Roy Gaunt, Paul Grenet, Gordon Camp and Fred Knipe, the ever present, hard flying men who provide the stimulus that puts the top men in their places.

So ended the 1973 'Euroglide' for the Standard men, unsettled weather preventing any further contest flying during the remaining three scheduled days.

The Jones boy causes a flutter while the Germans excel on the final day.

The day began fairly well with the weather prospects looking very encouraging. Unfortunately, during the launching of the Open class a drastic change occurred weather wise, and it suddenly became apparent that more aircraft were landing for relights than were being launched. Nevertheless it was decided to press on and the Standard class was launched; the 100.8 km. triangle via Chillbolton and Newbury, however, proved too much and the requisite number of gliders failed to reach the minimum scoring distance. It was then that the Standard class was declared a non-contest.

The Open class participants were also having great difficulty making any headway with their task, a 160.03 km out-and-return to Shaftesbury.

When the news filtered through that Ralph Jones had committed the unbelievable sin of landing after only 51.5 km. a general flutter of consternation disturbed the usually placid controllers and quick mathematical calculations were worked out to see if he could be overtaken. Eventually somebody decided that in theory the unheard of was possible but in fact it was highly unlikely bearing in mind the dreadful weather conditions. This unknown theorist was proved right, but only just.

Manfred Dick and Rudi Wilsch pair flew the task and put up a startling performance, finishing the day in 1st and 2nd places respectively. The only other pilot to complete the task was John Jeffries who struggled manfully around the course long after lesser pilots had called it a day.

The following two days were declared non-flyable as the poor weather settled itself once more over Lasham, thus bringing the contest to a somewhat murky and premature close.

Results

'Euroglide 73' Open class

1.	R. Jones	Nimbus 2	6772 points
2.	R. Wilsch (Germany)	ASW-17	6562 points
3.	G. Lee	Kestrel 19	6339 points
4.	J. Delafield	Kestrel 19	6029 points
5.	J. Jeffries	Kestrel 19	5834 points
6.	T. Lysakowski	Kestrel 19	5783 points

'Euroglide 73' Standard Class

1.	B. Fitchett	Cirrus	5312 points
2.	D. Paré (Holland)	Cirrus	4967 points
3.	P. Sand (Germany)	Cirrus	4683 points
4.	R. Sandforth	Cirrus	4160 points
5.	J. Williamson	Libelle	4051 points
6.	T. Burton	Libelle	4028 points

National Championship results are in the same order after subtracting the foreign pilots, with slight changes in total points.

Lasham last round-up

Everybody thought two weeks ideal for the competition.
Congratulations must be due to the organisers and helpers and in particular to Ann Welch and Frank Irving.
Thanks to the Daily Telegraph for their understanding of our sport.

AS AT 14/4/73

WORLD RECORDS

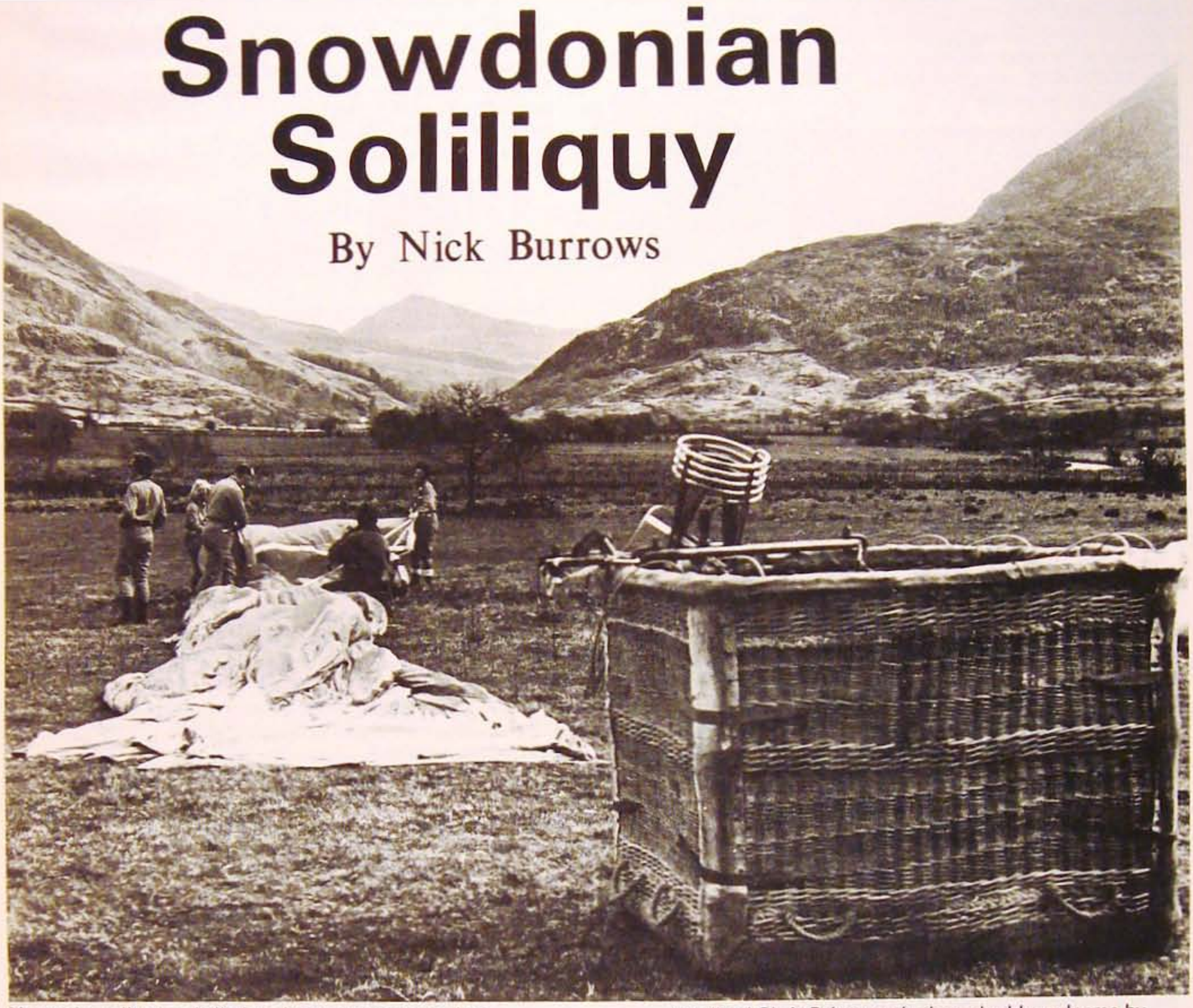
Single-Seaters	Distance	H.W. Grosse, W. Germany. 25.4.72. ASW 12	1460.8 km
	Height Gain	P.F. Bikle (U.S.A.), 25.2.61. SCS-123E	12,894 m.
	Absolute Altitude	P.F. Bikle (U.S.A.), 25.2.61. SCS-123E	14,102 m.
	Goal Flight	K. Tesch, W. Germany. 25.4.72. LSIC	1,051.2 km
	Goal and Return	Karl Streidieck (U.S.A.) 15.10.72. ASW 15	1,093 km
	100km Triangle	W. Neubert (Germany), (in USA) 5.7.70. Kestrel 604	153 km/h
	300km Triangle	W. Neubert (Germany), 3.3.72. Kestrel 604	153 km/h
	500km Triangle	M. Jackson (S. Africa) 28.12.67. BJ-3	135.52 km/h
Multi-Seaters	Distance	J. Kouznetsov and J. Barkhamov (USSR) 3.6.67. Blanik	921.95 km
	Height Gain	J. Josefzac and J. Tarcon (Poland), 5.11.66. Bocian	11,680 m
	Absolute Altitude	L. Edge and H. Klieforth (USA) 19.3.52, PR-G	13 489 m
	Goal Flight	S. Baumgartl & Wischewe, W. Germany. 25.4.72. ASK 13	714 km
	Goal and Return	E. Makula, Poland, P.J. Serafin, 8.8.72. Calif. A21	718.2 km
	100km Triangle	E. Makula & H. Taskovich, Poland. 6.8.72 Calif, A21	130.7 km/h
	300km Triangle	E. Makula, & J. Serafin, Poland. 4.8.72, Calif A21	113.72 km/h
	500km Triangle	E. Makula & J. Serafin, Poland. 4.8.72. Calif, A21	101.18 km/h

WORLD RECORDS

Single-Seaters (Women)	Distance	Olga Klepikova (USSR) 6.7.39, Rot Front 7	749.20 km
	Height Gain	Anne Burns (GB) (in SA), 13.1.61. Skylark 3B	9,119 m
	Absolute Altitude	Betsy Woodward (USA) 14.4.55. PR-195	12,190.2 m
	Goal Flight	Tamara Zaignova (USSR), 29.7.66. A.15	731.60 km
	Goal and Return	Susan Martin (Australia) 6.2.70, Libelle 301	656.04 km
	100km Triangle	Susan Martin (Australia) 29.2.72. Kestrel 17	113.24 km/h
	300km Triangle	Susan Martin (Australia) 11.2.72 Kestrel 17	114.45 km/h
	500km Triangle	Angela Smith (GB) 28.12.72, Libelle 301	108.9 km/h
Multi-Seaters (Women)	Distance	T. Pavlova and L. Filomechkina (USSR) 3.6.67. Blanik	864.86 km
	Height Gain	A Dankowska and M. Matelska (Poland) 17.10.67. Bocian	8,430 m
	Absolute Altitude	A. Burns (GB) and J. Oesch (in USA). 5.1.67. 2-32	9,519 m
	Goal Flight	L. Gorokhova and Z. Koslova (USSR), 3.6.67. Blanik	864.86 km
	Goal and Return	P. Majewska and R. Sokolowska (Poland), 14.7.68. Bocian	467.2 km
	100km Triangle	Y. Leeman and M. Human (SA), 27.12.67. Kranich 3	90.95 km/h
	300km Triangle	O. Manafova and V. Lomova (USSR). 12.6.64. KAI-19	74.31 km/h
	500km Triangle	T. Zaiganova and Lobanova (USSR). 29.5.68. Blanik	69.5 km/h

Snowdonian Soliliquy

By Nick Burrows



Mountain walkers and climbers become accustomed to meeting with the improbable during the pursuit of their pleasures, yet, if any of these hardy souls were tramping the slopes of Snowdon during the afternoon of April, 5th 1972, they may be forgiven if they were literally stopped in their tracks. On that day, two hot air balloons drifted silentiy over the forbidding peak and in doing so realised a two year dream for their crews, who, on that cold spring day, flew them from their base at Waunfawr to Portmadoc and Ffestiniog.

Flying over this type of terrain demands as much patience from crew and helpers as it does skill. It was during the last week of 1971 that Roy Midwinter and his merry band first took 'Thursdays Child' to North Wales. They had high hopes of a successful flight as the local meteorological conditions promised to be favourable. The weather, however, turned sour and after several days of the utmost frustration the event had to be called off. It was almost four months later before the opportunity arose to return to North Wales, this time with two balloons and twenty helpers.

The meteorologists first hinted that the flight might be on two days beforehand, this generating a last minute rush to gather together the flying equipment, mountaineering tackle, photographic paraphernalia, camping and caravanning gear, food and the numerous other items considered essential if success was to be achieved. By Friday afternoon on the 14th., the crews had assembled *en masse* at the Pen-Y-Gwryd Hotel for dinner.

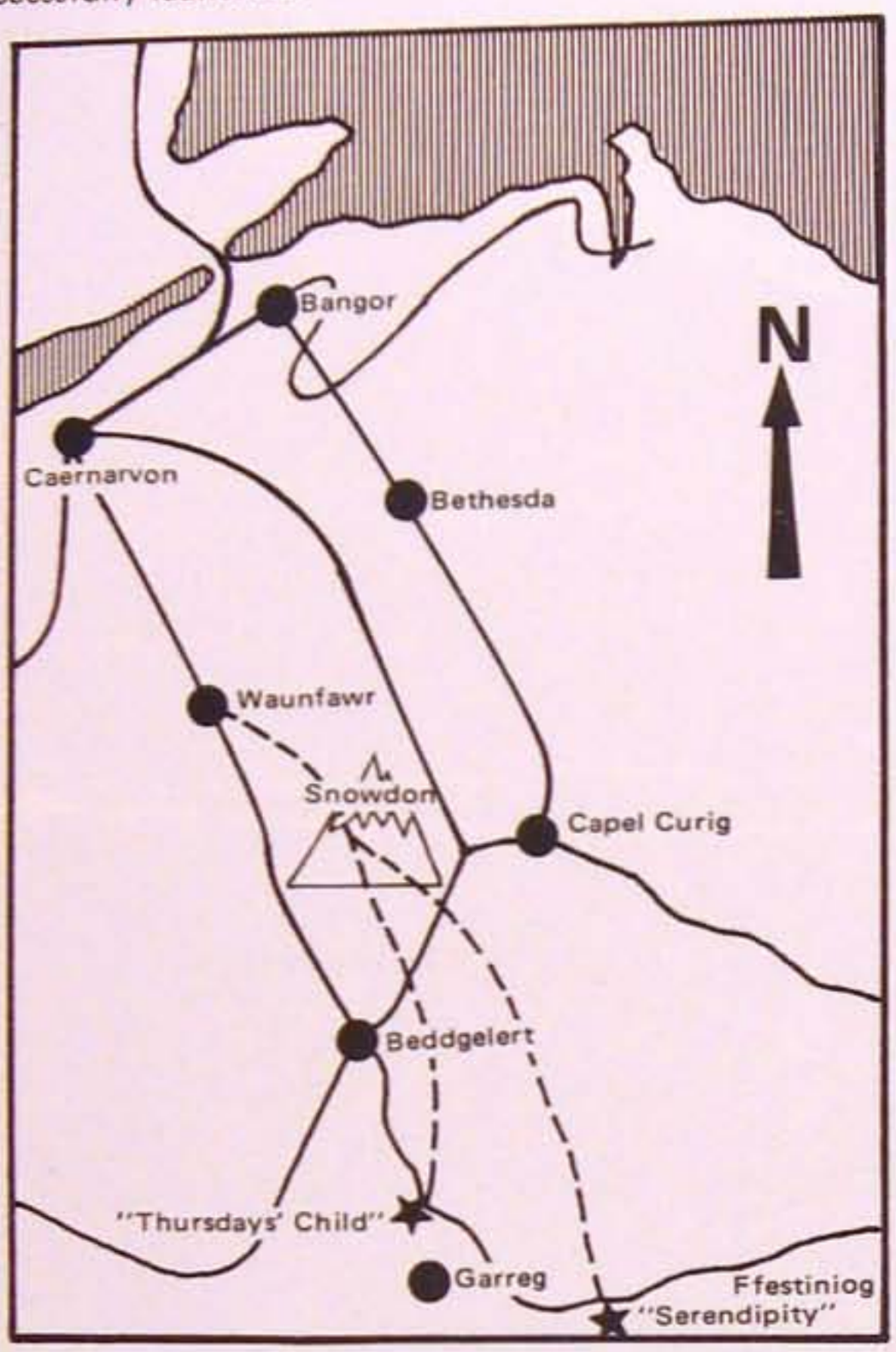
Landlord Chris Briggs made them doubly welcome by inviting the party into his inner sanctum , where coffee and brandy was taken amid the Everest expedition trophies. (Extraordinary how antiquated Sir John Hunt's vest looks after 20 years.) Seeing these historical relics suggested to the balloonatics that it might be possible to present Chris with their old rip line when its final flight has been made.

The alarm was set for 0400 hrs. after hearing that the forecast promised winds of 10 to 15 knots, wind 250° backing 230°. At the appointed hour the outlook was decidedly 'Welsh Mountainous'; a rough looking sky with clouds at 1000 ft heading due east, this prognosis leaving no alternative but to slide back into one's sleeping bag before it became too cold. But other more enthusiastic types were up and about. Alan Barham, of BBC 'Good Morning Wales' and Elfyn Thomas with the crew of BBC Welsh News, were already stomping around asking for action. This was provided in the way of steaming mugs of coffee only, and the healthy advice to "Go back to sleep".

In fact there was no action until nearly 1600 hours, when the 84,000 cubic ft. blue, green and yellow balloon 'Serendipity' underwent an abortive inflation. A Gnat, had just beforehand, made a low level flight down the valley, and a telephone call to R.A.F. Valley, Anglesey was made to ask "Would they mind.....", as hope had not yet been given up.

A number of small hydrogen balloons were then released to help accurately assess the wind speed and direction.

Typically, no two balloons followed the same course, indicating the variability of air currents found in mountainous regions. One had even hit the nearest peak and continued rolling up the slope! However, patience was rewarded, and eventually, the 65,000 cu.ft. orange and blue 'Thursday's Child' was successfully launched.



Piloted by Fred Holdcroft and John Waller, the balloon quickly rose to 7.200 ft., and afterwards they confirmed what everybody fully expected — superb views of the coastline either side of the Caernarvon peninsula while the moorland, forest, lakes, rocky outcrops and disused quarries patterned the ground below, but the most inspiring sight of all was that of Snowdon capped in white and surrounded by broken layer cloud which contributed to the enormous omni-presence of the mountain.

Snowdonia

After crossing the Nant Gwynant Pass the wind shifted in direction toward the south, and three miles of wooded country floated gently away before they reached the flat open coastal area near Portmadoc where they landed. Amazingly, the BBC camera team, who had patiently filmed the launch were there to record the landing. This rather surprisingly complete film, including a number of aerial shots was shown the next night on BBC Welsh News.

Meanwhile, 'Serendipity' had become airborne after the second attempt; leaving the same field as 'Thursdays Child' it bore pilots Terry Adams, Joe Philip and Roy Midwinter toward their goal. Owing to the prevailing gusty conditions, the ground crew could not arrange a simultaneous launching, but the best possible was achieved, and the flight, which passed over Llyn Dinas, terminated with a beautiful landing near the Maintwrog Road Station, Ffestiniog.

Apart from achieving the distinguished titles of 'First hot air balloons to fly over Snowdon', both aircraft had other tasks to complete *en route.* Whereas 'Serendipity' was charged with photographing the covered area for the University of North Wales, 'Thursdays Child' operated the first Balloon Post in the country.

Obviously, our next ambition is to fly over the Alps.....

the MIKE BOND column

You know, when it comes to increasing the membership of our gliding clubs, I usually find that we are all a little guilty of being on the lazy side. I hasten to add that in some cases, the lack of enthusiasm in this direction is caused by a lack of initiative on the part of the appointed recruiting committees. Merely informing friends of the delights and rewards of our chosen sport is not adequate, neither is affixing a 'GO GLIDING' sticker to the rear window of the car. One might as well display a 'GO TO HELL' sticker, for all the good that it will do, indeed, I am sure that the latter would be the easier to accomplish on such uninformative instructions. Negative advertising is not only useless, but it is also an unnecessary drain on overtaxed club funds, while telling close friends can hardly be described as 'tapping the potential available'.

New blood is a vital necessity to all sports, and if we are to grow from strength to strength then we must surely concentrate more useful efforts into the object of attaining our desired membership figures; for along with new blood comes new finances, new challenges, new airfield conversation, enthusiasm, resources, manpower, contacts and last but by no means least — a new age group, which I am sure we will all agree is vital for the welfare of our sport.

The Assistant Editor on the job!

During a recent visit to the Lincolnshire Gliding Club, who operate from Bardney Airfield — an ex-R.A.F. Lancaster bomber base, I learned of a recruiting scheme which, in my opinion, was so radical I had to follow it through to observe the results. This club, like so many others, was faced with the dual problem of dwindling membership and a bright red bank balance. Being well aware of this deficiency the club set up a sub-committee in an effort to find a solution to their problems. The elected members were R.Roberts, R.St.B.Wayne headed by Janet Slee, wife of Club Treasurer John Slee.

Firstly, the usual ideas of barbecues and raffles were put forward, and although these ventures often reap reasonable rewards insofar as funds are concerned, they would have no effect on the new membership problem. The sub-committee therefore turned their thoughts in other directions, and it was Janet Slee who came up with the idea of holding an air display. She discussed this idea with her committee, who approved the scheme in principle, but had certain reservations as Janet had little or no experience in organising this type of venture, indeed, she knew very little about flying whatsoever, the only reason she had volunteered for the post on the sub-committee lay in the fact that she was bored with sitting around the airfield each weekend with nothing to occupy herself, while her husband was injecting novices with their weekly dose of addiction.

"And not because of their 'Mafia' style hats"
(Lincolnshire Gliding Club Static Display.)

The problems, as can be appreciated, were tremendous, but by bullying, badgering and cajoling it was eventually established that the day would be Sunday 24th June.

I arrived with the Soaring Pilot stand at approximately 0830 hrs., to find the airfield buzzing with efficiency. The static display stalls had all been allocated plots of land and after the initial shuffle some 'semblance of order was established. At 0930 hrs. the very first Bardney Air Display was prepared and waiting.

The Lincolnshire Gliding Club had organised its own static glider display. The members involved at the display stand being responsible for the distribution of leaflets, sale of programmes and answering questions on gliding in general. Oddly enough, this was the most popular static display (after Soaring Pilot Magazine). This I am convinced was because of the information available, and not a result of the Mafia style hats which the display team wore.

The aerial showings were interesting and varied throughout the day and a credit to the organizers. The programme began at 1130 hrs, and did not cease until 1715 hrs, a good balance was maintained throughout including a hot air balloon, the MACAWS Formation Aerobatics Team from Manby, a Free Fall Parachute Display by the Lincolnshire Pathfinders, a solo Hurricane display, glider aerobatics in the Cobra and Bocian, and many other powered aircraft demonstrations and flypasts. Special mention should also be made of the magnificent show which the model aircraft gave us. Operated by the Lincolnshire Aeromodellers, they were in evidence throughout the programme, and 'filled in' whenever the timetable allowed.

The highlight of the display was a visit by the sole remaining airworthy Lancaster. Piloted by Sqn Ldr Ken Sneller it stole the entire show. Bearing in mind its heritage, the whole of Bardney turned out to witness its flypast. The previous Lancaster to fly over the airfield had done so some 30 years earlier, and the throbbing Merlins in 1973 brought waves of nostalgia and reminicence to the populace. Within minutes of its disappearance, reunions were taking place all over the site, these were finally amalgamated together around the control centre with the aid of the public address system. Incidentally, Sqn Ldr Snellers log records 10,600 hours flying, over 6000 of these on Lancasters.

Celebrity of the day was Fiona Cowan, presenter of the Morningtide Programme, B.B.C. Radio Humberside, who launched the hot air balloon, and busied herself interviewing the public while gathering material for her show. In order to ensure her arrival, the organisers collected her from Humberside, and flew her down by private aircraft.

Taking everything into consideration, the whole of the show was a complete success including the glorious weather. Some 10,000 people turned out to see the show, and few left before the cessation of flying. Much of this was attributed to the splendid facilities available on the site. Food was both palatable and reasonably priced, especially welcome were the pints of beer on such a hot day. The toilets were clean and adequate, which must be a change for the better, indeed, queues were never in evidence. Medical treatment was available, and a lost children service was on hand.

From the clubs point of view the whole operation was a complete success. Janet assures me that the deficit in the treasury has been removed, and an encouraging influx of new members gained. She says that months after the show, new members continue to arrive clutching their introductory leaflet.

Lincolnshire Aeromodels

Having recounted the L.G.C's success I am not advising every gliding club in England to solve their problems by holding an air display; but it does go to show what a little initiative and imagination can do. There are obviously many ways of building club funds and membership figures, and if a sub-committee is formed within each club, with the sole purpose of combating these two problems, then the chances are that our sport will thrive and grow at a very welcome rate.

AUSTRALIAN GLIDING Monthly, publication of the Gliding Federation of Australia. Prepare yourself for the 1974 World Championships! A complete coverage of Australian soaring and exclusive features of international interest. Subscription £3 or $7.50 U.S. to Box 1650 M, G.P.O. Adelaide, South Australia 5001.

A discourse on the first International Gliding Competition for Women by ARY CEELEN – Editor PLANEUR

For the first time in the history of our sport an International gliding competition, designed specifically for the female pilot, has been flown. This historically important event took place at Leszno Airfield, POLAND, during June and July this year when lady pilots from 12 countries gathered to pit talent and wit against each other.

In East European countries, specific competitions for ladies have been organised for some years, but for the eight entrants from the Western gliding world their experience has been limited to the occasional Regional or National meeting, so observers with bookmaking tendencies were inclined toward backing the East European girls.

Among those taking part were, Susan Martin – AUSTRALIA, Georgette Litt – BELGIUM, Barbel Turke and Marianne Deutschamann – WEST GERMANY, Signe Moeller – DENMARK, Adele Orsi – ITALY, Britt Floden and Hetty Freese – USA, Todorka Stawrowska and Liliana Andonowa – BULGARIA, Jindra Paluskova – CZECKOSLOVAKIA, Irmgard Morgner and Monika Warstat – EAST GERMANY, Maria Balla and Magda Balvanyosi – HUNGARY, Pelagia Majewska, Hanna Badura, Irene Kostka and Adela Dankowska – POLAND, Eda Laan and Regina Czcponene – USSR.

In total 21 entries were received, sadly none from Great Britain, but among them was Dutch girl Hetty Freese who has lived in the USA since 1962 and on this occasion represented her adopted country.

Only one type of Sailplane flown

In an effort to standardise the competition as much as possible, all the women flew one type of glider, the Polish designed and constructed 15 metre Pirat, a machine from which people now expect very good performances.

Of further interest to competition types was the absence of crews for retrieving. All out-landings when possible were towed back by STOL Wilga tugs. One trailer crew was provided as a standby but in fact was only called upon once.

2000 Gliding Hours

The majority of the ladies were married and had one or more children. Belgian, Georgette Litt having five, which still does not prevent her being one of her countries top pilots. The average age was 36, the youngest, Eda Laan – USSR was 25 while the oldest at 54 was Signe Moeller, the flying grandmother from Denmark, Most of the ladies had between 500 – 900 flying hours each, three of them exceeding 2000 hrs.

Sue Martin

Competition Review

The fortnight competition period, blessed by good weather and thermal activity, produced 9 days flying with relatively difficult tasks. Among these were five demanding triangular flights of 206 km. 250 km. 208 km. 332 km. and 544 km. Only the last flight could not be completed because of deteriorating weather conditions during the course of the day. Nevertheless most pilots managed to fly between 400–450 km. During the other days they flew out-and-return flights of 187 km. 188 km. 150 km and 306 km.

A selection of final results is as follows:–

		Flying hours	Age	Points
1. Pelagia Majewska	– Poland	2200	40	8580
2. Susan Martin	– Australia	950	27	8261
3. Jindra Paluskova	— Czeckoslovakia	950	26	8038
4. Eda Laan (Estonia)	– USSR	750	25	8037
5. Hanna Badura	– Poland	860	48	8028
11. Georgette Litt	– Belgium	550	41	7578
13. Hetty Freese	– USA	2000	39	7187
21. Signe Moeller	– Denmark	650	54	2692

Comments – Official

The Chairman of the Competition Committee, the famous Polish pilot Tadeusz Gora, (who flew Spitfires and Mustangs with the Polish Squadron in Britain during World War II) told us after the event; "There is no difference in the orders (tasks) at a competition for women or men. The performances achieved at this meeting by this International group of women pilots equals any showing men could make. The competition has proved to us that we are ready for a Womens World Championships in 1975, which in all probability will also be held in Poland, because only in the East European countries is it possible to bring together so many gliders of one type for a competition such as this".

Comments – Unofficial

Several women, both from the East and the West, were interviewed, and the majority agreed that direct competition with male opposition was very acceptable, nevertheless, they said, it must be remembered that a woman will feel "more at home" flying in an all female event.

Taking these comments a stage further, it is well known that in other sports, e.g. Athletics, Swimming etc., women do compete directly against each other – so why not in gliding?

The East German women also reminded us of equality. With considerable numbers of their sex in Eastern Europe actively taking part in gliding, the problem of separate meetings was raised some time ago, with the result that all female competitions are now organised. Is it not now time for the West to take similar action? Many people believe so and are already quoting this first International as an example of how to run such a contest.

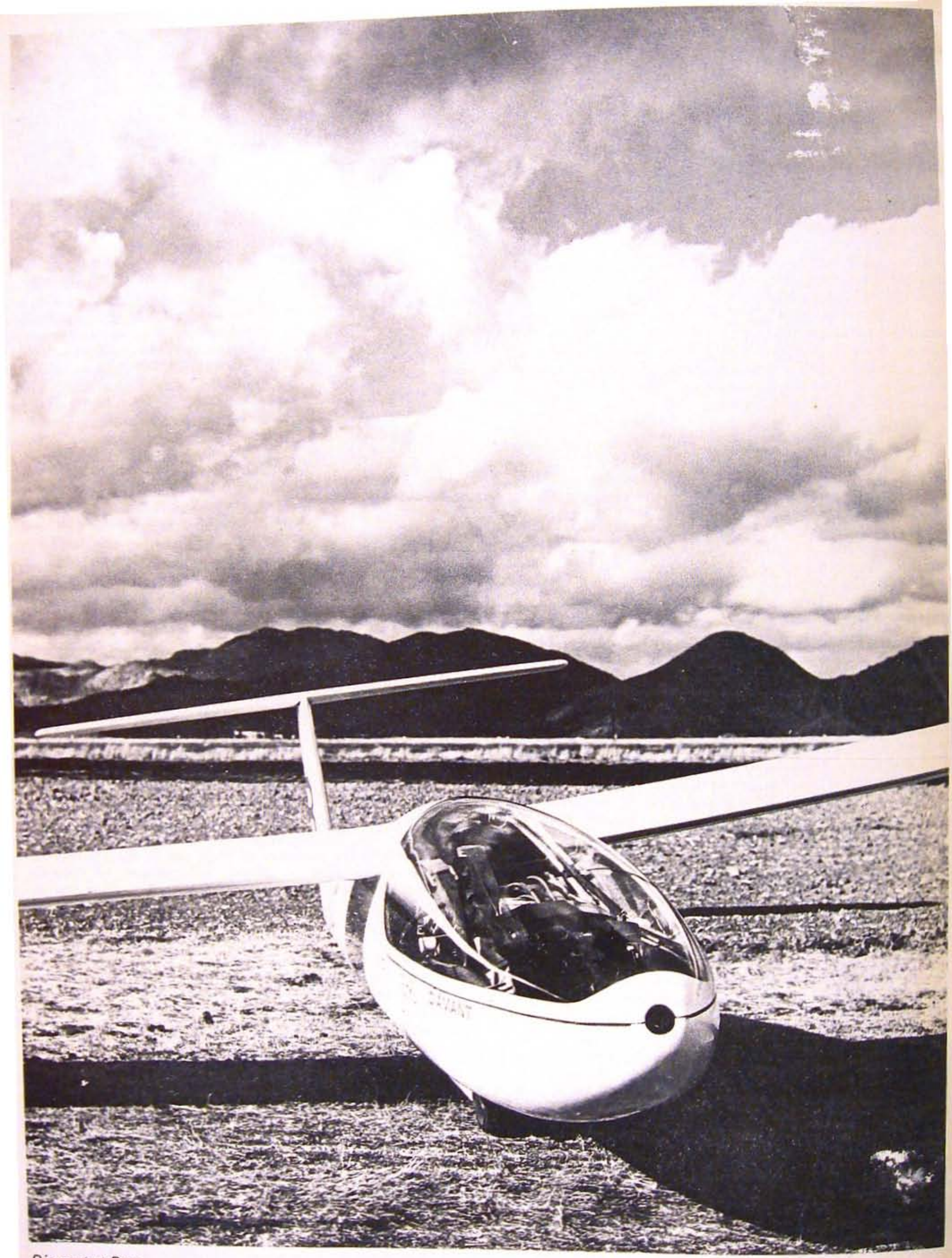
On the political front, good can only be the outcome: how often do sportswomen from countries afar afield as Australia, U.S.A., Belgium and Denmark get the chance to compete harmoniously behind the Iron Curtain?

Conclusion

This first International gliding competition for ladies will prove to be a milestone in the history of soaring and in our opinion will most certainly be the forerunner of World championships.

The winner of this competition, Pelagia Majewska, had this to say: "Women have the capacity to do it. Women and gliders go together and above all they have the same characteristics. Both are seemingly delicate and fragile, but in reality are able and strong. If one knows the correct way of handling a woman as well as a glider, one can achieve a lot with both".

A philosophical statement with which we are bound to agree.



Diamant at Rest

AMERICAN NATIONALS

by BOB BUCK

OPEN NATIONAL SOARING CHAMPIONSHIPS

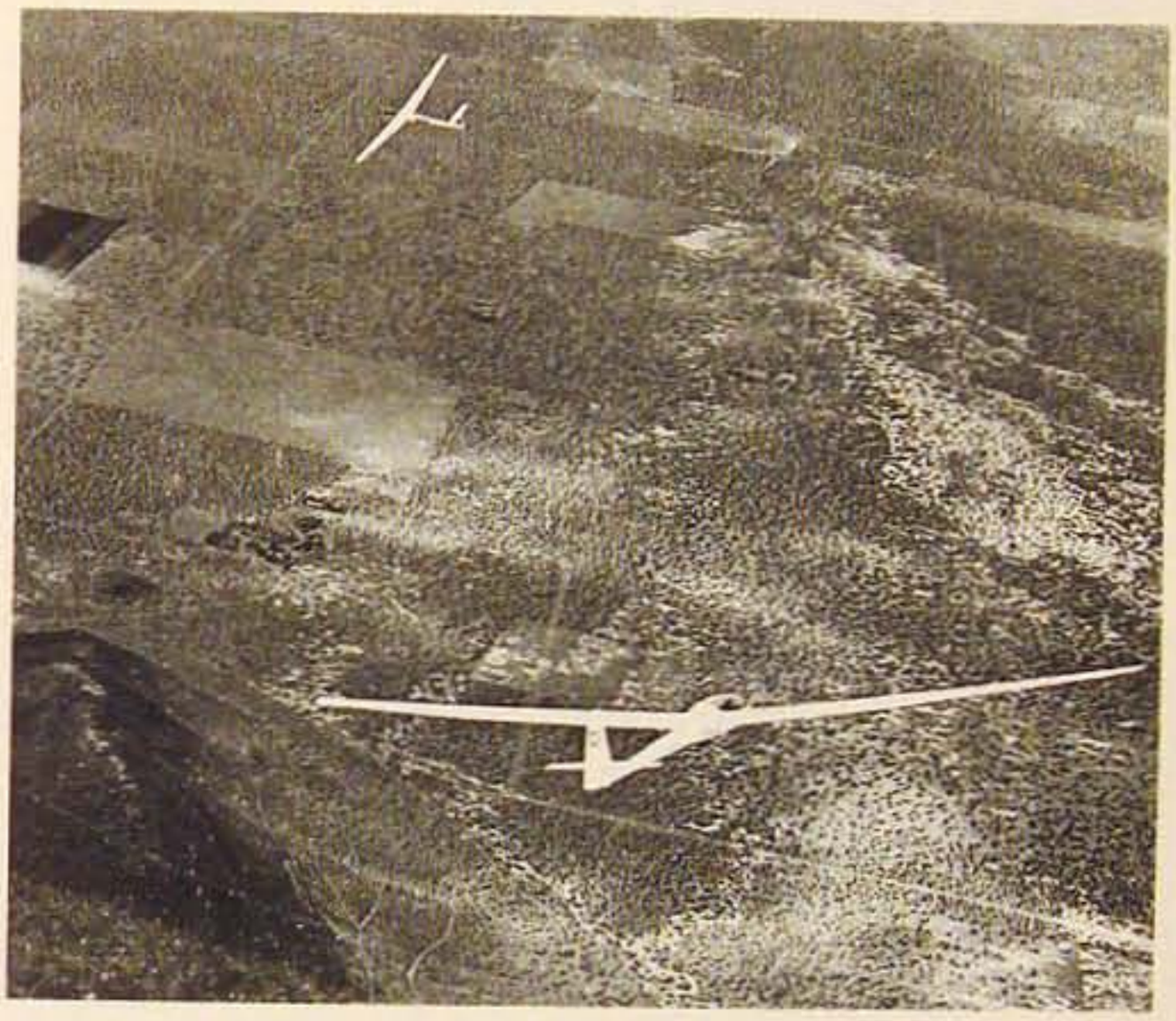
The 40th U.S. Open National Soaring Championships were held in Liberal Kansas from July 24 to August 2, 1973. Liberal is a moderately sized west Kansas town, located about five miles north of the Oklahoma-Kansas border and approximately fifty miles east of the Colorado-Kansas divide line. The local country is flat, very flat, and ideal field landing sites are plentiful.

Throughout the contest the weather was considerably better than the eastern United States, but not as good as was expected for the west. Maximum thermal conditions extended to 10,000 ft. above sea level with slight variations above and below throughout the meet. With a 2900 ft. ground elevation at Liberal, higher to the west and about 800 ft. lower to the east, the average thermals were about 6000 to 7000 ft. above site level, but more often than not shear layers necessitated leaving thermals a thousand feet lower if good cross crountry times were to be achieved. The weather was, at times, wet with thunderstorms, creating choppy, hard to centre in thermals, averaging from 300 to 500 fpm., with lots of weaker and choppier thermals down low, a position easy to find oneself in at Liberal if one was not careful. Thunderstorms often formed, and on three contest days, the results were greatly affected by such.

As the standings show, the 20 metre superships have found their place this year. The United State's best were flying the "big ones" and it made things very rough for the fifteen metre ships. Of the four ASW–17's entered, three made the top three positions, flown in order by George Moffat, Dick Johnson, and Ben Greene, all past U.S. National Champions and world team members. There were fourteen 20 metre and above sailplanes entered, (two Glasflugel 604's – each 22 metres), as well as several ASW–12s, a Kestrel 19 and assorted Diamants, Kestrel 17s and thirty five fifteen metre machines. However, the big ships dominated, with the first non – 20 metre sailplane finishing in 9th place, a Kestrel 17 flown by Hans Linke of Los Angeles, California. The first fifteen metre sailplane was an H–30lb Libelle, flown by Walt Cannon of Palo Alto, California. Tom Beitz, of Lehighton Pennsylvania, was 17th with a Standard Cirrus the first legal Standard Class sailplane.

The longest task set was a 264 mile triangle, of which only 12 sailplanes returned, due to a most poorly placed thunderstorm. The fastest flight of the meet was made at over 68 mph by Tom Brandes, in his Glasflugel 604, on the second day. He finished the task by very calmly dumping his water ballast at the second turnpoint, (about 50 miles from Liberal), and glided straight home without circling!

Of the seventy entrants, only one sailplane was damaged, an ASW–12, which was a victim of windshear while landing in the vicinity of a thunderstorm on the eighth day. Otherwise, no non-flyable damage occured during the contest. The meet was a tough one, probably the toughest since the 1969 Nationals at Marfa. The writer flew an H–301b Libelle and managed a lucky 25th. Walt Cannon mentioned that anyone who was ever anything in U.S. competition gliding was there. Maybe 25 was not too bad?



Diamant ar·1 Cirrus working a thermal

FINALS–OPEN NATIONALS, LIBERAL KANSAS

1 Moffat	ASW–17	8130 points
2 Johnson	ASW–17	7970 points
3 Greene	ASW–17	7872 points
4 Scott	ASW–12	7697 points
5 Brandes	Glasflugel 604	7535 points
6 Chase	Nimbus II	7467 points
7 Peres	Glasflugel 604	7452 points
8 Ryan	Nimbus II	7448 points
9 Linke	Kestrel 17	7401 points
10 Smith A.J.	ASW–12B (19 metre)	7370 points

Cirrus Landing

Photographs by George Uveges

Smirnoff Sailplane Derby

A report by Sylvia Colton

The second Trans-America Smirnoff Sailplane Derby took place from 14th – 30th May 1973. This invitation race started on the west coast at Los Angeles (El Mirage) and terminated 17 days later on the eastern seaboard at Washington D.C. (Frederick).

Taking part were:

Göran Ax – Sweden – World Open Class champion
Ray Gimmey – USA – US champion
Betsy Howell – USA – former women's goal and distance record holder.
Wally Scott – USA – last years Smirnoff winner
'Woody' Woods – Hawaii – major US regional contest winner
John Ryan – USA former national champion

During the race 8 stages were flown, making the total distance of air travel 1756.5 miles.

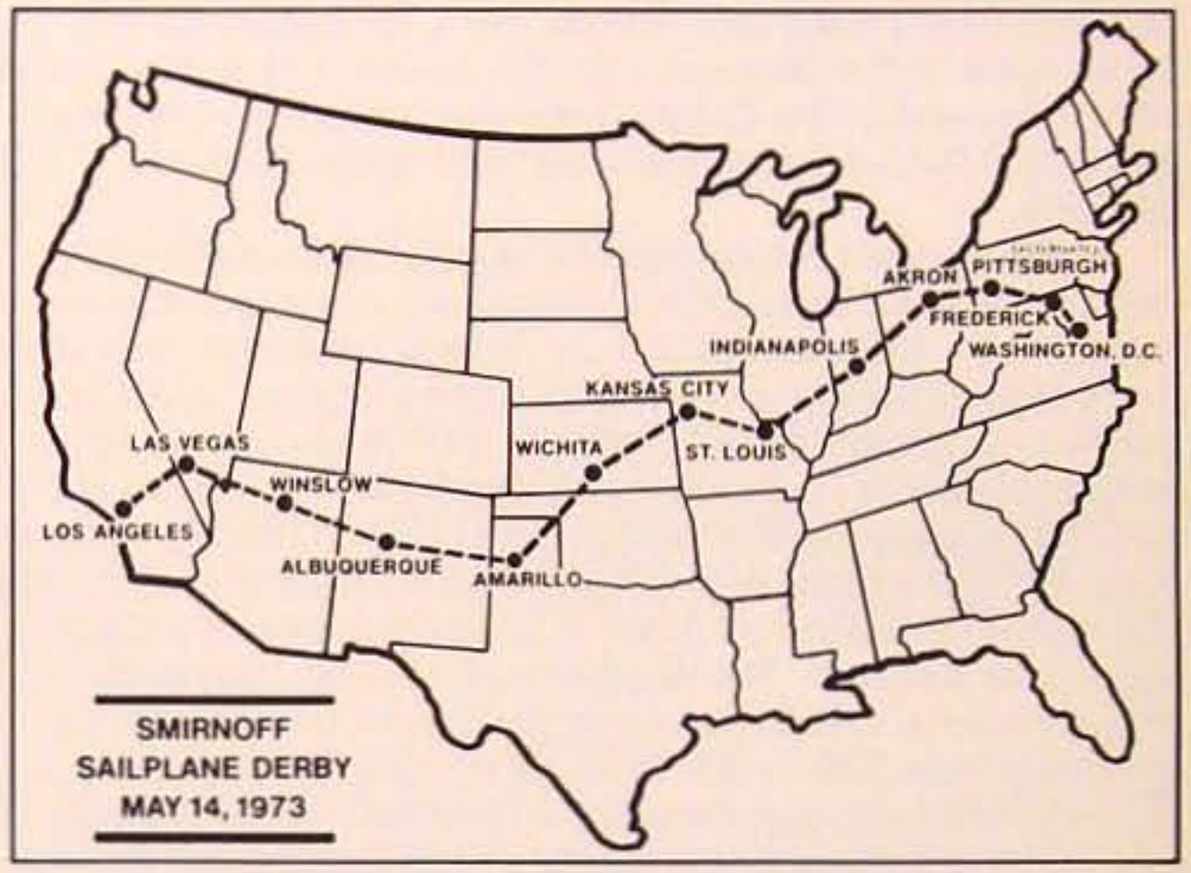
15.5.73	Stage	1	El Mirage – Las Vegas	168.00 miles
16.5.73	"	2	Las Vegas – Winslow	257.00 miles
17.5.73	"	3	Winslow – Albuquerque	235.00 miles
18.5.73	"	4	Albuquerque – Amarillo	268.00 miles
21.5.73	"	5	Liberal – Wichita	211.50 miles
25.5.73	"	6	St.Louis – Indianapolis	233.00 miles
26.5.73	"	7	Indianapolis – Akron	261.00 miles
30.5.73	"	8	Latrobe – Frederick (Washington DC)	123.00 miles

During the course of the Derby stages the whole field never completed a full stage and on the 7th leg only one pilot – Wally Scott finished. The five male pilots all won at least one stage and the eventual winner, Göran Ax, finished first on three occasions.

On non-flying days the sailplanes were 'trailered' to the next staging post in order to keep to the schedule laid down by the organising bodies.

Final Results

1. Göran Ax	–	7441 points
2. John Ryan	–	7111 points
3. Wally Scott	–	7043 points
4. Ray Gimmey	–	6917 points
5. Woodson Woods	–	6842 points
6. Betsy Howell	–	969 points



1974 World Gliding Championships Preview

COMPUTER ASSISTS IN TASK SETTING

For the second of our World Championship "build up" articles, time and space has been devoted to describing what is, in fact, the most intricate and taxing of all the problems that face competition organisers, that of **correct** task setting.

The following feature relates in detail the time and trouble extended by the Gliding Federation of Australia to ensure that during the competition every eventuality will be well and truly prepared for.

One of the problems faced by the organisers of a World Gliding Championships is the selection of a number of suitable turning points for the races and other tasks, and the determination of the distances between them. It is not good enough for the task setters, on the morning of a contest day, to pop a few pins into the map and scale the distances with a ruler or dividers.

The turning points chosen must be prominent landmarks easily visible from the air and distinctive so that not only the pilots but also the turning point photograph scrutineers will have no difficulty in recognising them. As each glider rounds the turn, the pilot is required to photograph it with his sealed camera from a position that establishes beyond doubt that he has not cut a corner. In practice it is all too easy, even for an experienced pilot, to become disoriented at the critical moment and, after his film has been developed by the contest organisers he may find himself penalised or even disqualified.

Small errors in positioning are quite common and on one sad occasion even a World Champion has been known to err. Helmut Reichmann, when competing as a guest in the Australian Nationals at Benalla, Photographed a prominent set of grain silos several miles away from the silos intended by the task setters. From the air one silo looks very much like another.

For the 1974 World Gliding Championships to be held at Waikerie in South Australia from January 12th to 27th 1974, the turning points to be used have been chosen long in advance. The contest area extends to the north-west some 400 km. to the Flinders Ranges, westwards to the shores of Spencer's Gulf, south as far as the mainline railway from Adelaide to Melbourne and eastwards to Kerang in Victoria and Balranald in N.S.W. A vast area of scrub country, unsuitable for landing or retrieving, prevents tasks being set far to the north of Waikerie.

Within this contest area a total of fifty turning points has been selected at distances from Waikerie varying between 28 and 400 kilometres. They will not all be used on any one day of the championships; the task setters will lay out a task course after consulting the meteorological advisors each morning.

For each turning point a special card has been designed. The name and number of the turning point is marked at the top, and the exact geographical co-ordinates are given. An oblique aerial photograph, taken at a height of 2000 ft., is printed below this and a brief caption describes the landmark. Below this is a detailed sketch map of the area immediately surrounding the turning point and on this map a sailplane symbol shows exactly where the pilot is expected to be when he takes his vital photograph. Every competing pilot will be provided with a set of fifty cards, and at task briefing he will be able to sort out which cards to take with him in the cockpit, for use in checking his position at the turns.

The tasks set may be of any size and while the most common exercise is a speed trial around a triangular course with only two turning points (apart from the base starting and finishing lines), it is quite likely that tasks with more than three 'legs' will be set, and some tasks such as the 'prescribed area distance' or 'cats cradle' leave the choice of turning points up to the pilot himself. He is allowed to choose from the official list and he may accumulate distance by visiting as many widely separated points as possible.

It is obviously important for the distances between the turning points to be accurately known. Not only the pilots and task setters, but also the scorers, must have precise figures for their calculations. Apart from these immediate competition requirements, gliding conditions in Australia are such that new national and international records may well be established. It is laid down by the F.A.I., the body governing all sporting aviation, that distances for records, diplomas and certificates, must be calculated to within 0.5 km., and speeds (which involve distance and time measurements) are permitted a total error of only 0.5%, an even more stringent requirement. The distances must be calculated as great circles on an assumed spherical earth of radius 6378245 metres, which at once rules out any possibility of using normal maps or charts for the measurements.

To calculate Great Circle Distances it is essential first to determine the exact latitude and longtitude of the turning points. Most gazetteers and other tables of position give co-ordinates only to the nearest minute of arc, which is good enough for many purposes, but not for the F.A.I. A minute of arc on the Great Circle is exactly one nautical mile or about 1.8 km. On a triangular task an error of such dimensions could easily accumulate to five or six kilometres over-all. The only practical way of working out more exact co-ordinates, to the nearest two or three seconds of arc, is by the use of large scale topographical maps and charts.

Fortunately suitable maps of the whole contest area are available, and in some cases where a doubt remained it was possible to refer to vertical aerial photographs, with the result that every turning point has been located with an accuracy of about 60 metres in any direction. The only way of improving on this would be to make a special survey of each point; fortunately not necessary. The features used as turning point marks are usually buildings such as sheds or grain silos, or spot features such as cross roads or aerodrome runway intersections. In many cases the feature to be photographed is itself more

than a second of arc in length and width.

Neither the task setters each morning nor the scorers each night have time to sit down and compute great circle distances. The mathematics are simple but standard tables used by navigators do not give sufficient decimal places in cosines or haversines for F.A.I. accuracy to be achieved. The process thus becomes quite involved, and it is obviously necessary to have all the distances pre-computed.

For the Waikerie World Championships it was desired to present the task setters with a complete table of distances, similar to layout to the road mileage tables produced by some motoring organisations, in which the name of each town is listed down the left hand side of the page and is repeated across the top of the chart. The distance from any place to any other is then simply found by locating the name of one on the left hand column and running the eye across the page until it comes to the figure beneath the second place's name. A table of this kind involves 2500 calculations for 50 places.

Ian Croft, a student in the University of Adelaide, undertook to produce this table as a computing exercise. Once the Fortran program had been written and checked it was only necessary to punch the names and co-ordinates of the fifty chosen turning points onto cards in the standard form, and the complete table was printed out within a few seconds, with a degree of accuracy far higher than really needed.

However, it was thought desirable to simplify the task setters' work still more by sorting all the possible tasks in some rational manner. Gliding people tend to think in terms of 100, 200, 300 and 500 km. triangles, obviously the longer ones are attemped in good weather, the shorter tasks are reserved for difficult days, as a rule. Ian Croft's distance table would be invaluable for checking distances after the task had been decided, but a more sophisticated approach was needed to sort the very numerous possible triangles into sizes.

The program for this was written by Tom Nemeth, a staff member of the Adelaide University Computing Centre. Using the same co-ordinate data cards as Croft, Nemeth devised a program which first computes all the possible triangles and out-and-return flights from Waikerie and then arranges them in groups: 100 to 200 km., 200 to 300, 300 to 400, 400 to 500 and finally 500 to 600 km. The length of each 'leg' is given together with the total length of the three legs (or two legs in the case of 'Out-and-Return' tasks). Each triangle is also checked for compliance with F.A.I. rules, which state that for record purposes no leg of a trianglular task may be less than 28% of the total distance; this prevents the use of very long, thin triangles which could make unfair use of some special, local terrain feature. The triangles which do not comply are still usuable in competitions, but where record attempts are likely it is desirable to stick to the F.A.I. dimensions. The Nemeth programme is fairly expensive in computer time, taking just over 18 seconds to run; the print out occupies the printing machine for more than a minute.

By arranging the turning point cards in clockwise order, relative to their positions on the map, it was possible to arrange the print out so that tasks lying generally to the east of Waikerie were listed first, then those lying south-east, followed by south, south-west, west, north-west, so that the task setters can first select a general direction according to their weather information, and then decide on a longer or shorter task. Tasks which are not triangles or out-and-returns will, of course, be worked out individually from the Croft table.

The computer programs used in this work are both written in Fortran and could, therefore, be used, possibly with some minor adaptions to particular computers, anywhere. The results will be correct providing the points listed in the data are all on one side or the other of the Equator. Given a copy of the program punched on cards, it is necessary only to punch out the names and co-ordinates of the turning points and feed the whole card deck into the computer. The Croft programme will handle up to 60 turning points, the Nemeth programme up to 100.

CAUGHT BY A CURRENT

by DOC. A. E. SLATER

In the days when cross-country soaring flights were unusual in England, **The Times** had on its staff that rare phenomenon, an Aeronautical Correspondent who actually understood how it was done – E. Colston Shepherd. The result was that, when Philip Wills flew nearly 40 miles from Camphill to Lincoln during the 1936 National Contests, a full account appeared in **The Times** next day of how Philip had been about to land when he saw a cloud street approaching; how (and why) he climbed up to it, used it to go 8 miles downwind to Stannedge Edge, slope-soared there till another street came along, followed that one and then crossed to a secondary cold front, flew along that and out into blue sky, so had to land. But as, unknown to him, the cold front had reversed the wind, he landed downwind and hit a bump in a field, so that his rather top-heavy Hjordis sailplane turned upside-down and broke its nose and a wing-tip. In all, this excellent account of the flight ran to 600 words.

By contrast, this is how the same flight was reported in the **Daily Mail**:–

'GLIDER CRASHES – Caught by a strong current when competing in the British Gliding Association Championship at Great Hucklow, Derbyshire, on Saturday, Mr. P.A. Wills, a Londoner struck a stone and overturned when he landed near Lincoln."

"Caught by a strong current!" That is the trouble about the word "current". In meteorological language, which is the language of glider pilots, the difference between a current and a wind is simply that a wind is a horizontal movement of air and a current is a vertical movement of air. But to the general public a current is a narrow stream of turbulent fluid – air or water – which you are "caught by," or "carried away by," or "at the mercy of", and you can do nothing about it because you are "out of control."

The delusion that an upcurrent must be narrow – no more than a few feet across – already held sway when Lord Rayleigh, in 1883, gave the first scientific explanation of soaring by saying that the wind must be either not horizontal or not uniform. By "not horizontal" he meant, in plain English, moving upwards. This was in the leading Scientific journal **Nature**, and immediately other correspondents began wild speculations on what such a queer thing as an upcurrent could possibly be like. The least implausible was that a bird would have to pull up sharply and hover in it like a parachute. And Dr. E.H. Hankin, whom I mentioned in an earlier article, still knew no better in 1912 when he wrote:

"Now let us examine the case of a bird supported on a vertically ascending current of air. Let us suppose further that it is not gliding ahead.....the angle of incidence is 90°."

And even before Hankin, Sir Hiram Maxim had already established himself as the supreme false prophet on the subject of human soaring when he wrote, in 1908; "We cannot hope to make a sensitive apparatus that will work quick enough to take advantage of the rising currents of air...."

This phoney idea of all "currents" having to be narrow persisted even into 1922 when the Germans made the World's first prolonged soaring flight over a steep ridge 2,000 feet high and five miles long, up which the wind blew in the form of cubic miles of air rising in a single mass – a feat which it could not possibly have accomplished if it had tried to do so in the form of tiny little puffs of air with large stagnant spaces between them, as the British Press assumed to be the case. A typical result of this silly misconception was a rumour that those devilishly cunning German pilots rubbed sensitizing ointment on their cheeks so that they could feel the "currents," despite the fact that any sudden entry of a pilot into an up-current does not register as a sideways push on the top end of his body, but as an upward push on the bottom end.

So, when the first British soaring competition was held on the Firle-Itford ridge in the South Downs, and the wind conveniently blew up the hill day after day, nearly all the experienced aeroplane pilots (the only competitors who flew at all) thought they had to float off aimlessly up-wind hoping

to be hit by a current – all, that is, except the Dutchman Antony Fokker, who showed that you must turn at once after your launch from the hilltop and fly along the ridge immediately above the steep windward facing slope, then turn at the end of it and fly similarly to the other end. A few saw the light and copied him, with successful results; but when Fokker lent his glider to another "experienced" type, telling him exactly what to do, the silly fellow flew out straight ahead over the valley, with Fokker shouting "gom back!" But he didn't "gom": he went and went down.

Yet, when organized gliding started in Britain in 1930, Thurstan James, who had just founded the magazine **Sailplane and Glider**, had to teach the same lesson over again; he published an article telling experienced aeroplane pilots that when they run into lift they must **not** pull up into a stall, but carry on at normal gliding speed.

After that, the "caught by a current" idea practically died out among aviators, and was only to be found among the general public and its Popular Press.

But we were still not rid of the idea that all "currents" are turbulent. The late Sir George Simpson, who was the meteorologist on Scott's Antarctic Expedition and later became head of the Meteorological Office, read a paper to the Royal Meteorological Society around 1945 in which he sought to explain how cloud particles coalesced into raindrops. He hit upon the "obvious" (to him) explanation that, as a cumulus cloud contains an upcurrent, the particles must be flung against each other by the turbulence – as if one only had to utter the magic word "current" and – hey presto! – turbulence appeared as if from nowhere. Yet a glider pilot circling inside a growing cumulus often finds it remarkably free from turbulence, in spite of his variometer telling him he is going up.

Still, Sir George's misconception could never have done anybody any harm. Unfortunately, the same cannot be said about a document issued by the Meteorological Office as recently as 1953, purporting to give useful advice to aviators on how to avoid the dangers of flying among stationary air waves set up by mountains. Now, don't confuse this with a much more recent Met. Office publication on the same subject which is above reproach, and bears every sign of having been written by our own "Wally" Wallington, the leading British authority on soaring meteorology. The one I mean, the 1953 one, reads as if someone had gone into a roomful of people sitting at desks and said to one of them: "You there! You don't seem to be doing anything at the moment, just churn us out a piece about atmospheric waves over mountains, will you?" Apparently no-one had ever told him about such things; but on one point he evidently felt sure he was on safe ground; in a wave the air is always moving either up or down; it is therefore a current, and, as everybody knows, currents are turbulent. So he scattered the word "turbulence" all over the place like sprinkling vinegar on fish and chips.

Now, the most outstanding feature of flying along waves, as every glider pilot knows who has tried it, is the uncanny smoothness of the air almost the whole time, however fast the wind blows. Furthermore a long ridge lying across the wind direction can set up a series of waves to leeward of it which are just as long as the ridge. So if you are flying a course parallel to the ridge, downwind of it, you will be either in lift all the time or, on the downgoing side of the wave, in sink all the time. And, if you were an aeroplane pilot who had read nothing about waves but that 1953 document, you would say to yourself: "I don't feel the slightest whiff of turbulence, so I must be all right – I needn't bother to watch my altimeter. Anyway, currents aren't all that big – if I've flown through one, I should be out of it by now," yet those might well qualify as "famous last words." Some years ago Alan Yates – a glider pilot of course – analysed a number of recent aeroplane crashes among mountains and concluded that many of them were possibly, and some definitely, due to the pilot flying unwittingly along the downgoing side of a wave. Truly, for once, they had been "caught by a current."

The VINTAGE Gliding Club of Great Britain

Following their admirable policy of rallying at sites throughout the length and breadth of the country, the first long weekend get together of the recently formed VGC took place at Ellers Road Airfield, Doncaster from the 3rd to 6th August, 1973.

Ken Crack – Rally Secretary had planned a series of not too long cross-country flights for the venerable machines but 4 days of rather wet and discouraging weather only permitted one flight to be made away from Doncaster. This took place on the Sunday when a modest down wind task of 52 kms. to Kirmington private airfield was attempted. In conditions which could only be decribed as difficult, all the gliders started the flight but only three managed to complete the course, they being Dave White – Sky, Peter Young – Rhonbussard, Chris Wills – Minimoa. Rodi Morgan – Grunau, landed at Lindholme after encountering heavy sink and spent a pleasant afternoon with the A.T.C. while waiting for the Condor to retrieve him.

On the other days local flying took place, many pilots from Doncaster Gliding Club taking advantage of Ken Crack's offer to fly with him in the Goevier and acquire a 'new' type for their log books.

Saturday evening, although wet and extremely windy, provided an excellent opportunity to sample traditional Yorkshire hospitality when a lively party-cum-barbecue kept everyone on their toes until the early hours.

It is now quite obvious that the VGC is all set for long and distinguished career in the history of gliding, and that founder members will see their organisation grow from a band of passionately keen historians, to a world wide fraternity devoted to the preservation of a unique heritage.

Further details of the VGC are available from the Secretary, Frances Furlong, Otford House, Otford, Nr Sevenoaks, Kent.

Doc Slater and Joan Price two of Britains earliest glider pilots

Paul Semes in the Minimoa

The 1973 Symposium on Competitive Soaring

by Paul Smith

The university professor and the corporation pilot were unequivocal in their vews: "We believe," wrote Ed Byars and Bill Holbrook, "that the epitome of all soaring is competition soaring. "Their statement was in the preface of the Proceedings of their First Annual Symposium on Competitive Soaring, a publication which reproduced verbatim the talks of Richard Schreder, George Moffat, A.J. Smith, and others at Manns Choice, Pennsylvania, in 1969. The gathering and its report were eminently successful and attracted international notice. Subsequent symposia were held each year, but while Proceedings were published for '70 and '71, none has appeared for the last two years. "It's a labor of love — and work," quipped Byars by way of explanation, "and after five years ardor can cool a little."

Thanks to the following notes of SSA'er Paul Smith (who attended this year's sessions at Morgantown, West Virginia, with NASA Deputy Director Oran Nicks), compeition enusiasts are briefed herewith on 1973 Symposium events pending later publication of the full Proceedings by Messrs. Byars and Holbrook:

The Symposium opened with a paper by Wil Schuemann on Drag Parachute Deployment System. He reviewed his tests of various drag chute modifications that he had incorporated on his AS-W 12. A fascinating in-flight movie was shown of all of the chute problems he encountered and the eventual success he attained after extensive modifications. His ultimate two-chute systems (one from the rear fuselage and one from just aft of the landing gear) resulted in HP-type approaches with a ground roll of no more than 120 feet.

The rest of the day, excluding coffee breaks and lunch, was spent listening to presentations from the various manufacturers present. These manufacturers, in alphabetical order, are as follows: Bryan Aircraft, Glasflügel, Schempp-Hirth, Schleicher, and Schweizer. Only Dick Schreder and Les Schweizer presented new compeition ships. The Europeans do not know where the Standard Class rules are going in the future, so are not keen to go into production with any new Standard Class ships. Throughout the proceedings we were encouraged to make any comments or suggestions pertaining to the old, present, or new rules for Standard Class sailplanes. These comments resulted in the preparation of three petitions to the CIVV from the attending pilots, but more about that later.

Dick Schreder started his presentation with a question: "Which sailplane should one buy?" He noted the increasing popularity of Standard Class competition and cited the Marfa (Standard Class) and Minden Nationals as specific examples. No shortage of ships for Marfa, but a low entry for Minden. He postulated that most people require a low empty weight, lowest cost, safe and reasonable sized Standard Class sailplane with AS-W 17 performance. The differences in performance between the Standard Class sailplane and the super-ship are very slight in high speed flight for the same wing loading, so Dick has designed a very light sailplane with exceptionally good climb capability. The ship is very similar to the HP-16 except that it has a 15-meter wing span employing the latest Wortmann FX-72-MS-158 series airfoil. These airfoils have excellent minimum sink capability. Dick indicated that he could thermal the HP-16 at 50mph and is estimating the same thermaling speed for the HP-17 while carrying 200 pounds of water ballast. His problems of carrying water loose in the wing have been solved by carrying the ballast in the wing's hollow box spar which is lined with a polyethylene bag. To get around the present Standard Class rules, Dick plans a full-span flap

with both positive and negative deflection capability. Independent and separate lateral control is provided by spoileron. He estimates 700 man-hours to complete the kit which will sell for $3995.

Mr. Renner of Glasflügel started his presentation with an outline of his company's study on Standard Class ships and the proposal for a 15-meter open Standard Class that they submitted to the CIVV prior to the latest rule change. He stated that the CIVV either did not understand or just ignored their proposal. In any case, Glasflügel was never asked to discuss its proposal with the CIVV. Mr Renner presented a long technical discussion on straight and turning performance and showed that an optimum fixed-geometry airfoil was as good as an airfoil with a part-span flap simply hinged on the upper or lower wing surface. Convential ailerons made up the rest of the span. He also showed significant performance improvement by use of differential full span flaps (AS-W 17). Based on these data, Glasflügel recommends a 15-meter open Standard Class sailplane design. The one main problem that he sees is that flaps, as dive brakes, cannot meet the German Certification Rules, but would be acceptable in the U.S.A. This means that at present no Type Certificate can be obtained in German, so no FAA certificate can be issued through reciprocity. It probably means that all German sailplanes of the future will have both dive brakes and flaps with their associated increase in cost for both systems.

Mr. Loude of Schempp-Hirth brought with him Klaus Holighaus' best regards and apologies for not being able to attend the symposium. Klaus had a heart attack last Christmas, but is reported to be making an excellent recovery. Mr. Loude said that his presentation would just cover present production with a short look into the future. The only two production sailplanes being produced are the Standard Cirrus and Nimbus II. The Open Cirrus has been discontinued but is now being built under license in Yugoslavia. After one year, the Yugoslavians have produced 15 units. Schempp-Hirth is looking forward to good sales of its two production ships and are looking for licensed producers to assist. Mr. Loude mentioned a few improvements being incorporated into the Cirrus and Nimbus sailplanes. The problem of the Standard Cirrus' stalling characteristics has been solved by changing the wing twist ¾ of a degree. A slightly lower stall speed has also resulted. There were three improvements to the Nimbus mentioned: The first was a change to the aileron-flap relationship which has resulted in keeping the outer wing in the drag-bucket. Previously the outboard wing was carrying too much lift and there was a drag penalty assiciated by operating outside the laminar drag bucket. The second is the designing of a better hookup for the controls with visible inspection now possible. The last modification was to the airbrake mechanism. The Nimbus will now have the same mechanism as is on the Standard Cirrus resulting in half of the actuation forces. Mr. Loude next showed us a design for a high-performance two-seater that he says will fly late this summer. Production should start in the Spring of '74 and should be available here by 1975. The ship was designed with good performance and ground-handling features for club use. The wings are two-piece, swept forward two degrees, and have an aspect ratio of 20 (230 pounds each). The high lift and control systems are the same as the Nimbus II. Presently it has a one-piece canopy for the tandem pilots, and a fixed main and retractable nose gear. Should there be no need for the nose gear, it can easily be eliminated and should it be desired to have a retractable main gear, this can be done later. The price is estimated to be between 100 and 110 percent of that of the Nimbus. Mr. Loude next showed us some slides of the manufacture and flight tests of the SB-10, a 29-meter span ship. This ship is a modification to the 19-meter SB-9 with an addition of a 10-meter center section which was constructed with carbon fiber spars and skins. The cost of this program was covered by funds from the German Ministry of Defense. These costs were so high that Mr. Loude cannot possibly foresee the use of carbon in the near future. The first flight took place in July of 1972 and tests are still continuing. The SB-10 has a roll time (45 to 45 degrees) of between 5 and 6 seconds.

Mr Waibel of Schleicher presented a three-part paper: 1. AS-W 15 performance polar; 2. Effect of wing loading on AS-W 15 cross-country performance; 3. Effect of flying the MacCready ring on AS-W 15 cross-country performance.

An estimation of the AS-W 15 drag polar was presented that assumed fully laminar flow over the nose and canopy, approximately 40 percent of the wing and the leading edges of the vertical and horizontal tails. These results showed performance that was considered to be too good, so additional wind tunnel tests were performed on the AS-W 15 wing section. The wing profile drag was significantly higher, resulting in a polar with approximately 36:1 maximum L/D. Mr. Waibel presented three flight-test measured polars with Bikle's right in the middle. The worst performance curve was measured by the French CEV (Flight Test Center) and the best by some German students (this is the curve that exactly matches Waibel's estimate). The worst curve was for the lightest weight and most forward center of gravity; the best was for the heaviest and most aft cg. These trends are in the correct direction, but correcting to a constant wing loading did not bring the curves together significantly. Mr. Waibel suggested that the cg effect should have been smaller, if not, maybe we will have to have variable longitudinal cg capability.

As Waibel had done a lot of work on the certification of the AS-W 15 with water ballast, he next showed us the effect of wing loading on cross-sountry performance. As you would expect, the lightest ship had the superior climbing capability and the heaviest one the least. Based on tests on the D-34A and Ka-8, Waibel suggested that the circling performance is close to the straight flight polar when corrected for angle of bank. The optimum angle of bank appeared to be between 35 and 40 degrees depending whether the thermals were large or small. What was significant about his results was that for all wing loadings within the certified weight range, the cross-country average speed was the same at approximately 300 fpm achieved rate of climb, even though the heaviest ship was flying between thermals at a higher speed. This says that for days with weak thermals, you must fly at the lightest possible weight. This conclusion is essentially the same whether one considers large or small thermals with any type of lift gradient. Waibel next developed typical cross-country profiles using Carmichael-type thermal gradients. Case 1 considered an isolated thermal with a large surrounding air mass essentially at rest; Case 2 considered a thermal of the same given strength and size as in 1 above, but with sink areas existing at 1/3 the thermal strength over a distance three times larger than the thermal. Case 3 assumed that the thermals were spaced equidistant with sink areas of the same strength as the thermal. By carefully flying the MacCready ring, Case 1 gave the lowest cross-sountry speed and Case 3 the highest. Dick Johnson was surprised by these results. Waibel said that, by flying at a constant speed consistent with the wind conditions and last achieved rate of climb, one's average speed would be approximately 10 percent low for Case 3. The only way to fly, he says, is to accurately follow the MacCready ring and dive and zoom when required. Waibel said these conclusions have been confirmed by many flights.

Les Schweizer presented the latest Schweizer Standard Class sailplane design which will be known as the 1-35 This is an all-metal smooth sailplane with a maximum gross weight of 900 pounds. With a predicted empty weight of 385 pounds and up to 300 pounds of water ballast, a 215-pound equipped pilot can be carried. Les says that all parts to date are at or under predicted weight, so everything looks good. The wing has an interesting wing spar and skin design and should have minimum skin buckling due to stiffeners between the ribs. The flaps can be connected to the ailerons, should the Standard Class rules be changed again, and the ship has a carefully sealed retractable wheel. Les says he can produce a smooth wing and

fuselage with a special new filler that has been developed. There are less parts than in a 1-26 and it is estimated that the 1-35 can be manufactured in not more than 500 man-hours. Schweizer's present factory rate is about $8.00 per hour so that will give some idea of the unit cost. Based on their experience with Joe Lincoln's modified 2-32 (which carries 500 pounds of water). Les says that the 300 pounds of water designed to be carried in the 1-35 can be dumped in no more than 60 seconds. He expects good performance, at least as good as the present Standard Class ships; if not, back to the drawing boards. The ship should fly soon and is expected to be flown at the Standard Class Nationals in Chester. Les also showed us slides of the Open Class sailplane he has designed and is building in his father's garage. He hopes that his project will be successful, and that he can establish that he is a worthy successor to Ernie, when the time comes.

Steven Friedman, a Laister representative, showed slides of the current production status of the Nugget. One ship is busily being prepared for Paul Bikle who expects to fly it at Chester. Thirty ships are presently being built and 26 have been sold.

That ended the day's formal proceedings and everyone retired to the cocktail lounge for some liquid refreshment. Later that evening there was an excellent dinner at which Gren Seibels was the after-dinner speaker. He is one of the most lucid and entertaining speakers I have ever heard. After dinner, more liquid refreshment, lots of dancing and continuing hangar flying. I spent an enjoyable evening with Herr Waibel who had some interesting tales about the Russians and their purchase of the AS-W 15's.

The next day's proceedings started with the U.S. team's assessment of Vrsac, Chester, Liberal, and Waikerie, Australia. This was followed by their comments on the present and future of sailplane design.

A.J. Smith stated that Europe has recently made the major contributions in sailplane aerodynamics and design and that the best the U.S.A. has been able to do is provide the Europeans with some dollars. He also indicated that U.S. purchases of the glass birds did not represent a large market. A.J. felt that U.S. research and development should be stimulated to provide a better economic base for soaring. Mass production capability can be developed which will benefit everyone. He felt that the unknowns should be listed and an aggressive aerodynamic and meteorological research and development program initiated. His studies indicate this can be done relatively cheaply.

George Moffat stated that, partly due to economic reasons, there would be a resurgence of U.S. sailplane designs. He felt strongly that metal wings are bound to make a comeback for several reasons. George stated that when the glass ships first came out they were so much superior to the wooden ones that glass looked good. Now that most people are flying glass ships it is clear that there are significant performance differences, even between ships out of the same mold. The glass shrinkage during initial and long-term curing seems to be the problem, but aluminum parts are highly reproducible and accurate. Aluminum wings designed for the same strength offer reduced flexibility and, hence higher flutter speeds over the glass wings. George felt that, although he was in favor of a 15-meter open Standard Class, some caution should be exercised before recommending the changes. If the Standard Class rules are modified again then there is a definite need for a cheaper one-class design. George stressed that it should not be another 1-26.

Dick Johnson talked about the cost of sailplanes and compared the present sales tags with that of his RJ-5. Although he says today's ships are three to four times his old ship price, today's ships are three to four times better when you consider safety, performance, comfort, visibility, and ease of rigging, etc. He felt that the high-performance ships would be less restricted by the present and proposed airspace limitations, but that everyone should try and keep some usable airspace for private flying. Dick felt that the development of world weather real time data that is presently being fed to a Texas Instrument's Giant Computer would do a lot to assist soaring by making available data that will result in better weather prediction capability.

Ben Greene said that, due to the need to fly in this year's Nationals and the pressing logistics problems of getting four sailplanes to Australia for this winter's Internationals, there certainly would not be any new ships appearing on the U.S. Team.

Next followed many people's ideas on the Standard Class rules. As a result, three petitions were signed and forwarded to the SSA so that the CIVV could be appraised of this Symposia's feeling. One petition recommended a 15-meter open Standard Class, another to keep the rules as they presently are, and the third to go back to the original rules. A rough approximation of the results indicated that about 3 to 1 were in favor of a 15-meter open Standard Class. A lot of the pilots present were 301 Libelle owners and some people felt that as the rules have already been changed, why not change them all the way?

The last item on the agenda was a paper by Wil Schuemann on Total Energy Compensator Systems. He outlined the inherent problems of the venturi and diaphragm types and showed that the venturi total energy system suffered from gust sensitivity (twice that of the diaphragm type), increased sailplane drag, and malfunction in rain. The inherent problems of the diaphragm system are the 10 percent change in compensation for each 3000 feet of altitude gained and the cost. Pitot-static errors were a significant source of error, but he felt that this problem is now minimized. His self-contained electric compensated diaphragm unit has zero airspeed error and no more than 10 percent error due to gusts or pull-ups at speed and is tailored to each sailplane type. The compensator can be set for Eastern or Western altitude ranges. The sailplane polar is subtracted from the data developed, so that if you hit a 300-fpm thermal at any speed, it will indicate 300 fpm up.

So ended a worthwhile weekend spent in a comfortable lodge in the West Virginia mountains among pleasant, interesting people.

Reprinted by Courtesy of "Soaring".

"Laister Nugget"

by Doug Birch

HUNGARIAN REVELATION

A problem which at present cannot be regarded as serious, but one that could rapidly develop into major proportions, is the tendency of the Western European gliding world to ignore the blatant fact that the availability of home produced two-seat training gliders is extremely limited.

Glider manufacturers in Great Britain and Western Germany are, today, concentrating their energies toward satisfying the needs of the competition pilot, and seemingly forgetting the essential training machine requirement. Only two known companies at present are building basic training gliders, discounting motor gliders, leaving clubs to rely solely upon existing machines, many of elderly vintage, being between 10 and 20 years of age.

Fortunately, this apathy toward the two-seater by the West European manufacturers is not shared by their Eastern European counterparts. The Czechoslovakian-built all-metal Blanik has for many years proved to be an unbeatable machine, and now a Government-sponsored Polish design team have produced the SZD-35 Bekas with tandem seat arrangement. This wood and glass-fibre glider will in all probability replace the current Polish two-seat trainer, the Bocian.

The Hungarian outlook is, however, completely different. With a Government less sympathetic toward gliding than their Polish comrades, their designs are, of necessity, less advanced. Two gliders are produced in this country, and while both are of utility appearance to Western eyes, close observation reveal them to be purpose-built and admirably suited to European conditions.

Their two-seat Gobe R-26S, which I was able to fly during a recent visit to Eastern Europe, left me with the distinct impression that many clubs in the British Isles would give a great deal to have this particular machine as part of their training fleet.

Design and Construction

If appearance were the sole criterion of the Gobe R-26S, it is highly unlikely that the machine would sell outside Hungary. Basically, it is an ugly glider, constructed primarily from metal and fabric with a conventional tandem-seat configuration. The nose tapers to a sharp point which tends to give the impression in straight flight of a permanent nose-down attitude. This feeling is particularly prevalent on aero-tow when the inclination to correct this 'fault' is difficult to restrict. Once the mind is adjusted to this point no further problems present themselves.

With low aspect ratio wings and relatively large ailerons, response from correct stick movement was positive and sharp at speeds over 70 kts., below this, the controls became correspondingly heavy. As the maximum lift/drag ratio is effective at 81 kts. this observation is of minor importance. Rudder movement was also found to be quite considerable, but this had no apparent adverse effect at the recommended best cruising speed.

Of interest to those plagued by wing tip maintenance, were the strong metal outriggers which prevent the tips hitting the ground, thus reducing damage possibility to the wings on landing.

The wheel is positioned well ahead of the centre of gravity, and efficient shock absorbers give a smooth take-off and comfortable landing over the roughest ground. This point must appeal to those instructors who spend most of the day in the back seat.

Stalls, Spins and Aerobatics

Stalling the Gobe R-26S was found to be virtually impossible. After several attempts, and then only by using vicious movement of the controls, was it possible to complete the manoeuvre. Unintentional stalling seems therefore unlikely to occur.

Spinning was a different matter and no difficulty was encountered in inducing this occurence; recovery was equally as rapid and completed in a half turn. Bearing in mind the unusual nose attitude in flight, considerable backward pressure had to be applied to the stick before the spin could be initiated, and this leads to the conclusion that it would be difficult to accidentally reach this position during the course of a normal flight.

For those people who read Hungarian, the placard in the cockpit informs that Loops and Stall Turns are permitted. During my flight I was only able to carry out two loops, as by this stage, height was becoming a critical factor. During the first dive into the revolution, the ASI reached 95 kts. but a slight shudder was experienced when going over the top. By increasing the initial speed by 3 kts. the shudder was eliminated during the second loop.

Throughout the course of these few exercises, the machine gave the impression of strength and stability, and that it would readily accept a considerable amount of maltreatment, a virtue which is a necessity in a training machine such as this.

Cockpit Layout

The safety-conscious instructor is always the first to advocate a comfortable cockpit, but in this case he would find it difficult to fault this particular layout. A one-piece canopy offers easy access to both seats, and sufficient room is available to accommodate even the largest pilot, particularly widthways. Adjustable rudder pedals cope with the longest legs.

Once installed in the front seat one is faced with a rather spartan instrument panel; the machine I was flying carried only an ASI Altimeter and Variometer, which as basic instrumentation is amply satisfactory for initial flight training. Visibility from this seat is excellent and a clear view panel, within easy hand reach, prevents misting problems. The DFS air brake lever and canopy handle are located to the pilot's left.

The rear section of the cockpit, although a virtual copy of the front, does not have an instrument panel, nevertheless, the only instrument not visible from the back without considerable head movement, is the Variometer. For those who feel this is a drawback, a panel is available as an optional extra.

Vision to the rear is slightly restricted by the fact that one is literally sitting under the wing roots, but the experienced instructor will not find this a great harassment.

Conclusions

Assessing the merits of a glider after making only one flight is very difficult, but basically it is enough to get the 'feel' of the machine and discover if it has any particularly good features, or at the other end of the scale, any very bad ones. In the case of the Gobe R-26S, I was genuinely convinced that here was a good, no frills, no nonsense, basic training glider, the type which is desperately needed in Western Europe.

I was unable to try out the Gobe's thermalling capabilities because of weather conditions, but was assured by the maker's chief test pilot, that during 1971, Gobes in Hungary had flown 10,000 hours from 53,000 launches, performances which augur well for any machine.

Perhaps the most amazing revelation in these days of spiralling costs was the price of the glider. As flown, ex works, just over £1,500 would buy you this glider. To date, as far as I am aware, none of these gliders have been sold outside the Eastern bloc, purely and simply because no-one has heard about them. It would definitely be worth enterprising club secretaries with two-seat glider problems to acquire further details — they might well be very agreeably surprised.

Technical Data

Span	14 metres
Overall length	9 metres
Maximum Height	1.96 metres
Wing Area	18 metres^2
Aspect Ratio	10.9
Wing Section	Go 549
Loading Factor	+ 9. — 4.5
Min. Sink Speed	0.97 metres/sec.
Maximum Lift/drag	23.7
At Flying Speed	81 km/h

Speeds Permissible

V Maximum	165 km/h
V A	140 km/h
Winch Launching	70—95 km/h
Aero Towing	75—130 km/h

Manufacturer: Pestvidéki Gépgyar, Budapest, Hungary.
Sole Exporter: Nikex Foreign Trade Enterprise, Jozsef Nador Tér 5/6 Budapest V.

SCENE International

CZECHOSLOVAKIA

M–17 Universal Powered Glider

The M–17 powered glider made its first flight on 17th October, 1972 at Brno, Czechoslovakia in the hands of test pilot Frantisek Kdér.

Basic description

Regarded by many observers as the most graceful of all motor-gliders, the M–17 is a mid-wing glider of 17 metres span with T–tail. Its wide fuselage body incorporates side-by-side seating and also allows the two undercarriage legs to retract backwards into the fuselage base. The tail undercarriage consists of a small wheel.

Built by students of the Central Aeronautical Institute at Brno-Medlanky to the instructions of the projects originator – Jiri Matejcek, known to west European enthusiasts through his ORLIK series of gliders, the fuselage and mainplanes are constructed primarily of plywood with a sandwich layer of polyester foam re-inforcing the wings.

Power

Prototype power was provided by a STAMO MS–1500 engine developing 42hp., with a 1.5m. dia. propeller. It is also envisaged that the more powerful Walter–Mikron III motor will be made available on production machines if required. In both cases direct drive and hand start are available.

Engine Data		Stamo MS–1500	Walter–Mikron III
Capacity	ccm	1500	2440
Take-off performance	HP	45	65
at	rev/min	3200	2600
Non-stop performance	HP	38	48
at	rev/min	3000	2350
Weight empty	kg	52	82
Propeller diameter	m	1.5	1.6

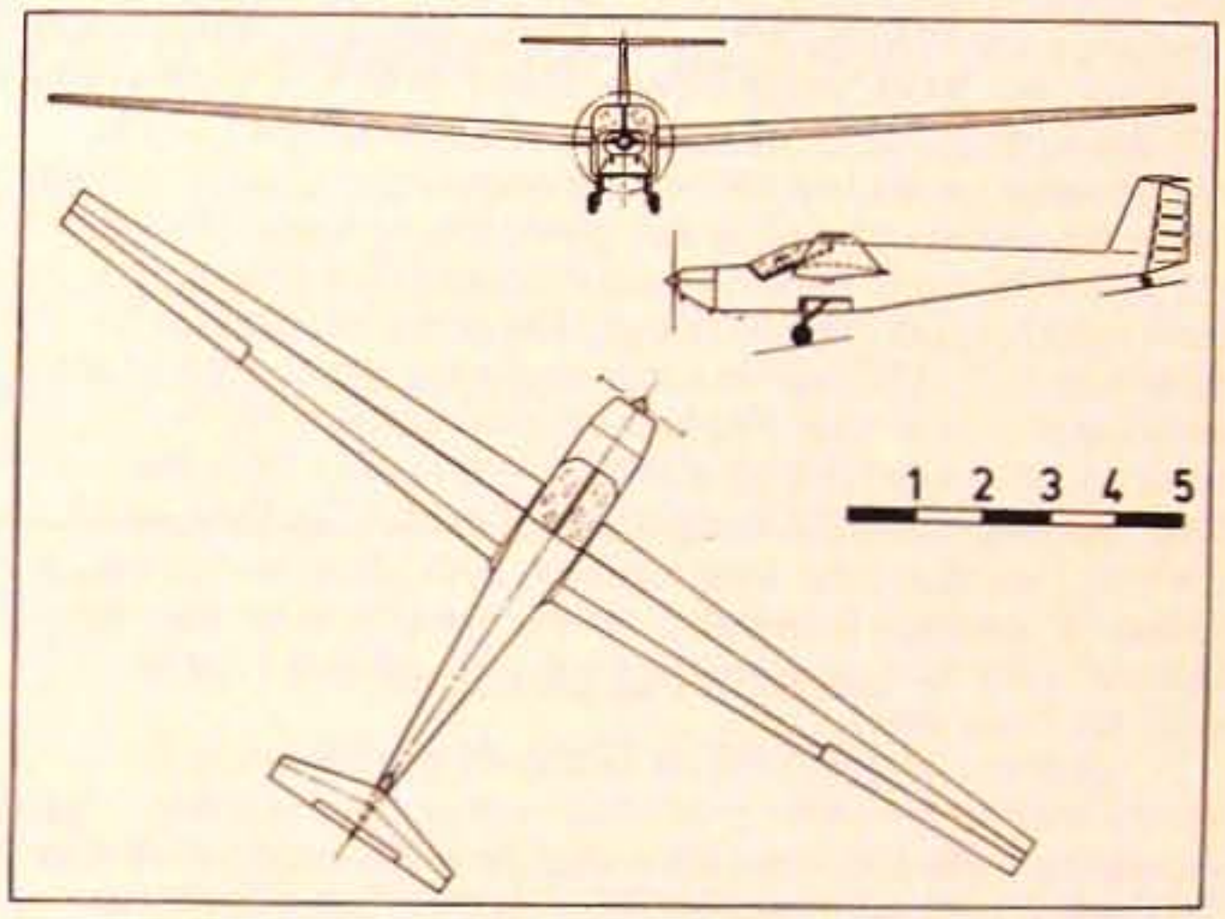
The M–17 Universal should combine the advantages of economical training for power and pure gliding with the possibility of a cheap sport and tourist aircraft.

Airframe Data

Wing Span	17.0 metres	Length 8.0 metres
Height	1.6 metres	Surface Area 17.5m^2
Gross weight	580 kg.	

Calculated performance in non-powered flight
Landing speed 65-70 kph
Descent at 80 kph 0.85 metres/sec
Descent at 150 kph 2.00 metres/sec
Descent at 175 kph 3.00 metres/sec

Calculated performance in powered flight		Stamo MS–1500	Walter–Mikron III
Take off run	m	200	150
Take off height to 15m	m	333	260
Rate of climb	m/s	2.5	4
Top speed	kph	180	210
Cruising speed	kph	150	200
Ceiling	m	5000	6000
Range	km	450	500
Fuel consumption	Litres/hr	10	9



NEW ZEALAND

At a recent meeting of the New Zealand Gliding Association the following dates were accepted for competition events during the coming season.

District Campionships

Auckland – Matamata 21st – 27th October, 1973
South Island – Omarama 3rd – 10th November, 1973
Central – Wairarapa 2nd – 8th December, 1973

Matamata Soaring Centre Championships

Matamata 13th – 19th January, 1973

National Championships

Waipukurau 24th Feb – 9th March, 1974

At the same meeting the following officers were elected:

President: Mr Russell McDowall (he replaces Mr Dave Jones who stepped down after 10 years in office).
Vice President: P.K. Heginbotham
Secretary: A.B. Cunningham

The most contentious matter discussed concerned a move by the outgoing executive committee to ammend the Associations rules to allow the inclusion of commercial operators. This was in response to a proposed commercial school at Matamata.

There was considerable discussion on this subject but the feeling was that, like it or not, commercial operators were here to stay, and therefore the appropriate rule changes were made.

A move to have Standard Class records approved was defeated until such time as the FAI should recognise them.

Ross Macintyre

U.S.A.

Laister Sailplanes Inc., El Monte, California, entered their first Standard Class Nugget Sailplane, flown by Paul Bikle, in the U.S. Standard and Open Class Nationals, where it finished a very creditable 8th in the Standard Field, performing very closely to its fibreglass competitors. The Nugget features metal bonded wings, tail and aft fuselage, with a fibreglass nose section. The wing is equipped with landing flaps, according to the new 1974 Standard Class rulings. Provision is made for about 200 lbs of water ballast, as well as all other features normal to European designs. The Nugget is just entering production in newly completed facilities in California.

New all-metal 1–35

The Schweizer Aircraft Corp. Elmira, New York, is in the prototype testing stage of their new 15m all-metal competition sailplane, the 1–35. This machine is very small, and weights only 391 lbs. with 23 lbs. of instruments. It has provision for 320 lbs. of water ballast in a wet wing configuration,(similar to high performance aircraft fuel tanks), giving a wing loading range of 5.5 to 8.7 lbs./sq.ft. Landing flaps instead of dive brakes have been incorporated into the design. The aircraft is planned to receive its U.S. ATC late this year, and enter production in the early parts of next year. Production tooling is already in progress, with a definite go ahead for production from the head office. Early flight comparisons show the 1–35 equal to the Std. Libelle at light wing loadings, with better performance at heavier loadings. Schweizers are the top U.S. sailplane manufacturer, who have been building training and club type aircraft for many years.

Both the Nugget and the 1–35 will be interesting to watch, with their metal construction versus the European Fibreglass. Both sailplanes are using newer Wortmann Aerofoil Sections. By the next issue of "Soaring Pilot", it is hoped to have made at least an initial flight test on one of these aircraft. With the low U.S. dollar value, these aircraft can be an interesting prospect to foreign buyers, their prices being approximately U.S.$ 10,000.

Bob Buck

SCENE INTERNATIONAL – GREAT BRITAIN

YS–53 Maiden Flight

The maiden flight of the first production Yorkshire Sailplanes – 53 Sovereign took place at Royal Air Force Dishforth on Saturday 21st July. The pilots were Mr Geoff. Bailey-Woods and Mr Jim Beck.

The YS–53 is the first new all-British two-seat glider to fly in over three years, and it is hoped that this machine will herald the re-birth of the British glider manufacturing industry.

Beside the production of the YS–53, Yorkshire Sailplanes have taken over the manufacturing of the Birmingham Guild Gipsy, the all-metal 13.5 metre single-seat sailplane. This glider has now been designated Consort.

The SOARING PILOT air test team will be flying both these aircraft and reporting their conclusions in our Winter publication.

Dear Sir,

Like J.C. Gibson, I believe there is a case for metal construction of club gliders. However, I do not consider a page of innuendo against G.R.P. construction a good case.

I suspect that much of the current concern about hidden damage (a well known phenomenon in other types of construction) is designed to combat delusions of indestructibility among glassfibre sailplane owners, engendered by incidents such as the recent neat removal of half a K–8 wing by a Nimbus 2 wing, after which the most careful inspection revealed no damage to the glass wing.

As for the deep mistrust of bonding expressed, presumably J.C. Gibson is unaware that the manufacturers of the Nugget, (an American 15 metre sailplane) ascribe much of its high performance to the use of bonding in the construction of its metal wing, which makes possible the very smooth finish.

Certainly metal construction can reduce man hours, and it is a pity that in terms of performance for money, the market prices of current metal gliders do not appear to reflect this.

Yours sincerely,

P.G.H. Purdie – Berkshire

Yngve Norrvi (Soaring Pilot's) Swedish Correspondent

"It happened when I let the clutch in — the foot-brake went hard on"!

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