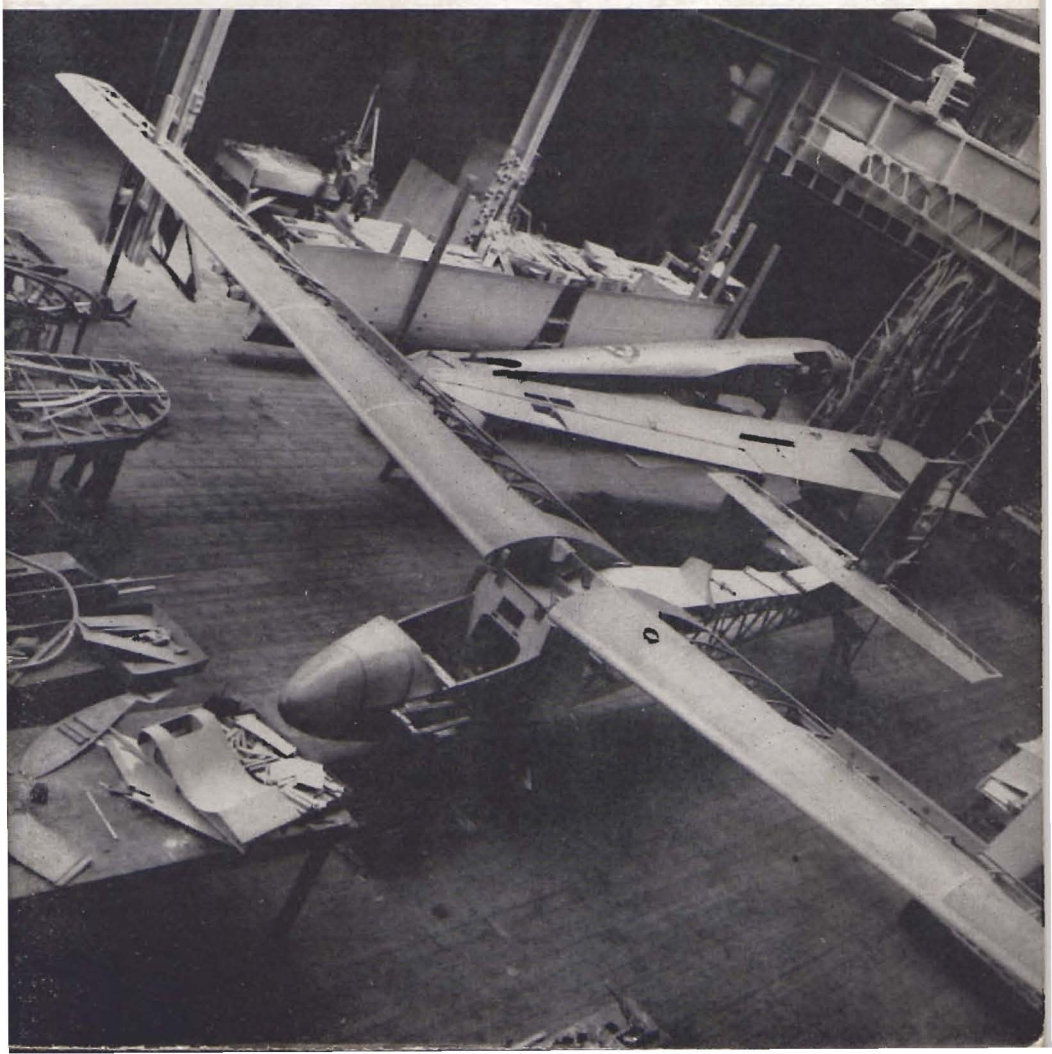
Sailplane and Gliding

2/6

October 1959



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SAILPLANE AND GLIDING

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COVER PHOTOGRAPH.—A Swallow under construction at Kirbymoorside.—Photo by P. A. Wills.

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The Beetroots Fly Again

by Philip Wills

WHEN the Dutch invited a British pilot to fly in their National Championships this year, they gave me an agonising problem, for their meeting started on 16th May, thus overlapping the last week-end of our own Nationals at Lasham.

For 25 years I had never missed a British National Meeting, yet a fortnight in Holland sounded wonderfully interesting. Furthermore, now I had retired from International flying, my chances of flying in the Nationals of foreign countries in future were practically nil, because such experience should obviously be given to pilots on our seeded list for future World Championships. Only by flying abroad during our own Championships, in which all our seeded pilots must obviously fly as first priority, could I continue to explore exciting new countries and meet more new foreign gliding friends.

So eventually, with many doubts, we decided to fly for the first half of the Nationals at Lasham, and then leave for Holland. Joan Price again was able to come, also my daughter Vanessa for the first week, so we were again the team which had had so much fun in 1957 in France.

The first four days at Lasham were tremendous, and when, on our final day, I won the goal flight to the Long Mynd, it was with an almost mutinous crew that we left and set off for Terlet. But, once there, the charms of Lasham were gradually overlaid by the interest and excitement and above all the kindness of our Dutch hosts, and when we came home a fortnight later I don't think any of us would have missed our experiences for anything. In those three weeks, Kitty had motored the trailer just over 4,000 miles, covering large parts of England, Holland, Belgium, France and Germany; and our Vanguard had not missed a beat, or been touched by anything but a grease-gun.

* * *

Terlet is the National Centre of Dutch gliding, and operates on a subsidy received through the Aero Club. It is an enormous area of rather rough heath, situated on a large sandy plateau about 200 ft. above sea-level, 5 miles north of Arnhem, a town for ever evocative in British minds of gliding of quite a different sort. Terlet has a very adequate clubhouse, administrative offices, a large repair-shop and workshops and hangars. Launching is all by winch, the Dutch having designed and built a number of formidable two-drum winches powered by large Diesel engines.

To contact up-currents from a winch-launch is often a chancy business, but the area around Terlet is so prolific as a thermal source that in fact practically no difficulties were encountered, and I don't think any pilot ever failed to contact lift throughout the meeting. Another surprising feature of Terlet is that it is directly adjacent to a large and active jet airfield, a situation which most airfield controllers would think intolerable, but in fact both units operate amicably together without serious incident. It is appalling to think how much useful flying is prevented the world over by the exaggerated restrictive attitude of safety authorities to the sensible use of air-space.

Advanced flying from Terlet is conditioned by its geography. Thermal conditions are tremendously good over an area running five miles east and south and 15 miles north and west, after which one comes to the flat and exceedingly moist green lowlands of Holland, intersected by rivers, canals and dykes in all directions. But during this particular fortnight, dry winds blew persistently from the north and north-east, and in fact these lowlands proved a small obstacle to cross-country flying.

On the first Saturday, 16th May, we settled ourselves in, and I had an interesting test flight on the "Libelle", an East German 16-metre sailplane which had been lent to the Dutch for tests. The Libelle is a shoulder-wing machine with a high aspect-ratio wing and a fuselage of remarkably small cross-section, which nevertheless gives its pilot plenty of room. It proved to have a good performance, and really remarkable ailerons, light and positive, but quite inadequate rudder and air-brakes, so that I would not like to face landings in small fields with her as she is.

The other Dutch competitors were flying 17 Skylark 2's, two Skylark 3's, a Sky (my old Sky in which I became World Champion

in 1952), and a Fokker-built Olympia, and the only other foreign pilot, Hans Werner Grosse, arrived with a Ka-6. Terlet looked like a corner of a foreign field that was remarkably English. The heathery rough surface is much like that of our Long Mynd.

Sunday arrived, and with it a north-easterly wind of about 10 knots. Menno Manting set us a 70-mile triangle: Terlet-Bathman-Ulf-Terlet, and we were off.

* * *

There was no starting-line, and starting time was therefore take-off time. Since on this first morning launching, with four cables on each of two launching-strips, proved rather slow, this meant that, if one launched rather too early, as I did, it was dangerous to land again for a later launch which, when it came, might prove too late. So I flew around for nearly an hour within reach of the airfield before setting off.

The first leg of the triangle was nearly into wind, and proved a hard grind, but quite soon I realised—and it was quite a shock—that I was once again flying as I had not flown for years, on top of my form. A curious kind of dead certitude takes hold of one—and oddly enough the adjective is the right one. It is not a stimulating feeling in my case, simply a certainty that over *there* is the next thermal, that a momentary straightening up in *that* part of the circle will edge one into the core of the lift. The proceedings become rather like driving a tram; surprises just don't arise. Why should they?

Possibly my last flight at Lasham had clicked me into this frame of mind; or more likely the very fact that I was no longer struggling to remain in the World Championships class, that I was flying purely for the fun of it again, did the trick. If you *know* the lift is over there, you go to it. You don't worry that, if by any chance you prove wrong, you may have flown out of range of your starting base, will have to land away, and may lose the day. If you come to the end of the active sky, and ahead of you is dead, you simply wait around until it boils up somewhere, go back and round, or realise that the day is over save for your last long glide to earth. Impatience doesn't draw you to do anything silly. What on earth is all the fuss about?

The result of this dull, dead certainty was rather shattering, anyway to me, who had certainly not anticipated anything of the sort recurring to a pilot in his 50's, for I ended up with a total of 7,706 marks out of a possible 8,000, nearly 1,000 points ahead of Andreae, who was also flying a Skylark 3 but *hors concours*, and nearly 2,000 ahead of the next competitor, Seyffert, flying a Skylark 2, and won five of the eight tasks flown. I felt I ought to apologise to someone; I had entered myself as an experienced sheep and turned out a somewhat elderly but still ravening wolf. But, needless to say, my fellow-competitors took it all in good part.



The East German "Libelle" of 16 metres span. (*Photo by P. A. Wills*)

On the first day three pilots completed the triangle, and I arrived back first, but was beaten by 2 minutes by the Ka-6, which had taken off some time after me.

The second day was overcast and grey, and we were sent off on a flight along a line to the south. In spite of the hopeless sky, lift was abundant from ground-level to about 1,600 ft. and I flew about 30 kms. between these heights, and landed at Nijmegen, to find everyone else in the same district. As no one exceeded the minimum of 50 kms., the day did not qualify. On the

19th we were set a race to Beek, in the south. No one completed the course, but I landed 68 miles out at Swartbroek, having picked up a saving thermal half-way along the course from 300 ft. Picking up thermal from low heights was an everyday occurrence during this fortnight; my lowest was to get away from about 150 ft. near Cambrai on my way to Rouen on the 24th May.

On the 21st we were set free distance, in a cloudless north-easterly sky. As far as the edge of the plateau lift was abundant, then out over the lowlands it was found in the lee of every town. But after a while, flying in this direction brought one to the south of the Hollandsch Diep, over a polder, protected by dykes from the sea. Only isolated farms were to be seen, and clearly the flight was over. On the southerly edge of the river I passed low over one of the most beautiful little Dutch harbours I have ever imagined, and landed a few miles south. When Kitty arrived we went back to look at Willemstadt. It surpassed all expectations, and I took a number of photos which I hope will give some idea of its miniature perfection.

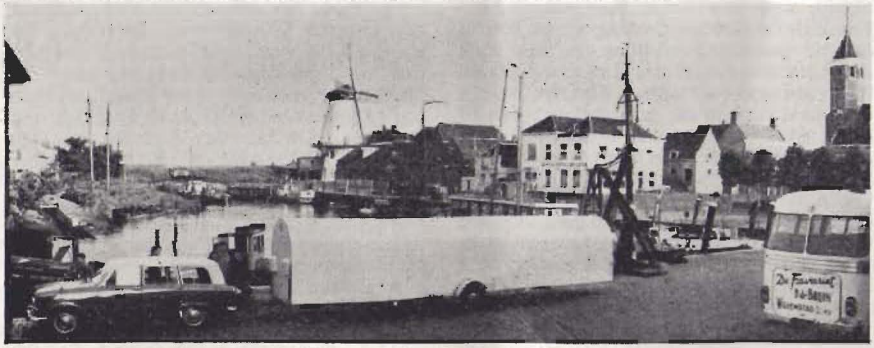
Incidentally, retrieving was immensely eased by the splendid Dutch telephone system, enabling one to dial anywhere from anywhere else.

The next flying day was 23rd May when we were set a race to Rotterdam, 60 miles nearly down-wind; 13 pilots finished the course, again in blue thermal. Waiting on the ground at the airfield we had a very unpleasant quarter of an hour watching the Olympia, which had drifted down-wind of the track, circling hopelessly trapped at about 400 ft. over what everyone was sure was the centre of the town. It was like watching a butterfly on a pin, and the certainty of an imminent accident, possibly involving others, was horrible. Suddenly we saw the glider turn down-wind and disappear below the distant roof-tops, and there was nothing to do but wait for the news. When it came it was miraculous. The pilot had found three football fields, only two of which were occupied, and landed safely on the third. It must have affected the Dutch Pools results on that day!

And so an evening in Rotterdam, looking at the wonderful modern city the Dutch have built on the war-shattered ruins of the old one, and back again to Terlet on the Motorway.

May 24th brought another day, cloudless over the greater part of Europe, but Menno Manting set us an inspired Free Distance task. The weather forecasting service made available to us was really poor, so he had to go every day on his own experience, and made a brilliant job of it. For on this day, without a cloud in the sky, several flights exceeding 300 kms. were made into France, and I once more nearly made my last Diamond, landing after 7 hrs. 20 mins. at Quatremare, south of Rouen on the Seine, 297 miles away. This flight, over half of Holland, the whole of Belgium, and a third of France, entirely without a sign of cloud, was the longest of the Meeting, and contrasts strongly with my other long flight on the 29th, described below.

On the 25th we were all struggling back, my Beetroots sailing through a 750-mile retrieve with cheerful enthusiasm. When I appeared at breakfast on the 26th I was shattered to be greeted with "A Happy



Birthday to you" in deafening chorus and a wonderful present from Hans Grosse; the news of my fifty-second faltering step into the grave having leaked out.

On the 27th we were set a race to Venlo, 50 miles to the south, and seven of us finished the course. On the 28th a 101-mile out-and-return race round Gramsbergen which I finished alone. Poor Hans Grosse was under my last cloud with me, 27 kms. from home, and was so fired with the competitive spirit that he asked a last glide angle of 27 from his Ka-6, which brought him to earth about 1 km. short of Terlet, whilst the Skylark 3 sailed in maddeningly over his head, secure in the possession of its extra 3 metres span.

The secret of this flight was that icing level was 6,000 ft. and the top of cumulus lift only 7,000 ft. Ice, once acquired, stayed on till down to 3,000 ft. After the first experiment, therefore, I broke off subsequent climbs at 5,700 ft. and was enormously advantaged, for with ice on the wings the Skylark does little better than 1 in 12 against its normal 30.

Came Friday 29th, and from 8.30 a.m. streets of cu. developing rapidly to cu-nim running north and south to the horizon. The risk was obviously that the sky would kill itself with over-developed cu. spreading out and flattening—also prize-giving was scheduled for 11 a.m. the next morning. Would Menno Manting funk it? To his everlasting credit he did not—but set us a flight along a course through Beek to the south—virtually Free Distance. If anyone exceeded 200 kms., prize-giving would be deferred until Sunday.

This put us into a fever of activity. Obviously we might not be able to get back at all, since our latest boat sailed from Dunkirk on Sunday evening, so we rushed around packing everything, paying what debts we could, and drawing vast lines on maps as far as Marseilles. Alas, we did not even have time to say good-bye to many of our friends, because take-off was 10.30 hrs., and by then the sky was terrific.

So at 10.40 I was in the air, everything coped with except my social obligations, having declared St. Yan as my goal, with the usual embarrassed laugh. At that exact moment there was no lift within safe range of the airfield, but obvious lift under a violent cumulus above Arnhem, 5 miles south. I dropped the cable at 1,500 ft. turned straight on course, and sailed over Arnhem at 1,000 ft. Down to 800 ft. I reached the lift, circled up, and away. As easy as that.

Cloudbase was very low—2,500 ft.—and forecast icing level absurd—3,500 ft.— so I went up and tested it; it turned out to be 6,000 ft. Then I scalded downwind, out of cloud, along over Nijmegen, on to the street ahead. The next hour was ridiculous, tearing along under or in streets of cloud, and I covered over 100 kms. in this hour, including the launch. Then—far ahead between the streets—I saw the expected dreaded clamp, a sheet of high flat cloud running at 45 °to my course as far as I could see. The best hope seemed to be to veer to port, get as close as I dared, then take a cu-nim to the top and hope to get enough range to get through to the far side—if there was one.

So up I went into my street and flew for miles in a straight line, climbing to 7,000 ft. on the way. Then I veered left, and came out, obviously over the Ruhr complex, for below dimly were many smoking industrial towns. Ahead and nearer was the high stratus, and I set a compass course for a dimly swelling cu-nim just short of it and disappeared into the cloud-cliff ahead. I never found my lift. After endless struggling I found myself over high rolling wooded country with little sign of any remaining lift, and at 14.30 hrs. landed in a small downhill ploughed field next an isolated village. For the first time in my life I had to ask what country I was in! It could have been Belgium, Luxembourg, France or Germany—it was in fact the latter, a village called Schleid.

Kitty and Joan by this time were on the Belgian-French frontier, but arrived just before dark. We sadly decided we could not add another 400 miles to our trailing by going all the way north back to Terlet and then south-west to Dunkirk, but spent the night in the nearby town of Prum and then trailed back over Belgium to Dunkirk and so home. On this day Andreae flew 360 kms. to Verdun, about 100 kms. further than I.

And so we have never been able to look our Dutch colleagues in the eyes and say "Thank you for a most wonderful fortnight spent amongst true friends".

Again the Beetroots brought back a host of memories. One non-flying day we went to Amsterdam with Taerka. His young wife had taken a temporary job there during the

Champs., and we all dined together at a Chinese restaurant. Then we said we would drop her at her flat on our way home. Blushing, she confessed she did not know the way—only that it was on the No. 2 tram route. Never mind, we said, we'll follow a No. 2 tram.—But they all start from the station.—Well, we'll go to the station. So we wriggled our way for a long time across Amsterdam, found a No. 2 tram, and followed it. A long time later—and we found ourselves passing our restaurant again—it was on the No. 2 tram route . . .

When, on a retrieve, the Beetroots crossed a frontier with the empty trailer, they used their best endeavours to ease the return passage when they would have the Skylark inside the trailer, but with no clearance papers—since I could never clear before take-off on a flight which might or might not cross a frontier.

The Belgian-French frontier was said to be the tricky one, but my two charming Beetroots carried all before them. When we all got back to it from Quartremare, one of the douaniers was the same as had been beetrooted the day before, but a new one was there, who told us we must go through the commercial customs-post, with Heaven knew what imposts. But our friend arrived and tore him off a terrific strip. How on earth did he think I could have completed my papers, when I had overflown the frontier on a *vol de concours*? The two young ladies had explained it all. Don't be such a clot. A tremendously French argument ensued, which went on as we drove away, and arms were still waving as we turned the next corner of the road. *Vive l'Europe*!



On one of our retrieves through Belgium, we passed a signpost, on our left, saying quite simply, "Coo". A little later we came on a second one, pointing right, to "Erps-Kwerps". Somehow, the sequence struck us as funny; anyway, we laughed a lot in our beetrootish way.

Just after Cambrai, on my way to Quartremare, a blinding blue hazy day, a sudden silent shadow passed over my cockpit, and I looked up. A lovely, lovely Breguet 901, on a Sunday afternoon jaunt from its local club, had joined me in my upcurrent. An Englishman in his Skylark and a Frenchman in his Breguet circled amicably together in the peaceful sky of Northern France; we waved to each other, then he turned for home and I went on southwards.

The United States of Europe—and of the World—cannot come too quickly for the glider pilots; in our small way it exists already.

Netherlands Championships
Final Positions

	Pilot	*Sailplane*	*Points*
1.	P. A. Wills	Skylark 3	7,706
2.	F. Seyffert	Skylark 2	5,754
3.	H. W. Grosse	Ka-6 BR	5,181
4.	E. van Bree	Skylark 2	4,923
5.	A. Breunissen	Sky	4,888
6.	J. Krols	Skylark 3	4,449
7.	W. Toutenhoofd	Skylark 2	3,949
8.	R. Reparon	Skylark 2	3,873
9.	J. Jungblut	Skylark 2	3,634
10.	H. Kaay	Skylark 2	3,623
11.	J. Lueks	Sky	3,414
12.	G. Ordelman	Skylark 2	3,367
13.	J. van Eck	Skylark 2	2,936
14.	J. Klijnstra	Skylark 2	2,932
15.	E. Sanders	Skylark 2	2,717
16.	A. Eikelenboom	Olympia	2,506
17.	A. Scheffer	Olympia	2.469
18.	K. Ten Hove	Olympia	2,274
19.	L. v. Lamsweerde	Olympia	2.142
20.	J. Michielsen	Skylark 2	2,126
21.	L. Rikkengaa	Skylark 2	765
22.	—. Buter	Olympia	130
	Hors Concours		
1A.	S. Andreae	Skylark 3	6,753

A Yarmouth Day

by Peter Scott

"DIAMONDS", said my wife, "are a girl's best friend, but they don't suit men at all." "That", I replied, "is irrelevant; to-morrow is going to be a Yarmouth Day." For two years now there had been this endless talk of a "Yarmouth Day", and it was always to-morrow that was going to be it. In September 1957 I had made two unsuccessful attempts: Watton and Earl's Colne were the premature landing places. Even a 300-km. flight to Penzance in April 1958 scarcely lessened the Yarmouth talk because it was three miles short of the declared goal. There still had to be a trip to Yarmouth for that Diamond. Two more abortive efforts followed: Southwold in July 1958 and Honington in April 1959. It was getting monotonous.

I collected my new Olympia 419 from Newbury on the afternoon of 18th July 1959, trailed it to Nympsfield, rigged it and flew for two hours on the ridge. That night I asserted with more conviction than usual that "To-morrow will be a Yarmouth Day". The family were as sceptical as ever. My eldest daughter even had two bob on it.

Great Yarmouth is an awkward distance from Nympsfield, for the 300-km. arc falls four miles out to sea. It is therefore necessary either to depend on a camera, or to be aero-towed the four miles westward from Nympsfield before starting. On this Sunday morning I was dropped off by Alwyn Sutcliffe in the club Tiger at the railway junction just beyond Berkeley Road Station at 11.38. It was certainly a good day, for the thermals were abundant if not especially strong. My barograph chart shows only one achieved rate of climb of 500 ft. per minute and I was led to that one by three gulls. The rest are mostly 200 and 300-ft. jobs.

I was not alone in my selection of task for the day. Four other pilots—Tony Gaze in his Eagle, Keith Aldridge and Tony Morgan in Skylark II's and Doug. Jones in an Olympia II—were all Yarmouth bound, and so, although we did not know it, was Mike Gee, dog-legging from Lasham. I was third away, with Keith Aldridge and Tony Morgan ahead of me. I came up with Tony soon after Cheltenham but I did not see Keith until he joined the same thermal near Newmarket. On the other hand, the sky seemed to be full of gliders soaring locally. An unidentified red Skylark with white wings was circling between Finmere and Buckingham, and over Bedford I met "Ranunculus", the syndicate Olympia from Cranfield, though I could not see who was flying it. It had been at Nympsfield a week or two before.

A cloud base of almost 5,000 ft. a.s.l. made the crossing of the airway quite painless. Near St. Neots I spent some time in a thermal studying the lay-out of ponds on a friend's estate, where he keeps a fine collection of waterfowl. I was making fairly slow progress—a bare 30 m.p.h.—and quite evidently the 12-15 knots of westerly wind which had been forecast had not materialised. This immediately gave cause for alarm about the distance the sea breeze might have penetrated into East Anglia. But this bridge would have to be crossed when I got to it. I was surprised to find no gliders in the sky above Cambridge, for the lift was magnificent at this time of the day. I looked down at Waterbeach upon a crowd of stationary dinghies, utterly becalmed in the narrow river. No doubt a breathlessly exciting race was in progress, for the very light airs can sometimes be just as dramatic as a breeze; but somehow I was glad to be up there looking down, rather than down there probably not looking up.

By Thetford cloud base had gone up to 5,500 ft. At Snetherton Heath, S.W. of Norwich, the silence in the 419 cockpit was broken by a sudden and unexplained roar which I finally located as a motor cycle rally on the aerodrome 4,500 ft. below. By Old Buckenham cloud base had gone up still further to 6,000 ft., but ahead the flat base line was broken by trailing cascades of cloud which drooped a thousand feet to a second tier—a new cloud base—caused, presumably, by the sea breeze. Here it was then, as far in as Norwich and giving, no doubt, a head wind from there 16 miles to the coast. How strong would it be?

From 6,000 ft. with Wymondham abeam to port, the Scroby Sand off Yarmouth was

visible as a sharp yellow bar against the blue of the sea. In still air it would have been a final glide of 25 miles from here to North Denes aerodrome, and safer still with the promised 12-15 knots westerly. But with a sea-breeze of unknown strength against me I was taking no chances. It was just 5 o'clock and Norwich—several miles north of my track—might still be feeding some active cloud. I turned 45° left towards it. Here was the crux of the flight. Beyond Norwich the sky was perfectly clear; over the town the cloud trailed its sad-looking streamers and wisps. To my inexperienced eye they indicated decaying cloud and sinking air. If I could not get 2,000 ft. of height at this stage I was just not going to get there—yet another Yarmouth failure. But surely there would still be *some* lift under these clouds and over this large city—and so indeed there was. As I reached the outskirts I hit a nice thermal and began to work it; and then, as I sat there with that glorious feeling that my goal was now within my grasp (provided that I made no major fumble), cloud suddenly started to form a thousand feet below me in my thermal. Soon it was forming all round me, but only in wisps. The strongest lift was on the west side of the streamer, which provided a perfect marker. In due course the cloud thickened and I wandered about in it trying to drain the last dregs of its lift. It got me to 5,600 ft. and a few minutes later I broke out into open on the eastern outskirts of the city, with only 15 miles to go. It would need to be a pretty strong sea breeze to bring a 419 down *that* fast.

As I flew out into the clear blue sky the glider was rock-steady in the utterly calm air. I took my hands and feet off, stretched, and breathed a great big comfortable sigh. The next half hour was the most enjoyable of the flight—a smooth straight glide over country I had known and loved well from early youth. The sailing boats on Wroxham Broad, away on my left, were moving faster than they had been at Waterbeach. I cast my eye over all the Broads where I had first become fascinated with birds, and where I had first learned to sail—the Hovetons, Woodbastwick and Ranworth, the River Ant leading up to Barton, and beyond, the Thurne and Potterheigham Bridge, Hickling Broad and familiar Horsey Mere, where I had spent four summer holidays.



"*Diamonds are a girl's best friend.*"

(*Courtesy "Eastern Herald"*)

Immediately ahead was Acle with the parallel lines of road and railway following the River Bure to Yarmouth across the marshes where the wild geese feed in winter. The nearest Broads now were Filby, Rollesby and Ormesby, more lake-like than the marshy Broads to the north. On my right was Breydon—with its tidal mudflats uncovered (so *that* was why Scroby Sand had shown up so prominently—maybe at high water it would not be such a good

landmark), and beyond Breydon I scanned the higher ground near Belton. Fritton Lake where my family home had been for fifteen years from the 1930's was hidden in the trees; and right ahead lay the railway swing bridge at Yarmouth so familiar from Ted Seago's lovely painting. I was going to get there with height in hand. Even though I knew where to look for North Denes aerodrome I found myself concentrating on the field next door to the south of it, which from a distance looked much more like a landing field. But then I was one of the joy-ride Austers going down and saw that what I had taken for odd sheep in the field were in fact white runway markers.

I arrived over the coast at 2,000 ft., taking a number of photographs with my fixed camera, and then landed and was at once greeted in most friendly fashion by "Wilbur" Wright, the proprietor of the aerodrome. For the next hour or more we scanned the western sky for approaching gliders, but none came. By telephone I learned that Keith Aldridge was down a few miles back at Acle, and Wilbur took me in an Auster to look for him. We found his Skylark II in a fairly boggy field, but he was evidently improving the shining hour up at the Stracey Arms. Tony Gaze in his Eagle had also seen the yellow Skylark but decided that the field was too boggy to join him, and had flown back a mile or two to higher ground. Tony Morgan had landed his Skylark II, "Rhubarb and Custard", at Horsham St. Faith—true to the principle that one should always "flop among friends", and Doug. Jones in the cooking Olympia, who had not started until half-past one (now, after all, a perfectly respectable time to set off on a long cross-country), reached Attleborough.

I doubt whether 19th July was really a "Yarmouth day" for anything but a 19-metre sailplane. Once the sea breeze moved inland from Norwich the belt of dead air was just too wide to get across. Without the 12-15 knots westerly, it was just a question of how early one could get to Norwich. The 419 was only just in time.

Geoffrey Hearsey, Rosemary Storey, and Nancy Duggan arrived with the trailer at 8.30 in spite of desperate holiday traffic, and we were safely back by 4 a.m.

My daughter lost two bob and the family is now faced with a new phrase: "Fair stands the wind for France".

Paris to the Pyrenees by "FAUVETTE"

by Tony Goodhart

As is nearly always the case, a long distance flight depends on being ready at the right time in the right place with the right equipment. Friday, 12th June, dawned like any other fine summer's morning, but for some unclear reason I had a strong feeling that it would be "one of those days" that glider pilots dream of; since the British senior military commander at Fontainebleau had declared the day a holiday *after* an appropriate parade, it was feasible to consider a flight. A visit before breakfast to the French Air Force met. office near by was *not* encouraging, and the upper air data for Paris and Bordeaux were produced to prove that an attempt on the coveted 500 kilometres was not worth the trouble of getting started. However, the strong feeling persisted and I set about getting organised.

The tribulations of getting away make a story in themselves and include discovering the home telephone number of a Belgian corporal who had gone to Germany and dialling this number on the combination lock of the van containing the tow rope; however, with the assistance of a U.S. Air Force Major and a Netherlands Air Force Colonel, as well as my own family, I was airborne at 11 o'clock, having declared (rather unhopefully) Aire-sur-Adour, where my Bréguet Fauvette glider had been built, as my goal some 580 kms. away. It had been maddening to see fair-weather cumulus clouds all over the place since before 10 o'clock, but, as seems to be the lot of glider pilots when one is actually airborne, they were everywhere except along my intended track.

Instead of steering S.S.W. I had to go S.E., and after the first hour had only made about 50 kms.; clearly, even if I stayed

aloft for 8 hrs., this rate of progress was not going to take me 500 kms., so I nearly turned back to save a longish retrieve, for which I had incidentally not been able to make any provision. However, the "strong feeling" drove me on, and cumulus started appearing more nearly on track and I was able to turn west of south and cross the Loire near Briare, and a little while later passed over Bourges, whose cathedral looked magnificent from my unusual viewpoint.

Now came the Massif Central which is well known amongst French glider pilots for its lack of landing places and pocket-handkerchief-sized stone-walled fields. Luckily, as the hills rose to 2,000 ft. and higher, so also did cloud base—to close on 8,000 ft. a.s.l. From this height the fields looked much nearer postage-stamp sized than handkerchiefs; however, except for a slightly tricky moment over some particularly high ground near Limoges, the Massif was passed without undue worry, and I crossed the Dordogne at Bergerac and then the Garonne at Marmonde.

By this time, about 5.30, the lift, which had been good though never exceptional, was becoming distinctly woolly, and it looked as if I was about to start my final glide—but the pine forests of the Landes, south of Bordeaux, had retained the day's heat and I was able to regain height slowly —but sufficiently—to reach Aire-sur-Ardour. On this last leg I did my best to measure the total distance to Aire—but four different map sheets made this contortion next to impossible. The "strong feeling" asserted itself again and recommended me to go on, rather than waste 3,000 ft. to land at my goal. Another weak thermal or two led me on to Pau with its magnificent back-drop of the Pyrenees reaching up into the now almost clear sky. Here I joined the circuit with three light aircraft and two gliders of the local very active "Aero Club du Béarne et Charles Macy", and landed at 7 o'clock, almost exactly 8 hours after take-off and some 620 kms. away from home.

The tribulations of getting back to Fontainebleau were even more trying than getting started, but the excellent hospitality, including a *vin d'honneur* (in my *honneur*) by the Aero Club du Béarne, and by various worthy citizens of Pau, made the uncertainty of little consequence. In the end the Commercial Manager of the Bréguet glider factory, M. Michel Ziegler, who was in Paris for the Aeronautical Salon, heard of my plight and, grabbing an unsuspecting individual who happened to be having an aperitif with him, set off on a 1,500 km. virtually non-stop round trip to collect me and my excellent little Bréguet 905 "Fauvette", which was put on show at the Salon with a placard to say it had just flown 620 kms.

Incidentally, as I approached the Pyrenees there were lenticular clouds above (or more probably beyond) them which make the possibility of "Paris to Madrid by Glider" a not altogether fantastic title for some future article by some future pilot who is lucky enough to be ready at the right time in the right place.

Annual Best Flights

To secure mention in this list of the best performances of the year reported up to the time of going to Press, a "claim card" must be filled in and sent to the B.G.A.

Single-Seater

Distance

12th June: G. A. J. Goodhart, Fauvette, Moret Episy-Pau Idron, 384 miles.

Out and Return

4th August: D. J. Corbett, Olympia 419, Lasham-Dunkeswell-Lasham, 199 miles.

100-*km. Triangle*

19th July: A. J. Deane-Drummond, Olympia 403, Nympsfield-Winchfield-Fairford-Nympsfield, 43 m.p.h.

200-*km. Triangle*

Mrs. Anne Burns, Skylark 3b, Lasham-Shaftesbury - Wroughton - Lasham, 25.6 m.p.h.

Two-Seater

Out-and-Return

19th July: D. J. Corbett and H. Hilditch, Eagle, Lasham-Evesham--Lasham, 149 miles.

Distance

10th May: D. M. Kay and B. Hollingworth, Eagle, Lasham-Scotforth, 215 miles.

Special Mention

26th July: W. Verling, Prefect, Hornchurch - Stowmarket - North Cliffe; distance in broken line, 190 miles!

Canadian Victoria Day Soaring Meet

by T. R. Beasley

VICTORIA Day is the day on which Canadians celebrate the Queen's official Birthday. It always falls on a Monday, and this year it was on 18th May.

The Gatineau Gliding Club, who fly at Pendleton, near Ottawa, decided to take advantage of the long week-end and invited the Montreal Soaring Council over for an informal competition week-end. The plan was for competitive flying on the Saturday and Sunday, with a party Sunday night, followed by general club flying on Monday to allow an early departure for trailering home for a good day's rest at work on the Tuesday!

Saturday morning found us rigging outside the hangar with a fairly strong west wind and the promise of good soaring conditions. Competing gliders were:—Gatineau Club, Olympia and 1-26; Montreal Club, Skylark II, 1-26 and 1-23d. Pilots' briefing was short and surprised some competitors; goal flight to Megantic, 205 miles away, with the last 50 or so being over very difficult country.

The first away was the Olympia, and the last was the 1-23d at 12.27 after an unsuccessful first attempt. The results of the day's flying were extremely good: D. Marsden in the Olympia and B. Palfreeman in the Skylark made the goal, while the Montreal 1-26 was not too far short for G. Adams to gain a Gold C distance, but he missed the goal Diamonds earned by Marsden and Palfreeman. Unfortunately the day was marred by a trailering accident: the car and Olympia trailer rolled over, the car being written off and the trailer damaged. Fortunately the driver was not hurt at all—and the Olympia was still at Megantic. However, this put the Olympia out of the competition for the following day.

Sunday found very similar weather conditions, although not expected to give such good average speeds. Two of the Montreal pilots who had drawn to fly the Skylark and 1-26 had been on the long retrieves the previous day and night and decided to withdraw. Another pilot was found for the Skylark, but no one wished to compete in the 1-26. Competing gliders were down to three, and the task was declared as pilot's choice of goal, with a 25% bonus for reaching it. Most pilots were still thinking of Gold and Diamonds and declared Megantic. However, distances were not as good as on the previous day, as can be seen from the results table.

Sunday night saw a party in the Gatineau Club clubhouse, during which the final scores were computed and announced. A handicapping system was used, the 1-26 being unity, Olympia 0.96, and Skylark II and 1-23d 0.875. Final results were:—

Saturday

Sailplane	*Pilot*	*Miles*	*Score*	*Points*
Olympia	Marsden	205	197.5	1000
G. 1-26	King	172	172	870
Skylark II	Palfreeman	205	179.5	915
1-23d	Kurlents	89	80.5	410
M. 1-26	Adams	195	195	990
Sunday				
G. 1-26	Smith	58	58	522
Skylark II	Gairns	54	47	425
1-23d	Webb	127	111	1000

F.A.I. Awards: Marsden and Palfreeman, both Gold C distance and goal Diamond; Adams, Gold C distance; King, Silver C height; Smith, Silver C distance.

Thus, the Montreal 1-23d won the meet with 1,410 points, with the Gatineau 1-26 being a close runner-up with 1,392. A perpetual trophy is being made by Leo Smith of Gatineau which will consist of a Skylark on a pedestal. The Montreal Soaring Council looks forward to receiving this and hopes to retain it next year at a return contest. The writer gave a complete set of 1958 SAILPLANE & GLIDING to the runners-up, and it is hoped that the Gatineau club members will find them interesting.

Editorial Note.—There appears to be some discrepancy between the Scores and Miles Flown in the figures for Saturday, but we have been unable to sort it out before going to Press.

Championnats de France de Vol à Voile

by David Ince

THE French approach to National Championships, foreign entrants apart, is to select a limited number of pilots (22 this year) from those holding Gold C or better and to put them all on one type of aircraft.

REGULATIONS.—All the French pilots were, therefore, flying Bréguet 901s and, as we found in the regulations issued on arrival at St. Yan, radio, oxygen, and artificial horizons were all banned!

This blow apart—for the Olympia 419 was fitted with oxygen in anticipation of Diamond heights and our retrieving plans were based on much radio assistance—the main feature of interest was the method of marking race tasks.

If you completed the task, marks were:

$$\frac{\text{your speed}}{\text{fastest speed}} \times 1000$$

compared with the British method:

$$\frac{(\text{your speed})^2}{(\text{fastest speed})^2} \times 100(0)$$

If you failed to compete, marks were:

$$1000 \times \frac{\text{slowest speed}}{\text{fastest speed}} \times \frac{0.7 \text{ your distance}}{\text{course length}}$$

compared with our

$$0.4 \times \frac{\text{your distance}}{\text{course length}};$$

two pilots completing the course made the task a race.

One other point about race tasks: once airborne, it was only permissible to cross the line once, a second attempt necessitating landing back for another aero-tow. Responsibility for timing across the line rested entirely with the organisation, and they were quite excellent over this.

WEATHER.—Early in the contest conditions were anticyclonic with fair-weather cumulus generally and larger cu. in the mountains; then there were days when the cumulus overbuilt and spread out; two rest days brought skies of magnificent cumulus and some cumulo-nimbus; finally, towards the end of the contest anticyclonic conditions returned.

Conditions were neither easier nor more difficult on average in this country, but there were important differences. Wally Wallington had warned us, and he was right, that there would be large areas of slowly rising air in the lower layers interspersed with strong narrow cores—and they *were* narrow. Outside the lift areas there were compensating areas of downdraught, quite strong even at low altitude, and disconcerting at first.

Flying in the mountains—a mere 3-6,000 ft. high in my case—was a new and altogether fascinating experience, one to be extended into Alpine soaring as soon as possible. Certainly one must be prepared for few and difficult landing fields, for the ground rising close from below and around, and for the effects of both large-scale convection and wave on local conditions. But this is more than fair exchange for the privilege of flying in such wonderful surroundings and for the opportunities which these very surroundings themselves may present. On the last contest day we clawed our way up into the Madelaine Mountains, always at heights from a few hundred feet up to rather less than 2,000 ft. above the ground—no promise of wave or grand convection here, but an epic struggle and a most facinating flight.

TASK-SETTING.—Task-Setting seemed to be tougher than we are used to in England, and particularly so in races. I was most unwilling to accept this at first, as it would seem to increase the element of chance in the result. On consideration, however, the French may have got something quite important in training and selecting a team. By this I mean that a race task which is well matched to the weather, aircraft performance and pilot skills may result in, say, 80 per cent of the competitors completing the course. This does not impose the sort of mental strain on the best pilots as would be the case with a task which only 10 per cent could complete. In the event, it was interesting to see that those French pilots expected at the top had almost all arrived there by the end of the contest!

AIRCRAFT.—As already mentioned, the 22 French contestants were flying 901s. Tony Goodhart was flying his own Fauvette, preproduction No. 5, not the same machine as he flew in our Nationals; Xhaet, the Belgian Champion, a Ka 6; Mantica of Italy a new, rather hot, very laminar-flow

two-seater, the Bonaventura, and myself the 419x.

I had already flown the Fauvette at Lasham, and due to the kindness of Weiss (the retiring French Champion) I was able to try the 901 on a rest day in the middle of the Championships. Apart from its poor forward view, this is a delightful aircraft to fly, and it was interesting to discover the close resemblance between its handling characteristics and those of the Fauvette. Both are only slightly stable longitudinally and high *g*'s can be pulled with very little effort—a bull point with narrow, turbulent and shifting thermals. The ailerons feel very similar on both aircraft—slightly twitchy, probably not quite sufficiently mass-balanced for most British pilots. Again there is the embryo skid and forward mounted wheel—this seems to work well even landing in the mountains—and there must be a worth-while weight saving.

Of flaps, if you must have them, why not camber your wing for best circling performance and have negative flap angles for use between thermals on barndoor days? Personally, I liked the negative flap settings on the 901—put up the speed, select negative flap and you certainly go.

FLYING ABROAD.—After flying in the French Nationals I am firmly convinced of the value and experience to be gained flying abroad. There are the obvious differences of language, food, geography and climatic conditions which one must learn to approach in the right way. But by far the most important lesson is that of learning to fly well and consistently when the approach by organisers and pilots alike may be quite different to one's previous experience.

A THOUGHT ON RACE TASKS.—I am sure it would be most valuable if we could be subjected occasionally to more difficult race tasks—particularly if it were possible to do this without increasing the element of luck. I believe this could be done if we were to modify the existing race marking system on the following lines:—

(1) In the event of less than 60 per cent of pilots completing the course, marks would be given as follows:—

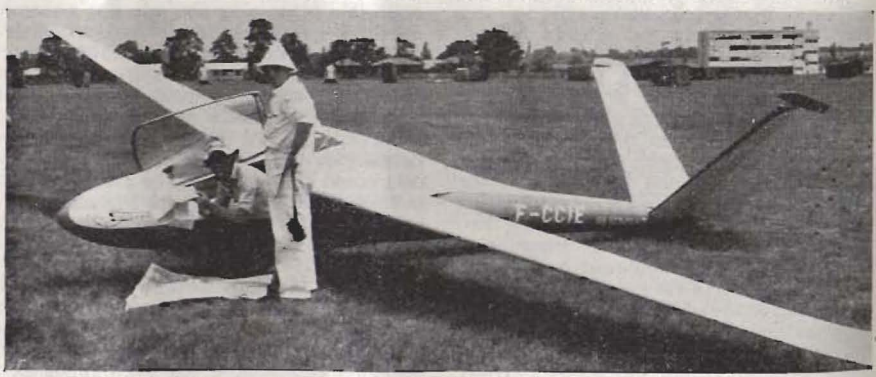
$$s = N \times \frac{v^2}{V^2} + (100 - N)\frac{d}{D} \text{ where}$$

s = competitor marks for task,
n = % of pilots completing the course,
v = competitor's speed,
V = fastest speed,
d = competitor's projected distance flown (if failed to complete task),
D = length of course.

(2) If 60 per cent or more pilots complete the course, it might be better to continue marking as at present, viz.:—

$$s = 60 \times \frac{v^2}{V^2} + 40\frac{d}{D}$$

otherwise the penalty for failing to complete would be very severe. With this marking system it would be sufficient to say that the task is a race if one pilot completes the course. Examples show that it eliminates some of the anomalies of the present system when conditions are difficult, times are widely scattered and few competitors complete the course. Like any marking system it probably has fallacies of its own.



Tony Goodhart ready for take-off, with his highly efficient crew alongside.



The operations building at St. Yan—a most elegant contemporary structure in pale grey concrete with blue shutters and anodised aluminium panels—was ready just in time for the Championships and is seen on the left. The Control Tower is on the right. In the background are the four-roomed chalets which housed pilots and wives. Overhead can be seen a distant anvil, but this was before the opening day and no aero-tows were available.

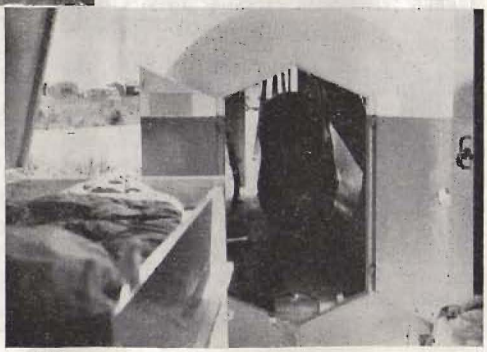
L.-R.: Mme. Marcelle Choisnet-Gohard, M. Boissonade, M. Choisnet-Gohard and their crew member. Marcelle is Assistant Chief Pilot at Chavenay and has held or holds 11 feminine world records and 30 French national ones. She is a Diamond pilot, and was finally placed 18th in the 1959 contests. M. Boissonade was Secretary-General of the Championship Organisation, and though he spoke no English, so arranged his French that even the Inces could understand!





Jean-Paul Weiss with Mme. Weiss preparing the cockpit of their 901 before a race. Weiss was kind enough to let David fly this aircraft in the middle of the contests. A professional pilot with an aerial survey company, Weiss was the 1957 French National Champion and placed 21st in the Open Class of the last World Championships. He came fourth in these contests. Holds Goal and Altitude Diamonds and is noted for his flight over the Pyrenees in 1954.

Gliding in luxury—a view out of the rear doors of our converted ambulance (showing two bunks) into the trailer. The whole combination was over 55 ft. in length and correspondingly weighty. It's a sobering thought that in eight contest days the pilot covered 730 air miles, and retrieving crew some 2,900; during the British Nationals the pilot flew 750 miles and the crew covered a mere 1,200. This should discourage some from going to France —and then perhaps we can go there again!



Out and Return Using the Sea Breeze Front

by John Corbett

Date: 4th August 1959.
Aircraft: Olympia 419 (Army Gliding Club).
Task: Lasham-Dunkeswell Gliding Club-Lasham.
Launch: 11.46 hrs. B.S.T.
Landing: 18.37 hrs. B S.T.
Arrived at Turning Point: 15.05 hrs. B.S.T.
Duration of Flight: 6 hrs. 51 mins.
Distance: 198 miles (319 km.).
Course Flown: 217 miles.
Average Ground Speed: 32.2 m.p.h.
Wind: 12.00-13.00 hrs. W.N.W. 5 kts.
13.00-16.00 hrs. W.N.W. 10 kts.
16.00-19.00 hrs. N.N.E. 10 kts.
Cloud base: 12.00-16.00 hrs. 4,600 ft.a.s.l.
16.00-19.00 hrs. 5,000 ft.a.s.l.
Average Thermal Strength: 12.00-19.00 hrs. 500-600 f.p.m. (indicated).

THE forecast for 4th August 1959 was that the day would be moderately convective, with cu. forming at 11.00 hrs. B.S.T., base 4,000 ft., tops 8,000 ft.; winds N.W. light to moderate, with however the threat of a warm front approaching from the West. This forecast came from Blackbushe, and, as the warm front was visible to the north of Lasham, a second opinion was sought from London, which was however the same.

As a 300-km. flight was obviously possible, the usual rush began; and, the Olympia being de-rigged, I joined the Private Owners' rigging syndicate and was vastly impressed. In rapid succession the 419, Jill Walker's, Ron Willbie's, and Bernie Davey's Skylark 3's were hurled together and we went storming off to the launch point with everyone from George Bambridge to six-year-old boys holding the wingtips.

A great deal of thought had gone into deciding the task. There seemed to be four possibilities:—

1. 300-km. triangle;
2. Lasham-Lewes-Shaftesbury;
3. Lasham-Shaftesbury-Lewes;
4. Lasham-Dunkeswell-Lasham.

I decided against 2 and 3, as both inherently involved a field landing, and my eager retrieving crew lacked a car, and because the gamble on the sea breeze was greater than in plans 1 and 4.

The out-and-return possessed two advantages over the triangle. Navigation was simpler, and the decision to change course and make the flight a dog-leg could be taken at a more favourable place and time. The disadvantage was that with a near headwind on the outward journey the over-all headwind component was slightly greater.

I decided that the advantages outweighed the disadvantages and declared Lasham-Dunkeswell-Lasham.

I was launched at 11.46 hrs., about an hour later than I should have been, due to my dithering, and I was dropped by David Williams at 1,900 ft. (2,500 a.s.l.) in a very nice thermal over the airfield. I decided to see how cloud was working and took the climb to 7,000 ft. a.s.l. As lift outside was 500 f.p.m. and there was no increase in cloud, I decided not to use cloud again except where the extra height could be used to cross a patch of clamp.

The flight as far as Chard proved quite uneventful, although my resolution to use only thermals giving 500 f.p.m. was sorely tried on one occasion when I got down to 1,500 ft. above the ground. I was cruising between thermals at 65 kts. I.A.S. and increasing to 75 kts. in heavy sink. The flight from Chard to Dunkeswell was quite simple, but conditions were rapidly deteriorating. After an agony of indecision shortly after turning, I flew north, and tried a rather sad line of cu, which took me to Merrifield and then stopped. The sea breeze had come in from the Bristol Channel, and had clamped down on the whole peninsula.

Just as I had resigned myself to a long

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glide out, I saw, twenty miles to the south-east, a very thin line of cu forming.

For a long time it has been an ambition among pilots at Lasham to complete a flight by using the sea-breeze front along the South Coast and, praying firstly that I would get there and secondly that it would last another two hours, I flew towards it at 55 kts. This was a speed which I hoped would compromise between getting there too late and not getting there at all.

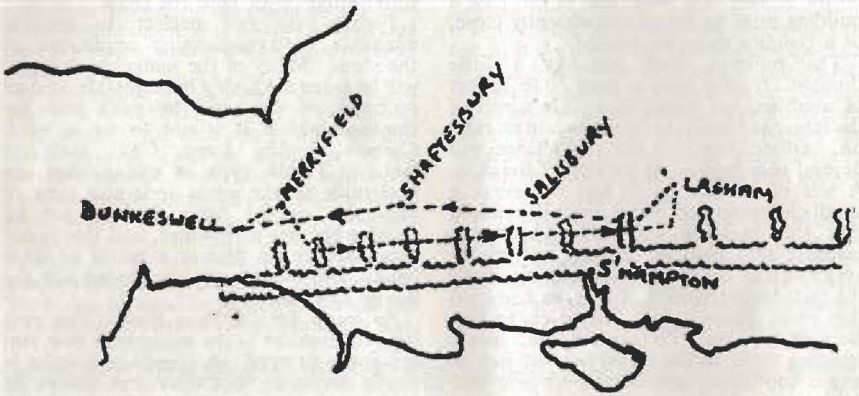
I arrived there, a mental wreck, at 800 ft. above Rampisham. During the glide towards it the front had developed in a most interesting way (see figure). A large cumulus cloud street ran parallel to the coast and about 8 miles inland. It had developed by now to about 8,000 ft., with the base at about 5,000 ft. a.s.l. The quite extraordinary thing was that, about every ten miles or so, the street threw out a tongue of cu at right angles to the coast, of length about 4 to 6 miles.

As by now my Diamond seemed more than possible, I decided against using the front proper as a cloud street; but lines of cu, with base 5,000 ft., spacing ten miles, were easy meat to the 419. The lift remained at the standard 500 f.p.m. and Poole Harbour came and went in a very short time.

About 8 miles south of Salisbury I entered cloud again, and at 7,600 ft. had sufficient height for the 300 km. I changed over to maximum range speed and allowed the southerly drift to take me about 12 miles south of Lasham, and having safely passed the 300-km. line I turned north and glided out to Lasham, arriving with 600 ft. in hand.

My day was completed by surrendering to Frank Irving's invitation to retrieve Bernie Davey from Merrifield. There were a few minor breakdowns in the retrieving organisation, and although I have no desire to tell the full story, a few of the highlights may be of interest. These were:—

(1) Doing numerous circuits round Langport looking for a well hidden "short cut".
(2) Unfortunately finding it.



(3) Beating in the top of the trailer under, or rather through, a Very Low Bridge (7 ft. 6 in.).
(4) Forgetting the glider wheels.
(5) Half demolishing a convenient building for bricks in lieu.
(6) Seeing the sun rise over Salisbury Plain while stationary for three hours outside a closed petrol station.

The equipage returned to Lasham at 09.00 hrs., 5th August.

Finally I would like to make a few very important acknowledgements: To Brian Masters for his most accurate advice during the pre-flight planning; to Hugh Hilditch for his assistance in getting ready, for the loan of his camera and film, for his instructions on how to use them, and for his expert rapid developing and printing service. In addition to being able to fly a 300-km. triangle in a 15-metre glider, he is the club member par excellence; to the 419 for being a hot ship; and last but not least to David Williams for an entertaining and morale-raising aero-tow.

The Workshop of the New Club

by R. C. Stafford-Allen

THE first thing to be considered is the siting of the Workshop. If it can be arranged that the shop is actually on the gliding site, so much the better, as much time will be saved in transporting gliders and components to and from the shop. Often, however, there is no suitable building on the gliding field itself, and in this case a building must be found conveniently close, or a building must be erected.

The building itself requires a little thought. It must have at least 30 to 35 feet of unobstructed length to enable wings of the larger sailplanes to be got in and worked on. Other than this the dimensions will depend very largely on the size of the club. A size of 35 feet by 20 feet will serve a small club very well, but it must be realised that this building will only admit one machine at a time. This may not matter very much to begin with, but later on, when the club has expanded, it may be regretted that more thought was not given to this point at the time. To take two machines a building some 40 feet by 40 feet will not be found too large, particularly as you will want to install at least some power tools.

The building must be adequately lighted, and it is difficult to beat the system of north-facing roof lights. It is realised that this will often be impossible due to the type of building, but some effort must be made to get a satisfactory level of lighting even if it means putting in extra windows. Also the artificial lighting must be properly arranged as it is impossible to do good work at an economical speed unless the lighting is good. It goes without saying that we expect to have electric light laid on and there should be plenty of power points for plugging in such things as drills and sanders, etc.

Heating must not be neglected, if you wish to use the shop all the year round. If you aim at being able to keep the shop temperature at 60°F., no matter how cold it is outside, you will not be far wrong. The easiest way to do this is to install one or two slow combustion stoves of the coke burning type. If you are lucky enough to get a building that has central heating, or some other method of keeping its temperature up, good luck to you, but it is almost a waste of time to try to do repair work if the shop is too cold. Synthetic resin glues do not set well in temperatures below 50°F. and the manual dexterity of the workmen begins to decrease below this temperature.

You must also have a supply of clean water either in or near the shop.

Finally, do not neglect to provide adequate fire-extinguishing appliances in the shop. Many of the materials that you will be using are highly inflammable, and an outbreak of fire must be dealt with instantaneously if it is not to get a hold. Carbon dioxide, foam, CTC, and the Antifyre Pistole type of extinguisher are preferable to the usual soda-acid type of appliance, as the latter does its job by sousing the fire with water, and this is not very effective on fires of a petrol or dope base. The other types mentioned kill the fire by smothering it.

So much for the shop itself. The next item to consider is the equipment that you are going to need. A supply of trestles is vitally necessary, but these can always be made up in the shop itself. Half a dozen good strong trestles is not too much for the smallest shop.

Additional to the trestles you will need a good carpenter's bench on which to do the actual work of preparing the material. This bench must have a good woodworker's vice at one end, and it is a good plan to have a fitter's vice for metal work at the other end. This latter should be as large as you can afford, but a 3-in. vice will do most of the jobs that you will come across. The new turret-jaw vices are very useful on small jobs, particularly as they enable you to grip odd-shaped objects without damaging them. If you are anticipating that several people will regularly use the workshop at the same time, you may well have to consider doubling up on the benches, vices, etc.

A certain minimum of measuring equipment will have to be bought. This need not initially be more than one or two steel foot rules, a rigging tape of about 50 ft. length, a set of feeler gauges, and a carpenter's marking gauge. Desirable additions later on will be a 0-1 in. micrometer, or a vernier

gauge. Calipers are also very useful on occasions, but you can save yourself a good deal of time if you make up one or two plug gauges for the most usual sizes of hole that you come across. Any turner will run you up a few of these, and if they are made in steps of, say, 0.005 in. they make checking wear of holes a very simple job.

You will also need a surprisingly large number of cramps. About a dozen 2-in., 3-in. and 4-in. will be needed and you will find that it is almost impossible to have too many. In the smaller sizes, you can do a lot with those spring clothes-pegs that are sold in the ironmongers' shops very cheaply, and the "Bulldog" paper clips are invaluable at times.

Some means of applying concentrated heat to a joint while the glue is setting is a great boon. This need not be very complicated, and an excellent appliance is the ordinary electric bowl fire. A lead lamp with a reflector fitted, and a fairly powerful bulb, makes an extraordinary effective heater to put inside fuselages, etc. Even better is one of the infra-red heater lamps that farmers use to keep their piglets warm. These can be used in pairs, or more, when it is desired to heat a considerable surface, and they give a very good heat which has great penetrative powers.

Power tools are another matter. You can get along with very little, but it is so much quicker to mechanise the work where it is possible to do so, and it is not a very expensive business. An electric drill is almost a necessity, and so is a bench grinder. A power saw will save you hours of hand-sawing, and of the types available, the band saw has a lot of advantages over the circular saw. It enables you to cut shapes, whereas the circular saw will only cut straight lines.

If you have anyone in the club who can use it, it is well worth considering the idea of an oxy-acetylene welding and cutting set. While the equipment itself is not very cheap, it will save you its cost many times over, not perhaps so much on the gliders, but on the machinery of the winches, cars, trailers, and all the host of ironmongery that goes to make up a gliding club.

It is very difficult to know just what to recommend in the way of power tools and suchlike equipment. Desirable installations are pillar drills, though these can be improvised by using electric drills in bench stands, and such things as lathes. These are prob-

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ably beyond the capacity of a new club, but the time will come when they will prove their usefulness. One item which should be bought as soon as possible is a compressor, which will enable spray painting and doping to be done. Apart from the speed, the finish obtainable by spraying is so much superior to that from brushing. An old vacuum cleaner is a must; it is the only thing that will clean out the inside of components properly after repair, and this is a very necessary operation.

Hand tools that you will require are rather difficult to list, as so much depends on the personal preference of the worker. One man will use a spokeshave, while another will use a plane, while yet a third will use a file, all for the same job, and all will produce the same high standard of work. However, as a basic minimum, you will need a fairly wide range of chisels, saws, a few hammers, a mallet, one or two planes, a good set of spanners, screwdrivers, and a fair assortment of files, rasps, etc. This looks a rather formidable list, so let us break it down into its component parts.

CHISELS.—Get good ones. The best are the cheapest in the end, and you will need three or four, ranging from about $\frac{3}{16}$ in. to $\frac{3}{4}$ in. Keep them sharp, and for this you will need a good oil stone.

SAWS.—One rip-saw will be needed for the heavy work, but this may be dispensed with if you have a good power saw that can deal with all this. A small tenon saw is vital for accurate cutting off of timber, and one of the very small ones, usually sold as dovetail saws, comes in very handy when cutting out damage, as it will often go into places where the tenon will not reach. A hacksaw will be required for the metal jobs, and in fact a good deal of the finer woodwork can be done with the hacksaw.

HAMMERS.—You must have at least one tack hammer, and preferably more. A somewhat larger one will be needed for riveting, and a fairly heavy one, about 1$\frac{1}{2}$lb. for use on cold chisels, etc. One mallet will be needed for use with the chisels.

PLANES.—These are very much a matter of preference. A smoothing plane is almost a necessity and a jack plane will be needed for truing-up lengths of timber. A spokeshave is very useful for scarfing, and if you do get one, make sure that it is of the adjustable blade type.

SPANNERS.—The more the merrier. You must cover all the B.S.F. sizes from $\frac{1}{4}$ to $\frac{1}{2}$ in., and the B.A. sizes from 2 B.A. to 6 B.A. Ideally you ought to have both set, and box, spanners for each size, and the odd adjustable for the nuts which refuse to fit anything in your tool chest. A Mole wrench is a very good tool for its job, that of shifting things that will not respond to anything else, but do not use it instead of the proper spanner, as it is not very kind to nuts. It is very nice to have a set of taps and dies to cover the same ranges of thread sizes, but if you cannot afford these, then get taps and dies to cover 2 and 4 B.A. and $\frac{1}{4}$-in. B.S.F.

SCREWDRIVERS.—One very small one will be required to deal with the odd instrument job, and you will need an assortment with blades ranging from about $\frac{1}{8}$ in. to $\frac{3}{4}$ in. width. Ratchet, and spiral screwdrivers are much quicker than plain ones but usually they are not so strong.

FILES.—Rasps of the Surform type are very good tools for roughing down, and the job of finishing scarfs is made much easier if you have a fair assortment of ordinary files. Second cut files are rather better than bastard, as they leave a better finish, but you can do excellent work with files of the dreadnought cut. These latter have continuous teeth, of curved form, extending right across the face of the file, and they cut very well without any tendency to produce lines on the work.

So much for the stuff that you will need. Finally a few words about the use of it.

Do not let junk accumulate in the shop. This is very easy to say, but it is amazing how quickly rubbish does collect. Get rid of it regularly, and clean the shop out.

Keep your tools sharp, and if you do not know how to sharpen them properly, get someone to give you a demonstration. Sharp tools are safe tools, and they produce much better work than blunt ones.

Do keep the temperature of the shop up when you are gluing or doping.

Do try to keep your stores, nuts, bolts, etc., in some proper place in the shop and not scattered all over the place. This will save you a lot of time and trouble.

Do encourage those who genuinely want to come in and work on the aircraft, but use the reverse tactics for those who want to come in and watch!

The Italian Championships

by Tony Goodhart

ONE's first impression, as one negotiates the hairpin bends up and down the hillsides between Rome and Rieti, the Championship's site, is that the country is distinctly mountainous for gliding. One's second impression as one took the air on the practice day was also of MOUNTAINS, and one's final impression having . . . (as you may read later) was still of MOUNTAINS.

The aerodrome at Rieti houses the National Gliding Centre and is well equipped with gliders, tow-planes and workshops. It is situated in a tiny plain surrounded by mountains on which one can slope-soar in winds of any direction. There were 23 Italian competitors flying a variety of types, including the Eolo, the Spillo, two Bonaventuras (two-seaters), several Italian-built Spatz, three Urendos and the M-100, the prototype of the new Morelli-designed Standard Class sailplane.

The two foreign invited competitors were M. Marsat in a Bréguet 901 and myself in my Bréguet 905—Fauvette.

The organisation was most efficiently presided over by General Nannini, perhaps the father of the Italian gliding movement, with Ingegniere Chetta, Professor of Aeronautical Engineering at Milan University, as President of the Commission Sportive. Working with them were a whole host of willing and efficient organisers, amongst whom were Captain Revesti, the chief of the centre, and Signor Ricorti, who gave the daily briefing in a most cheerful, but nevertheless commanding manner.

After practice flying on Sunday, the opening ceremony took place in the late afternoon and was attended by senior members of the Government, the Services and the Aero Club d'Italia. The ceremony was followed by demonstrations of the different types of competing sailplane.

All launchings throughout the meeting were by aero-tow behind Stinsons.

The task on the first day was an out-and-return race to Nocero Umbra, some 75 kilometres to the north. The forecast wind was 5-10 knots northerly, but built up during the day to much nearer 15 knots.

After release over the aerodrome at 2,000 ft. the only thing to do was to head straight for the nearest mountain-side to the east in the hope of contacting a hill-triggered thermal, a very few of which were marked by small cumulus. Many pilots failed to contact and returned for second and third launchings.

The thermals gradually became stronger and more numerous, but it was a considerable struggle to get up above the mountains and an hour or more was spent alternately slope-soaring and thermalling, both in distinctly turbulent conditions—it was interesting to notice that some of the small cumulus could quite suddenly turn themselves into very small but violent rotor clouds.

Having at last reached a reasonable height, the course to Nocero Umbra led along a mountain range, much broken by steep-sided valleys; the downdraughts were quite remarkably powerful and one's speed-to-fly scale on the vario indicated equally remarkably high speeds. These downdraughts were only remarkable on the first day—one soon came to expect them as normal in the mountains.

About half-way to the turning point the mountains turned to face more nearly the now stronger northerly wind and a good cloud street developed with 3-5 m./sec. lift under it. After this the flight was fairly plain sailing except for an awkward ten minutes' slope-soaring on the way back, before contacting the street again. The flight took just over 4 hours, of which 2? were taken getting started and battling against the wind.

Due to the considerable difficulty in initially contacting the lift, involving restarts and consequent further delays, the day's results showed that I was the only pilot to complete the course—results which gave me a reputation I was unable to maintain in future tasks.

The next day was announced as "free distance" with a light northerly wind again and the possibility of thunderstorms in the mountains. All pilots chose to follow the Apennines to the south-east and some excellent flights of over 200 kilometres were achieved.

The forecast cu-nims duly appeared and the spread-out of their anvils, together with strong northerly winds at altitude, cut off thermal activity at about 4 p.m.

Since cloud base was at about 6,000 ft. and

some of the mountains reach nearly 10,000 ft., some care was necessary while passing the area of these high mountains, though the really big clouds were fairly well scattered.

As one progressed to the south-east the terrain below looked more and more unfriendly from the landing point of view. Steep-sided valleys with no flat areas at the bottom, quite a few lakes, some of them artificial, and everywhere a lot too many rocks. It appeared that the tops of some of the hills had smoothish surfaces.

In due course the moment arrived when landing became inevitable and a very careful search for a good field was made. I was lucky enough to be over a rather flatter valley than beforehand, and found a good cornfield in which the crop had been cut. To my considerable surprise, just after touch-down my starboard wing-tip caught on a rock hidden in the foot-long stubble and I lost the outer 4 feet. Most upsetting, particularly as the Bréguet sandwich leading-edge construction does not lend itself to "first aid" repair methods.

My crew turned up at 2 a.m., having been delayed by rain so heavy that they had had to stop for a while.

On the way back we decided to try to obtain a spare wing from Bréguets. Two phone calls from Rome to the factory and M. Ziegler had agreed to dispatch a wing that same afternoon, whilst we had agreed to set off straight away to meet it. Next day at noon, by one of those coincidences, we met beside a garage with a workshop, parking—and rigging—space, and an excellent restaurant across the road. Passers-by were somewhat surprised to meet a glider being rigged by the side of Route Nationale 7. Very little work was necessary to fit the new wing before the return journey started, and, after minor difficulties with the Italian customs, who felt (quite rightly) that there must be something odd about a glider passing their frontier twice in 24 hours, we got back to Rieti after just under 2,000 miles and 68 hours of continuous trailer towing.

Unfortunately, owing to an inability to read Italian, we found that we had contravened the rules which allowed only repair and not replacement of a wing. The

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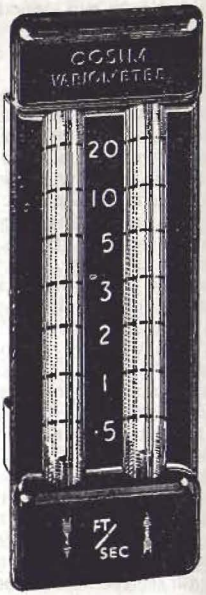
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Sporting Commission, rather than disqualify me and render our marathon trip useless, very generously decided that I should continue to fly, but *hors concours*, with take-off after the regular competitors.

We found that we had missed a race to Capna (near Naples), a race which, once again, was completed by only one pilot.

Due to low cloud base over the mountains, the next two days were non-contest days; at the briefing on the second of these a petition signed by all the Italian pilots was placed before the organisers, which I discovered, to my considerable embarrassment, requested that I be reinstated as a competitor. This sporting gesture was typical of the whole spirit of the Italian Championships and of the pilots, and I look forward a lot to meeting them again and hope very much that there will be an Italian team at next year's World Championships in Germany. Having seen the performances put up over what was, at any rate to me, distinctly difficult country, I am sure such a team will acquit itself with distinction.

The next day, distance along a line through Potenza was declared, this being to the south-east again along the Apennines, and nearly the same line that had been chosen by most pilots on the free-distance day. The forecast was of a gradual build-up of cumulus with a possibility of isolated cu-nim in the late evening.

To begin with it was a struggle to stay airborne, and the few reasonable thermals contained as many as 17 sailplanes. Conditions gradually improved as one got amongst the higher mountains, though occasional slope-soaring was necessary.

The fertile plain near Avezzano is notorious for not producing uplift; it was farmed some 2,000 years ago by the Romans who drained a lake and surrounding marshes. However on this occasion a nice little cumulus drew me into itself; the lift got better and better and took me somewhat turbulently to about 18,000 ft. When I came out I was greeted by the magnificent sight of towering cu all around, but also with the far less magnificent sight of complete cloud cover from horizon to horizon.

I had got myself into the classic situation into which the prudent aviator never gets himself—above cloud with no radio and with the knowledge that cloud base was at about 5,000 ft. with mountains going to nearly 10,000 ft. in it. However, I was able to put off the evil moment by entering another fine cumulus and getting back to just on 20,000 ft. But in due course descent became inevitable and I headed east in order to get away from the higher mountains. The descent through 5,000 odd feet of cloud was distinctly unpleasant, and when it suddenly turned very dark I felt sure that a mountain was about to appear. But it was only the darkness of the heavy rain below cloud-base, with a lot of very unfriendly hilly country. However, at least the hill-tops in the area were below cloud and a further venture into cloud was made, but without any very great gain of height. A little later I found myself slope-soaring beside a tiny village perched on a pinnacle; quite suddenly, when I was abreast of the church steeple, cloud formed all round me. I turned downwind over the village into the heaviest downdraught I have ever met, and came out of the cloud only a few hundred feet above a valley, with most unfriendly rocks and nothing remotely callable a landing field. Looking back at the cloud where the heavy downdraught had been, I saw that a waterfall of cloud was pouring down the hillside.

The retrieve of the rather bent glider to the nearest road four miles away involved 10 Italian peasants, two carbinieri (military policemen) with umbrellas, two horses, a mule and me.

On getting back to Rieti the next night, we learned that there had been quite a few landing troubles. One pilot had landed on —or rather in—an artificial lake, there being absolutely nowhere else suitable; and another, coming out of cloud, had found the mountain-side straight in front of him. His steep turn away, coupled with a violent gust, resulted in his tailplane catching on an out-jutting rock—his escape from his inverted landing was near-miraculous.

The really intelligent pilots had kept on

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the windward (westward) side of the Apennines, so that they had a good escape route to the west in case of heavy cloud build-up; they were also able to keep out of the main rain area.

There was no question of "first aid" repairs to my Fauvette, so I reluctantly decided to return home, leaving behind a memory of a delightful group of gliding enthusiasts and experts, an excellently organised championship meeting—and the obvious fact that I personally have a very great deal to learn.

Final Results

from "Il Tempo", Rome

Pilot	*Sailplane*	*Points*
1. L. Brigliadori	Urendo	4,760
2. G. Silva	Canguro	4,706
3. G. A. Ferrari	Skylark	4,396
4. F. Piludu	Canguro	4,316
5. Mantica/Martini	Bonaventura	4,096
6. P. Morelli	Passero	4,080
7. W. Vergani	Canguro	3,957
8. Mantelli/Padova	Canguro	3,857
9. M. Cattaneo	Canguro	3,638
10. R. Vitelli	Bonaventura	3,049
11. A. Pronzati	Eolo	3,009
12. R. Brigliadori	Canguro	2,834
13. A. P. Morelli	M-100	1,791
14. Campari/ Angliolini	Canguro	2,727
15. A. Zoli	Urendo	2,178
16. P. Longaretti	Passero	1,950
17. G. A. J. Goodhart*	Bréguet 905	1,703
18. J. Grassi	Passero	1,694
19. E. Fanoli*	Canguro	1,608
20. F. Tomasina	Urendo	812
21. C. Rasini	Spillo	809
22. P. Marsat*	Bréguet 901	502
23. C. Monguidi*	Canguro	307
24. G. Fongoli*	Passero	330

*Retired before the end

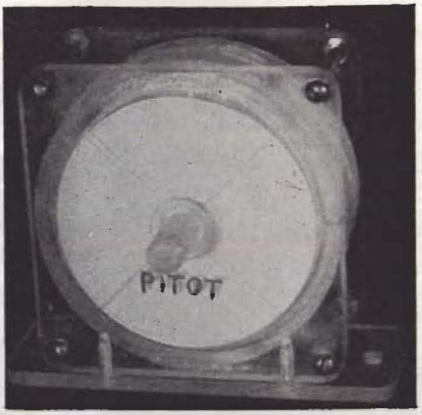


Sixty years after Percy Pilcher, the British gliding pioneer, made his last and fatal flight in the grounds of Stanford Hall, near Rugby, a replica of his "Hawk" glider was to be seen flying in the same grounds on 18th July, by kind permission of Lord Braye, whose father was a friend of Pilcher's. The upper left photo shows Walter Neumark taking off in tow of a winch brought from Camphill and operated by Peter Mackenzie and Peter Gresham. Below is shown the glider after its third launch, when it was lifted by a gust and, becoming semi-stalled, came down rather heavily and damaged its left wing, with the result that a proposed filming of it next day for B.B.C. Television was cancelled. On the right, Don Campbell, the "Glider doctor", who built the replica in only three weeks, is seen with Walter Neumark (in goggles) making pre-flight adjustments.—Photo by G. Meachen.

INVENTORS' CORNER

THE principle of Total Energy has been known for many years and has in practice usually taken the form of external tubes and bulges such as the Irving Venturi and the Temple Blister. However, in the past few years a few devices have appeared which need no more than normal pitot and static pressure to work them. These have usually used a flexible metal bellows which, under the influence of pitot pressure, vary the volume of the variometer capacity. One of them, the Coulson Tube, used a rubber diaphragm which was inserted into the variometer bottle itself. The metal bellows variety are difficult to make to give an accurate correction and at the same time remain insensitive to "*g*". The Coulson Tube could not give accurate correction if restricted to the maximum diameter of the neck of the variometer bottle; however it was insensitive to "*g*" and had negligible inertia.

In designing my total energy device I in effect removed Andy Coulson's diaphragm from the bottle, increased its diameter so that its variation of volume with pressure was linear, and devised a simple and quick



method of adjustment and calibration. Early units flying at Lasham soon discovered that an "inert" silicone grease used in assembly rapidly dissolved rubber, but apart from this the unit seems to do the job well, and diaphragm life should now be measured in years.

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Retrieving without tears

by C. A. P. Ellis

THE 1959 championships, so we are told, were noted, amongst other things for their low crash rate. Judging from the conversation between haggard, bleary-eyed crew-men attending to their belated toilets, this year's championships were little different from others so far as trouble on the road was concerned. There seems to have been just about the usual crop of sad stories relating to trailers that came apart, clutches that slipped, transmissions that crumbled, suspensions that sagged, tow bars that bent in unexpected places and the shedding of those bits and pieces that are hardly considered essential to motion . . . until they fall off!

Outstanding flights, stupid or brilliant are not the only impressions one bears after twelve years participation in gliding championships. Some of my most vivid impressions are associated with the road journey following a flight, the details of which are now forgotten, leaving the memory of the retrieve only, to linger on. Mechanical bugs and automotive gremlins have contributed to nights of misery and days of frustration in a variety of wet lanes, deserted lamp-lit city streets, and gliding club workshops.

Failure of any equipment during a championship can be guaranteed to put a pilot into a frame of mind hardly beneficial to his chances; failure of his retrieving equipment not only affects his peace of mind, it usually deprives him of much needed physical relaxation as well. A few of the imperfections of modern road transport that have left a mark upon my memory can be listed:—

A low-slung petrol tank that was broached by a handy rock whilst reversing in a Derbyshire lane.

Temperamental electrics that deprive one of lights or power according to the best degree of inconvenience obtainable in the circumstances.

Cooling systems that cried for water as soon as they were asked to do an honest day's work.

An intermittent fuel supply caused by some deep-seated obstruction that took two days (and most of two nights) to locate and clear.

A clutch failure that led to some frantic chock-stone searching upon a steep hill.

A radiator and headlamp that failed to survive impact with a too frisky calf.

A faulty fuel gauge that led to an unscheduled stop in one of the less frequented back-streets of Sheffield.

Not surprisingly, such a series of misfortunes had made one conscious of the need for 100 per cent reliability in selecting one's retrieving equipment for a week's battling with championship gliding, but after ten years of trials and tribulations one had almost accepted that such a degree of reliability must be unobtainable. It was only after the London Regional Championships last year that I first realised that this need not be so. The L.G.C. kindly arranged for me to have the use of one of the three Landrovers loaned to them for that week, and it was only when those championship had concluded that I realised something strange had happened. There had not been a single unscheduled stop during any of the retrieves! As though that were not enough, there had been a bonus in the form of sleep acquired, by virtue of the six feet of unobstructed floor space upon which a comfortable bed could be erected. Luxury indeed!

Naturally, I did not hesitate to accept the offer of a Landrover for this year's championships, again made available through the generosity of the Rover Motor Co., but this time I found I was to be retrieved by the latest creation in diesel engines. Once more the week's retrieving, about 1,500 miles of it, passed without the slightest interruption, this time at half the cost! Admittedly the acceleration of the diesel version is inferior to that of the conventional-engined model, but as a large portion of the retrieve mileage is done at night and often upon less frequented roads, this is perhaps not such a disadvantage as might at first be thought. Fears as to the ready availability of diesel fuel proved unjustified, partly owing to the fact that the tankage is adequate for 250 miles of fierce trailer driving, and there is ample stowage space for a 4-gallon reserve can if one is of a pessimistic disposition.

Another feature that appeals is that these Landrovers arrive ready for the job of

towing anything, anywhere. There is no question of carving out bits of bodywork and welding on large chunks of metal (frequently in the wrong place—as you find out afterwards), and the towing fixture brings a smile of gratification to the face of the most embittered trailer owners. There is also a ready means for tapping electrics in the right place.

The long wheel-base Landrover (to which the above remarks refer) must be just about the most stable towing device obtainable, and in no way inferior in this respect to the shorter wheel-base version, an early model of which has been used with marked success for many years by the L.G.C. (Ask John Everitt, who used it in last year's comps. to tow our 40-ft. "Queen Mary" containing a T-21B.)

What strikes me about these vehicles is their suitability for club use, with all of the inevitable rough treatment that goes with such a fate. The diesel-engined version, in particular, should offer years of trouble-free service at minimum cost, and accept abuse and neglect more readily than any other vehicle not specially designed as a gliding club hack.

Finally, if you must throw the whole lot into a ditch, or pick an argument with a tram, I'd much rather do it in one of these solidly built efforts than any other.



VERONICA PLATT

MRS. Veronica Platt has found it necessary to resign from the Magazine Committee of SAILPLANE AND GLIDING, mainly because she and her husband always find themselves in Hong Kong or Buenos Aires or somewhere when we have our meetings. When I wrote and told her how sorry we were to lose her help, at the same time I told her that we could not let her disappear without a trace, for she and what she has done for us is part of our history.

Veronica was first converted when John Simpson took her up in a two-seater at Dunstable in 1938. After a little training here, her peripatetic life—for Mr. Platt practically *was* Shell Aviation or something —led her to the Argentine, where she joined the Club Argentine de Planeadores Albatros in June 1939. This enabled her to keep on gliding for the next 6 years, whilst Dunstable was echoing to the hob-nailed boots of war prisoners or suchlike. She was officially grounded for a short time for non-stereoscopic vision, but during this rest achieved the South American women's height record of 9,000 ft., so grounding of the South American type seems quite a formal affair. She then became ungrounded and presumably re-stereoscopic, and did an aerobatic course and also a midnight flight by moonlight with no landing or flying lights over Buenos Aires, on aero-tow.

When she came home after the war she took an interest in THE SAILPLANE, the magazine which *The Aeroplane* had founded in 1930, and in 1955 agreed to amalgamate with GLIDING, generously giving the whole thing to the British Gliding Association.

The marriage was immediately fruitful, and SAILPLANE AND GLIDING has never looked back. Thank you, Veronica.

P.A.W.

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SKYLARK III and trailer. Cdr. H. C. N. Goodhart, R.N. 79A Alma Road, Windsor, Berks.

B.G.A. NEWS

World Gliding Championships, 1960.—The seeded list for the British team has now been reduced to six pilots, who are, in alphabetical order:—A. J. Deane-Drummond, G. A. J. Goodhart, H. C. N. Goodhart, D. H. G. Ince, G. H. Stephenson, J. Williamson. The final choice will be made when it is known how many pilots each country may enter in each of the two Classes, Open and Standard.

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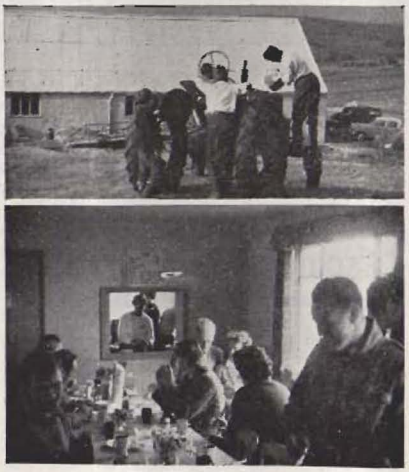
OCTOBER 1959.

Lake District Rally

THE first visitor to arrive on top of Tebay Fell, on an occasion such as this, gets a free ride on the Lakes Gliding Club's roller—provided he is heavy enough to serve as useful additional weight. From this he gets a magnificent view over the Lake District mountains to the west, from 1,000 ft. plus roller height, as John Young tows it up and down the runway behind the tractor—in the hope of hardening the squelchy turf, with the underlying peat breaking through wherever a tractor wheel has skidded.

It was FRIDAY, 31ST JULY, the eve of the official opening, and before long the first visiting sailplanes arrived—the Army Club's Skylark II and the private Skylark III from Imperial College. But before they could get a launch, the runway had to be cleared of sheep. However, this was easy: a few shouts, and a bark or two from one member's dog, and they knew what was wanted; I was told that they never move back onto it until they can see for themselves that flying has finished for the day and sheep may safely graze. These sheep belong to farmers with grazing rights; the land is owned by Lord Lonsdale, the president of the Club, who has given them (the Club) a 25 years' lease at a nominal rent, besides offering a trophy for annual competition.

LEN



The hangar from outside, and the clubhouse from inside.
(Photos by A. E. Slater)

These two machines soon showed what sort of orographic lift the Club could lay on; the Army machine rose to 1,800 ft. and Bill Tonkyn to 2,500 ft., though not over Tebay Fell itself, which faces west, but a little further to the south where an even steeper slope faces S.W.

On SATURDAY, 1ST AUGUST, the rally began officially with a met. forecast from Barton Hall and a discussion on the task led by the C.F.I., Ron Reid, who once had the same job at the London Club twelve years ago. The meeting decided on an out-and-return, to be repeated if possible, with the turning point at Brampton Junction, 35 miles to the north.

However, there was little lift about of any kind, and only Wills got out a few miles to the west, and just up to cloud base, before having to return; he contributed 38 minutes to the day's total flying time of 2 hrs. 29 mins., and Redshaw was next best with 14 minutes.

Lionel Redshaw has the distinction of forming a link, spanning both space and time, between the present club and the only other one to flourish in the Lake District, the Furness Gliding Club, on the opposite side of the region, which he helped to found in 1931. Shortly after the war, as the Furness Club failed to revive, he acquired an Olympia, and since then he has flown it from a large number of hills and mountains in the region between the two clubs, launching with the sole assistance of his wife until his family became old enough to help.

On Saturday evening the new hangar-plus-clubhouse was ceremonially opened by Philip Wills. The building does great credit to the club members, who built it themselves except for the roof, for which professionals were called in. Besides the hangar and a clubroom, there are a kitchen, store room, office, and an upstairs dormitory. It must be said that the "duty caterers" provided excellent meals.

SUNDAY, 2ND AUGUST, was the great day of the meeting, when all seven visiting machines went off across country on a "free distance" task. By 12.02 all the



The Redshaw family.

competitors were in the air; some of them after a second launch.

With a west wind, and the Pennines to leeward, a lot of slope lift was used, with the result that the directions of their landing places were spread round half the compass. Wills, however, used only cloud lift, mostly inside the clouds, in his 58-mile flight to the Yorkshire Club at Sutton Bank; this, being the longest cross-country from the club during the year ending August Bank Holiday, won him the Lonsdale Trophy.

On the other hand, Stan Armstrong, with the next best flight of 41 miles, made most of it by slope-soaring, first down to Sedbergh, and later near Settle; but Redshaw started by going into cloud at 4,000 ft., only to meet a powerful down-current which brought him within 200 ft. of a hilltop; a second climb in rough lift over a rock face was followed by a second down-current to leeward of the Pennine Chain which brought him to earth. Riddell reached 3,700 ft. in cloud, but most of his flight was slope-soaring.

MONDAY, 3RD AUGUST, provided a soarable wind once more over Tebay Fell and its extensions, and occasionally a localised thermal when the sun broke through a strato-cumulus cloud cover; but nobody got away, although in the afternoon some very dark areas of cloud suggested an invisible build-up overhead, and occasionally extra lift was found near an apparent localised front shown by rags ascending into a dark line of cloud.

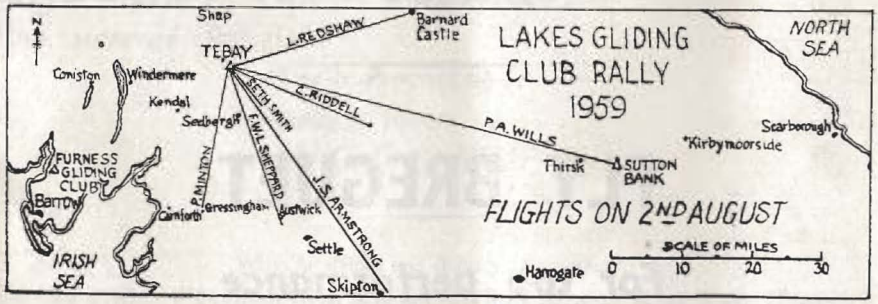
Most of the visitors departed that evening, well satisfied that they had had a most interesting time exploring an atmosphere which behaved quite differently from that they were used to at their home sites.

If the Lakes Gliding Club act as hosts in one of next year's National Gliding Weeks, as they hope to do, they will be well worth a visit by anyone looking for a Site which is Different.

A.E.S.

Cross-Countries on 2nd August

Pilot	*Sailplane*	*Landing Place*	*Launched*	*Landed*	*Miles*
P. A. Wills	Skylark III	Sutton Bank	11.07	12.40	58
J. S. Armstrong	Olympia	Skipton	11.28	14.12	41
L. Redshaw	Olympia	Barnard Castle	11.54	13.20	28
F. W. L. Sheppard	Skylark II	Austwick, nr. Settle	11.47	14.00	25
P. Minton	Skylark III	Gressingham, K. Lonsdale	11.21	12.45	22
C. Riddell	Skylark I	Askrigg, Wensleydale	11.42	13.00	22
M. P. Seth Smith	Skylark II	Caulter, nr. Sedbergh	12.02	14.40	8



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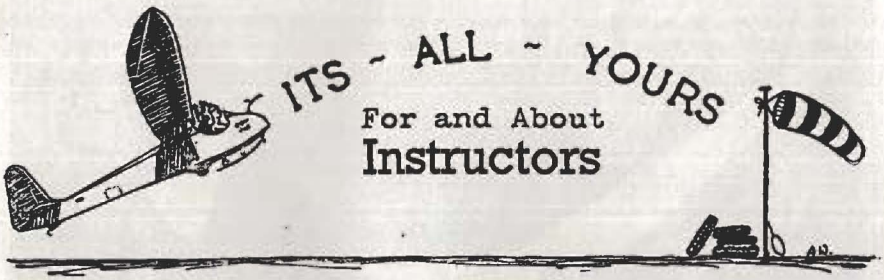
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THIS issue contains the last of the sequence "Landing in Fields".

During this winter it will be of great interest to have the opinions and ideas of instructors from all over the country as to how we can improve this instruction given. By this I do not mean how can the technique be changed but whether there are any improvements to be made in the manner in which we train the pupils in the clubs.

E.g., do we try to teach too many pupils with too few facilities? Would pupils benefit from longer and more comprehensive dual instruction in terms of hours (not launches) than they get at present? In what practical ways would it be possible for a pupil to receive more personal attention? Finally is it felt that with the present system of winch launching and not being able to book flights, the level of frustration due to hanging about is too high and as a result many potentially good pilots are lost to the clubs?

It is accepted that the present situation is largely forced on the clubs because there is insufficient money available to do anything else, but should the economic situation become easier what changes would instructors like to make to improve the instructional facilities in their clubs? Please write in your ideas.

A. WELCH.

LANDING IN FIELDS

PART II.—THE APPROACH AND LANDING

by Lorne Welch

THE first part, choosing the field, appeared in the June issue; it emphasised the importance of the selection of a good field and explained that this could be done successfully by inexperienced pilots only if they gave themselves plenty of time. It was pointed out that the selection of a field was an entirely different matter from the decision to land; the pilot could go on soaring quite happily provided that he knew that a good field was in easy reach. If he climbed up, well and good, but if he got down to his "decision to land" height, then he must go and land without attempting to continue soaring.

Once the decision to land is made, and this for a beginner should be about 1,000 ft. above the ground, from 3 to 5 minutes of time is available for carrying out a further assessment of the field, the approach and landing, and above all, for getting into the right frame of mind to carry this out.

Normally the height of the landing ground above sea level will not be known, and consequently the altimeter readings must be disregarded and the approach carried out without its use. Because of this the time available may be less than was first thought.

The first thing to do, once the decision to land has been made, is to re-assess the field, and to ensure that the judgements on which the choice was made are correct—check the wind direction again, re-appraise the size of the field, study the approaches for telephone wires, high tension cables, etc., and check the slope again.

If this re-assessment shows that the field is hopeless, for example if it is found that it slopes steeply downhill, another field will have to be selected. This, however, should not be done for some minor snag which is only discovered at this late time, as a change

of field may easily result in a worse one being selected.

It is very rare indeed for anyone to undershoot when landing in a field; by far the most common trouble is a muddled approach due to being too high and too close to the field. There are three reasons for this—the natural reluctance to risk an undershoot, the lack of experience in making an approach low over a solid obstacle, and the tendency to take the length of the landing ground as a yardstick for positioning the approach. If a pilot is used to landing on an aerodrome 1,000 yards long, he will be inclined to get too close when approaching a 250 yard field. To avoid this trouble, it is advisable, before starting the approach, to select a point on the ground, hedge, tree, haystack, etc.—as the final turn-in point. The distance which this point should be downwind of the boundary of the field must depend on the wind speed; it will be about 100 yards in a strong wind to 500 yards in no wind if the final turn is to be made at about 150 feet with a reasonable amount of brake. The selection of the turn-in point can be based on the judgement of the distance on the ground, either thinking in terms of yards or of fields back.

The problem on the approach is to arrive at this turn-in point at approximately the right height, and this is normally most easily done by getting well to one side of the field and making the latter part of a square circuit with the last part of a downwind, and then a crosswind leg. Adjustments on the approach will, of course, be made in the normal way on the crosswind leg by edging towards, or away from the field, if the glider seems to be too low or too high, or if the drift on this leg shows that the wind is stronger or lighter than expected. If the glider is excessively high it is much simpler to start using the airbrakes on the crosswind leg, rather than getting involved in a series of S turns.

The final run-in should be made towards the middle of the landing area, rather than to one side, as should an unexpected obstacle suddenly be seen, there is greater opportunity to avoid it. Ideally the point of touch-down should be about one-third of the length of the field beyond the near boundary, but if the field is very small, it may have to be less than this.

As there will normally be a hedge or a fence to be crossed immediately before touching down, it is important that the final part of the approach is made at a reasonably steep angle, and if an excessive float, or fast touch-down speed is to be avoided, at a reasonable speed. What is reasonable will depend on the wind speed and the turbulence which is to be expected. On a calm day, stalling speed plus 10 knots is satisfactory but an additional 20 knots or so may be necessary if the air is rough. If the landing is to be made uphill, the approach should be made at a greater speed than normal.

As the ground may be bumpy, the glider should be held off until it is in the proper two-point attitude, and after landing care should be taken to keep the wings level as long as possible. This is particularly important when landing in tall crops, as if a wing drops, a ground loop may result. In these circumstances the risk of a ground loop can be reduced if the airbrakes are closed at the moment of touching down.

The business of making the approach at the correct speed and suitably steep angle is particularly important when coming in over high obstacles, as it is only too easy to get low and then be faced with the difficulty of shutting the brakes, getting over the obstacle and then immediately descending steeply again. It should be practised much more when landing at the home site; the low, flat approach which is so often seen is no practice for landing in fields surrounded by high hedges.

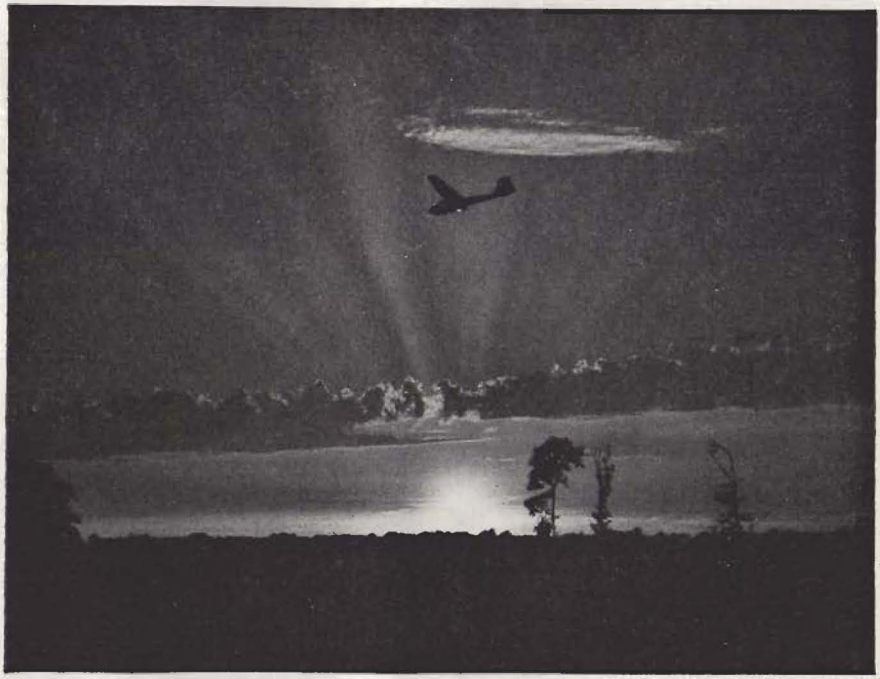
After landing the pilot's responsibilities are not finished. In fact, in some ways they are increased as in addition to looking after himself and his glider, the pilot must consider the owner of the land on which he has arrived uninvited. Farmers have shown themselves to be not only tolerant of glider pilots but have invariably gone to a great deal of trouble to help them, but it only needs a few ignorant, selfish or tactless pilots for this attitude to change and make for difficulties in the future. The glider itself can cause only a very little damage to a field; the trouble may arrive in getting the glider out, in frightening or letting loose stock, or in the behaviour of spectators. It is up to the pilot to see that no trouble is caused.

Unless the wind is very strong, when the pilot must stay wing-balancing until help comes, he should get out of his glider, turn it cross-wind, and picket it down. If there are cattle in the field, or are likely to be put in the field, the glider must not be left un-

attended; it is most easily guarded if the tail is pushed into a corner of the field. In any case it is often advisable to ask spectators to help in moving the glider close to the gate of the field, or if the wind is strong, into a lee, before going to telephone. It is up to the pilot to make himself known to the farmer, and not wait until the local grape vine has informed the farmer.

Telephoning back to base is likely to be done from a private house, and of course the call should be paid for. Before telephoning it is as well to write down the information which the retrieve crew are likely to want, and experience has shown that it is much better to give the full postal address, name of householder, his full postal address and telephone number, rather than map references or complicated directions. The retrieving crew want to know where the glider is; it is up to them, and probably easier for them, to find their own way there.

While waiting for the trailer the pilot can remove control and safety pins, etc., but it is most inadvisable to de-rig with unskilled assistance, as even in a strong wind a glider is much more easily damaged when lying on the ground in a number of pieces, than when picketed down.



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THUNDERBOX THE FIRST

by Stephen Hart

The two-drum winch described here was designed and constructed by the Four Counties Gliding Club

THUNDERBOX I is a two-drum winch whose winching unit consists of a lorry rear-axle suitably modified so that either half-shaft can be engaged separately to drive one wheel at a time, the wheels having been adapted as cable drums. The engine transmits the drive through a normal clutch and gearbox via a normal prop-shaft to the differential. As the drums are of the narrow high-walled type, no paying-on gear is used, but the cable is guided on to each drum by a suitably counterweighted assembly of four rollers (two horizontal and two vertical) incorporating a guillotine, mounted in front of each drum in such a way as to move in a vertical arc in front of the drums about the axis of the axle, which rise or fall according to the angle of the cable, so that, irrespective of the height of the glider on the launch, the cable forms a straight line from glider to drum on the vertical plane.

Engine and gearbox, winching unit complete with roller assemblies, and driver's cab and controls are all mounted on an independent home-made chassis which is in turn mounted for convenience on the chassis of a Ford V8 car which died of old age and exhaustion after serving the club for about a year on auto-towing duties. We decided to mount it in this way so that the winch complete can easily be re-mounted on a more roadable two-wheeled trailer chassis if required.

Winching Axle

A Bedford lorry rear axle (ratio about 6:1) complete with double rear wheels was given to the club by a member. The differential was converted to provide a direct drive by welding the appropriate cogs to eliminate the differential function. Next, a simple modification was made to one half-shaft which consisted of drilling a shallow ¾-inch diameter hole on the axis of the shaft at the splined end into which was welded a ¾-inch hard steel spacer rod set to project a distance (found by experiment to be about 3½ in.) sufficient to force the unmodified half-shaft splines out of engagement with the differential when pushed fully home. Conversely, when the unmodified shaft was fully home, it pushed the modified one out of engagement. A hole was drilled in the end of the spacer rod to receive a ball-bearing at the point of contact between the two half-shafts, the shoulders of the hole being peened over to retain the ball.

Change-over Gear

On one side the ten half-shaft retaining bolts were replaced with others 6 in. long, over each of which was inserted a long compression spring acting between the bolt heads and the half-shaft end plate. On the other side 6-in. bolts were also substituted, and a specially made steel plate of similar size to the half-shaft end plate and similarly drilled, and having the threaded crown wheel of a screw car jack welded into the centre, was located hard up to the bolt heads and retained by set-screws in the edge of the plate. The threaded spindle of the car jack was provided with a handle and inserted through its threaded crown wheel in the plate.

The method of operation is as follows:—With the jack spindle fully "out", the compression springs on the opposite side will hold their half-shaft fully and firmly home (i.e. engaged). As the jack spindle is wound "in", the end of it in contact with its half-shaft end plate forces the half-shaft in, thus pushing the other shaft out against the compression springs.

The lengths of the bolts and springs were determined by experiment, and of course bear a relationship to the length of the half-shaft spacer rod. The bolts were obtained from a local Bedford garage, but the springs had to be specially ordered.

The Drums

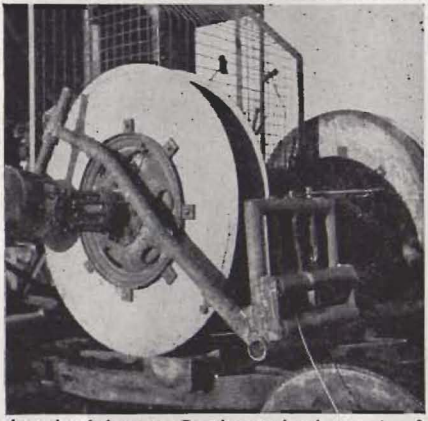
One of the original lorry wheels was used for each drum. The drum walls were made from ½-in. thick steel sheet and these were cut to an external diameter of 4 ft. 3 in. with a concentric hole cut out in the centre to suit the diameter of the wheel rims. The first of these was welded to a wheel rim, but in spite of tacking on opposite diameters about an inch at a time, the plate buckled due to uneven heating, and despite burning vast quantities of coke and the use of a

heavy persuader, this particular snag was not entirely ironed out. The remaining three drum walls were attached to the rims by means of coach-head bolting through steel lugs welded to the rims (eight per plate).

As the axle was designed for paired rear wheels, it was found necessary to pack behind each drum owing to the shortage of thread on the wheel studs. For this we used the centres cut out of the spare wheels with an acetylene cutter.

Cable Guide Unit

This consists essentially of a steel tubular frame welded up with suitable bracing into the shape of the Greek symbol ττ. The feet of the two stems each have a simple bearing which pivots on the axle just inside



the wheel drums. On the projecting ends of the crossbar, and aligned in front of each drum, are welded the roller assemblies, which consist of two vertical and two horizontal rollers mounted in a simple welded frame with a spring-loaded guillotine between the pairs of rollers. Each guillotine is operated from the cab by a pull wire which, assisted by a short lever, withdraws a safety pin (a 6-in. nail), thus releasing the spring-loaded knife. The knife itself is a section of an old metal file ground to a sharp edge. The rollers used are taken from old packing-case roller tracks, and though these probably have a shorter life than the accepted type they are easy to replace and we have a plentiful supply of spares; furthermore, there is very little wear on the horizontal rollers due to the rising and falling movement of the assembly.

The counterweighting of this rather heavy assembly is achieved by welding a backward facing arm to each extremity of the crossbar of the T outside the drums. To the ends of these arms are attached the counterweights (concrete-filled oil drums) so positioned that their line of action passes through, near enough, the axis of the axle.

Winch Chassis

This is a straightforward welded structure, architect-designed, whose purity of form is somewhat marred by the agricultural quality of the welding and cutting of the angle-iron. Careful measurements were taken of engine mounting points, axle mountings, minimum length of prop-shaft, etc., and these dictated the general shape and structure.

The axle is mounted upside-down on this chassis so that the cable pays on to the underside of the drums. This arrangement was chosen to enable the moving roller assemblies to be kept as low as possible.

Engine

We bought a 3½-litre reconditioned Austin six-cylinder motor taken from an ex-Army ambulance, complete with clutch and gearbox, prop-shaft, starter, dynamo, radiator, etc., for £25 from a breaker's yard in Burton Latimer. By a stroke of good luck the universal on the prop-shaft mated up to the Bedford differential without any modification. However, we shortened the prop-shaft itself to the minimum possible to reduce the overall length of the outfit.

Cab and Controls

The cab structure was welded up from steel angle direct to the winch chassis and protection provided by fabric reinforcement welded to the steel frame. The roof and back are of light gauge sheet steel bolted to the angle frame. A level floor in the cab was formed with 1-in. boarding coach-bolted to the steel structure. A raised removable seat constructed from 1-in. tongue-and-groove boarding covers the clutch housing and gearbox and has a small hole cut in the top for the gear lever. It was the characteristic appearance of this seat that suggested the winch's name.

Driving controls were designed to a similar layout and to operate in the same sense as in the Wild Winch in order to simplify driver training, the only difference being an additional brake for the extra drum. The two brake levers with ratchets



operate the existing wheel drum brakes on the Bedford axle through simple linkages.

Road Chassis

Its auto-towing days over, the Red Ford was stripped of engine, steering gear and such coachwork as remained, and two railway sleepers were bolted down to the chassis at convenient positions to receive the winch chassis which in turn was bolted to the sleepers.

A towing bar was pivoted on the front axle with a short projection behind the pivot which was connected to the steering arm; thus when the towbar is moved through an angle the front wheels turn in the appropriate direction.

Trials

On completion of the winch chassis, engine and axle were bolted down and the whole thing mounted on the Ford.

The first attempts were now made to start the engine, which had been fettled under the guidance of Mike Farrand, our C.F.I. Repeated turning on the handle and the starter produced no results beyond an occasional backfire and many exhausted persons. Next, we tried the equivalent of a push start. Several turns of fire hose were wound on to the drum and several bodies attached to the loose end, and when they had achieved a spirited canter the clutch was let in. This stopped the drum revolving, the hose slipped off and the bungey crew were precipitated in a pile on the hangar floor. Next, the Club Jeep was harnessed, this time with a long rope added to the hose. The clutch went in, there was a horrible judder and the chassis mounted its chocks, charged across the floor and rammed the Wild Winch amidships. However, it was recaptured, and eventually the engine fired reluctantly, noisily and spasmodically (I think it was going backwards at the time). The pundit mechanics pounced on the timing, and after a few technical ploys such as sticking screwdrivers into plug-holes, ordered another try. She started without difficulty and ran with a very healthy note.

The following week-end the first field trial was carried out to establish whether sufficient r.p.m. could be obtained with the drum size and the gear and axle ratios available, to see how the cable paid on to the drum without a pay-on gear, and to test the rising roller assembly.

In a three to five knot wind, after a few trial slides the Tutor was launched to 700 ft. and later, after some experimental packing had been laid round the drum under the cable, the Sedbergh with two up was hoisted to 800 ft. on about 3,000 ft. of cable. These launches were in top gear and the engine seemed well able to cope.

The Winch in Use

At the time of writing, the completed winch has been in use for about six week-ends, which is sufficient to give a fair idea of its behaviour under normal operating conditions.

As mentioned above, it was found necessary to increase the effective circumference of the drums by packing before the cable was wound on, to give sufficient speed during the initial part of the launch.

Pilots are briefed to make quite a pronounced dive before releasing. Releasing under tension has been found to cause a loose loop of cable to wind on to the drum which then beats itself to death on the protective mesh behind the drum. I think that the tendency for this to happen is accentuated by the fact that the cable feeds on to the bottom of the drum.

We have had some fumbles during the pulling out of cables, due mainly to incorrect and/or unequal application of brake to the two drums. The frequency of this snag varies inversely with the number of Thunderbox-hours to the credit of the driver. Unenlightened tractor driving is also a contributory cause.

All flying so far has been done on stranded cable, but we hope to experiment with auto-cable in the near future.

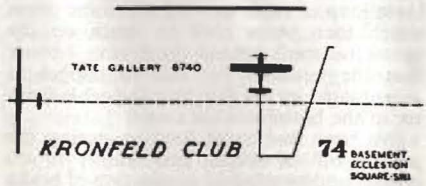
We have not yet carried out detailed

petrol consumption tests, but judging from approximate measures taken over a short period, it appears that we can expect seven to eight launches to the gallon. We have bought for £5 from a garage a paraffin conversion kit which we propose to fit in the future, which if successful should, of course, considerably reduce running costs.

We do not claim that the basic idea of driving two drums through a lorry back-axle is new—the same principle is used to our knowledge on the winch that has been in use for some time by the Northampton Gliding Club at Sywell, and we are grateful for the advice we have received from members of this club. They advised us that a change-over gear was desirable rather than relying on the unmodified differential, as they did originally, only to have it seize on them.

The fact that this winch has been built by a Royal Air Force club might suggest that the project was subsidised by the Service. This was not so. It was entirely a club effort which developed from the enthusiasm of our former C.F.I., Don Ross. The materials were bought, acquired or given from civilian sources and the work was done by members in their own time. We are all particularly indebted to John Teesdale and Tony Lamb who, in spite of the author's continuous maltreatment of their tools, by their tenacity and ingenuity and not least by the generous use of their acetylene and electric welding equipment, made a dream into a very real asset for the club.

The total cost to the club, including a new 12-volt battery but excluding cable and the Ford chassis, was under £45.



As these notes are being written the Photographic Competition is on. Considering that about 50 per cent of the gliding movement have cameras, the response to this was very disappointing, there being only sixteen entries, which made the task of Charles Brown, who very kindly came along to judge the photographs, extremely difficult. When judging, he mentioned particularly Philip Wills' two photographs taken in New Zealand and a photograph of a Tiger approaching to land by Neapen Bishop. One can only imagine that gliding members only take photographs of turning points.

It will be even more disappointing if support for the second painting competition and exhibition is as poor, but we hope the various keen artists and sketchers in the gliding clubs are at work. Entry forms and further information can be obtained from the Secretary at the Club. This event takes place during the first week in November.

One function which certainly will be well attended, as last year's was a great success, is the Dinner and Dance on the 6th November. Tickets are 50/- for a double and 30/- for a single, and the time is 6 to 7 at the Kronfeld and 7 for 7.30 at the Eccleston Hotel. Tickets are not unlimited, so anyone wishing to come should apply as soon as possible.

The Club held a most successful Cocktail Party in honour of Yvonne Bonham, the retiring Secretary of the British Gliding Association on the 17th July. Over 40 members were present and the Chairman of the B.G.A., Philip Wills, presented Yvonne with an inscribed tray from the Association Council Members.

The Wednesday fixture list is now complete up to the beginning of December and we will be holding our usual Christmas Party on Wednesday the 16th. Although this is Ember Day, members are requested not to bring fireworks.

HUGO TROTTER, *Hon. Sec.*

Diary of Lectures and Film Shows

Wednesdays at 8 p.m.

Sep.	30th	Debate
Oct.	7th	Charles Brown on Aviation Photography
	14th	ANNUAL GENERAL MEETING
	21st	Tony Goodhart on the Italian Nationals
	28th	Talk on Bleriot Air Race
Nov.	4th	Painting Exhibition
	11th	
	18th	Films: "Skyhook" and "Transonic Flight"
	25th	Peter Brooks on B.E.A. entry in Bleriot Air Race

Beersheba and Return

by Menachem Bar

Mr. Bar, who set up new national records with this out-and-return flight of 330 km. (205 miles) in Israel, has represented his country twice in World Championships, finishing 12th at Camphill in 1954 and 13th at St. Yan in 1956.

THIS was the second time we had tried an out-and-return goal flight from Ramat David (30 km. east of Haifa) to Beersheba and back; the first time we had managed 295 of the 330 kilometres.

The 5th and 6th July were quite good days for soaring over Israel, but I had not the time, so we decided to try on the 7th. All the evening of the 6th was spent preparing the Skylark 2; a turn-and-bank indicator was installed, a rocket revolver, maps, chocolate, water, barograph and camera.

Clouds started to form at 07.30 on the morning of 7th July. Take-off was at 07.55 and ten minutes later I released above Ramat David at 2,000 ft. The first full hour was spent in the vicinity of Ramat David without succeeding in going ahead, as the wind was 270°/14 knots at 2,000-3,000 ft. Thermals were weak and the first course was 210°. After an hour we found the first real thermal of the day and climbed from 1,200 ft. to cloud base at 3,500 ft. and immediately were on the way.

The first part of the way from the 7th kilometre from Ramat David to Ain-Shamar we had to cross 20 km. of hilly country whose height was 1,000 ft., and the cloud base was at 3,200 ft. The whole area was covered by cu., and thermals were 4-5 ft./sec.

From Ain-Shamar we changed course to 200°; cloud base was about 3,100 ft. We did 45 km. in the first hour on the way.

We were opposite to Toul Karem, about 2 km. from the Israel-Jordanian border, at 2,000 ft., and here we held for nearly 30 minutes. We remained in the vicinity of the border at a height of between 2,000 and 2,400 ft. without the possibility of carrying on, till we managed to reach cloud base again and to continue.

In the second hour we did 25 km. and were 10 km. North of Lod Airport. From this place the course changed to 190°; the wind was 260°/09 kt. We were very doubtful if there was any chance to finish the course, but I decided to carry on. The best height till now was 4,000 ft. (in small clouds) and the operating heights from 2,000 to 3,200 ft. All the area was covered with 6/8 small cu. and stratocu, but only the big one among those small cu. showed upcurrents.

In the third hour we did about 40 km. From here the course was changed to 180°. The wind was 270°/10 kt. From here to Beersheba there were no more than 3/8 clouds; the cloud base rose to 5,000 ft., the thermals up to 10 ft./sec.

We did 50 km. in the fourth hour and we were at 5,000 ft. At 13.10 we were over Beersheba at 4,000 ft. Although we were very doubtful about finishing the course I took two pictures of the centre of the small town, shot two green rockets and lost 500 ft.

Only a few small clouds were seen from Beersheba to the north and the wind shifted to 310°/15 kt. at 3,000 ft. We climbed to 4,700 ft. near Beersheba and

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started our way back. In the first hour on the way back we did about 40 km. Only a few clouds were in the sky; the thermals were weaker—4-5 ft./sec., and we operated from 4,500 to 3,200 ft., trying to stay as high as possible.

To the north of the first 50 km. from Beersheba the sky was 6/8 covered with cu. and stratocu; there were more thermals but they were weaker. We did 40 km. in the second hour. The cloud base was now 2,700 ft., the time 15.00 and we still had 85 km. to go. The wind was 290°/12 kt. and the course 010°.

We did only 25 km. in the third hour on the way back. The thermals were from 2-4 ft./sec. and we were very careful to stay near cloud base and when possible to enter cloud. Operating height was from 3,300 ft. (in cloud) to 2,200 ft.

In the fourth hour we did 35 km.; the time was 17.10 and we were near Ain-Shamer again. We still had 30 km. to go and that over the 1,000 ft. height region. The cloud base was 2,700 ft., course 030°, the wind 270°/06 kt., and only a few dead-looking cu. ahead. We managed to work a few weak thermals up to 7 km. of the 30 km. and were at 2,700 ft. when we had to start the final glide.

We crossed the highest part (about 1,000 ft.) at approximately 1,400 ft. and sometimes found more lift. All the time it seemed as if we would be short by 5-10 km., but we reached the landing place at 200 ft. We landed at 17.45 after 9 hours 50 minutes in the air and 8 hours 50 minutes on the way, and did 330 km. straight-line distance (the frontier and bad neighbourly relations make it impossible to do it in a straight line).

The flight was the longest distance flown in Israel (the previous distance was 295 km.) and the longest duration (the previous duration was 9 hours 10 minutes).

Gliding Certificates

DIAMONDS FOR ALTITUDE

No.	*Name*	*Club*	*Date*
310	A. D. Piggott	Lasham Gliding Centre	14.7.55
311	Anne Burns	Surrey Gliding Club	10.5.59

DIAMONDS FOR GOAL FLIGHT

No.	*Name*	*Club*	*Date*
228	K. C. Fitzroy	Moonrakers R.A.F. Gliding Club	6.5.59
229	A. D. Piggott	Lasham Gliding Centre	3.6.59
230	G. E. Burton	Imperial College Gliding Club	31.7.58
231	H. Hilditch	Surrey Gliding Club	19.7.59

GOLD C CERTIFICATES

No.	*Name*	*Club*	*Date*
46	K. C. Fitzroy	Moonrakers R.A.F. Gliding Club	6.5.59
47	G. E. Burton	Imperial College Gliding Club	29.9.59
48	W. Verling	No. 614 Gliding School	26.7.59
49	H. Hilditch	Surrey Gliding Club	19.7.59

SILVER C CERTIFICATES

No.	*Name*	*Gliding Club or School*	*Date of Completion*
792	B. M. Buckley	Surrey Gliding Club	3.6.59
793	C. A. Hely Hutchinson	Lasham Gliding Club	31.5.59
794	H. C. Mackinnon	Surrey Gliding Club	7.6.59
795	R. P. Potgieter	Chilterns R.A.F.G.S.A.	7.6.59
796	P. G. Burgess	Accra Gliding Club	28.5.59
797	A. J. Adair	Army Gliding Association	15.6.59
798	L. Kurylowicz	Chilterns R.A.F.G.S.A.	10.6.59
799	J. McKenzie	Cambridge University Gliding Club	19.6.59
800	P. Burford	London Gliding Club	14.6.59
801	R. D. Frodsham	Derbyshire & Lancshire Gliding Club	20.6.59
802	B. Carroll	East Midlands R.A.F.G.S.A.	17.6.59

No.	*Name*	*Gliding Club or School*	*Date of Completion*
803	D. V. Delap	Cambridge University Gliding Club	23.6.59
804	J. M. Morel	Surrey Gliding Club	19.6.59
805	K. R. Mansell	Midland Gliding Club	28.6.59
806	H. R. Radford	Empire Test Pilots' School	7.6.59
807	J. A. Findon	Coventry Gliding Club	7.6.59
808	A. J. Stone	Surrey Gliding Club	29.5.59
809	B. K. Sacre	London Gliding Club	7.6.59
810	J. Fletcher	Surrey Gliding Club	19.6.59
811	S. J. Minshall	Midland Gliding Club	7.7.59
812	A. S. Armstrong	H.Q. 2nd T.A.F. Gliding Club	5.7.59
813	C. A. Greenhill	Midland Gliding Club	7.7.59
814	R. C. Vaile	Imperial College Gliding Club	14.7.59
815	R. E. Dawson	H.Q. 2nd T.A.F. Gliding Club	18.7.59
816	D. Ashford	Imperial College Gliding Club	19.7.59
817	P. Langford	London Gliding Club	13.6.59
818	E. Legget	Wessex R.A.F. Gliding Club	7.6.59
819	L. Cheeseman	Surrey Gliding Club	14.7.59
820	A. L. Samuels	Bristol Gliding Club	19.7.59
821	T. A. M. Bradbury	Bristol Gliding Club	19.7.59
822	G. T. Rendel	Fenland R.A.F. Gliding Club	19.6.59
823	J. W. S. Matheson	Oxford Gliding Club	19.7.59
824	J. S. Johnstone	Cambridge University Gliding Club	22.7.59
825	R. F. Jessop	614 Gliding School A.T.C.	25.7.59
826	J. K. White	Yorkshire Gliding Club	19.7.59
827	C. R. Hurst	Oxford Gliding Club	19.7.59
828	A. Schmidt	Oxford Gliding Club	15.7.59
829	D. A. Benton	Midland Gliding Club	24.7.59
830	M. H. Bedford	Cambridge University Gliding Club	25.7.59
831	J. E. Toplis	College of Aeronautics Gliding Club	7.6.59
832	R. I. Clarke	Bristol Gliding Club	14.7.59
833	A. W. G. Saint	Bristol Gliding Club	14.7.59

C CERTIFICATES

Name	*Gliding Club or A.T.C. School*	*Name*	*Gliding Club or A.T.C. School*	*Name*	*Gliding Club or A.T.C. School*
E. T. Owens	Midland	J. A. Steele	Moonrakers	D. T. Jones	Northampton
R. A. Meakin	Coventry	S. Davison	Surrey	A. B. Fox	Oxford
F. G. Hatcher	Oxford	R. Griffiths	Cornish	D. W. Osborne	644 G.S.
M. L. Langley	East Anglian	W. Bayley	Midland	J. M. Carlo	644 G.S.
S. Walton	642 G.S.	J. D. Hamilton	Surrey	J. A. Dack	Moonrakers
D. L. Slobom	631 G.S.	J. C. Merfield	Surrey	D. L. Smith	612 G.S.
F. C. Green	Cambridge	L. G. Crabb	Midland	J. McCubbin	Fenland
B. Sykes	Northampton	D. J. Crabb	Midland	J. M. Deane	Windrushers
C. T. Proctor	Cornish	S. H. Dallas	Midland	J. M. Gill	Wessex
J. W. Wren	Oxford	R. T. Swancott	Midland	M. R. Woolgar	Phoenix
C. J. Wride	Midland	P. S. M. Davey	Windrushers	W. E. Goldstraw	Windrushers
W. A. Sole	614 G.S.	D. C. Sadler	Coventry	R. W. B. Newall	Windrushers
R. H. Essenhaigh	Derbyshire & Lancashire	H. D. Campbell	Wessex	F. R. Flouret	Newcastle G.C.
D. M. N. Saunders	H.Q. 2nd T.A.F.	J. S. Johnstone	Cambridge	M. W. Johnson	East Midlands
P. Grant	H.Q. 2nd T.A.F.	M. Bird	London	P. C. Price	H. C. Newton
S. W. Milne	Scottish	L. F. Leigh	Surrey	A. S. Macmillan	Midland
R. G. Ludgate	Coventry	D. I. Bailey	Cornish	O. E. G. Van de Pas	H.Q. 2nd T.A.F.
G. F. Gibson	Chilterns	B. D. Jackson	H. C. Detling	A. B. Newman	H.Q. 2nd T.A.F.
J. D. Clayton	642 G.S.	F. D. Smith	Coventry	F. Wilson	Cornish
N. C. Morland	Windrushers	J. K. Manning	645 G.S.	D. M. Bryce	H.Q. 2nd T.A.F.
J. G. Smith	Windrushers	G. Box	Cornish	H. H. Kavanagh	Cornish
K. V. O'Rourke	Fenland	J. V. Thorne	Windrushers	B. J. Borrits	Newcastle
K. R. Snape	Fenland	A. J. W. Whitaker	East Anglian	Q. J. B. Reid	Perak
K. I. Mackenzie	612 G.S.	R. S. Morrisroe	616 G.S.	M. J. Prosser	Bristol
J. Glanville	Lasham	R. J. Langston	Chilterns	L. Creed	Surrey
P. M. J. Faunch	London	J. R. Young	Red Dragon	M. Wood	Newcastle
A. R. B. Hyde	Cornish	R. L. S. Butler	Cranwell		
		D. M. Barbour	616 G.S.		
		M. A. Parker	East Anglian		

1959 National Gliding Championships

by Ann Welch

THIS year again the weather for the Nationals week lived up to hope and expectations. For how long this can be expected to continue is another matter, but it must be accepted that in the last three Nationals we have been unbelievably lucky.

The total field was 81 gliders, of which three scratched shortly before the start for various reasons ; 34 of these gliders were in League 1 and 41 gliders flew in League 2. The performance of League 2 gliders entered ranged from Skylark III to a T-21b school two-seater, whereas the Skylark II was the aircraft with the lowest performance in League 1.

Briefing for both Leagues took place at 9 a.m. each day, except following tasks in which straight distances of over 200 kilometres were flown, when a second briefing was held at 11 o'clock.

Starting Board

In order to prevent the trampling underfoot of the Starting Order Board which has occurred in previous years, the numbered starting discs were handed out each morning according to a ballotted order which advanced 8 and 10 places each day. The lists for every day of the Championships were posted at the beginning so that everyone knew when their turn would come. This system overcame the stampede, and I don't think created new problems. It certainly prevented the Starting Board Marshal's job being in the category of a dangerous occupation.

Different tasks were normally given to the two Leagues, particularly in races. This was done in order to try to give tasks to the two groups suitable to their skill, desires and the performance of their aircraft, as well as to avoid unnecessarily creating collision hazards. The League 1 tasks were as hard, and in some cases harder than World Championships tasks, and the hopes of Gold C's for League 2 were not forgotten, although the late start of convection each day did not provide any great opportunities. Much the same reasons exist for the desirability of setting different tasks in World Championships, although this is not done at the present time. There it is not the skill of the pilots which is different in the two classes, but the performance of the aircraft. If you set the same race for a class in which glider performance is unlimited and another in which it is reduced by virtue of cost and size restrictions, and you are setting tasks which are really up to World Championships standards, then one of the two classes will be flying the wrong tasks. It will be either too easy for most of the Open class contestants, or too hard for the Standard class. Collision risk and problems of the length of the take-off period in poor weather are also lessened when running the two groups on separate competitions.

Alternate Launching

On all contest days the two Leagues were given alternate launching throughout the take-off period. This worked very well, and with convection starting late every day, gave everyone all the possible opportunities to use the weather. On the last Saturday, when the weather was doubtful, I introduced a scheme calculated to get one League off quickly, with safeguards for the few who might re-land for a second go. The reason for this was that there was a possibility of the 2nd League not being able to get off in time and therefore having to be cancelled ; and, as much as anything, to explore for the future variants of our standard method of launch. Although this modification did not get used, because the whole take-off was cancelled on account of the weather, it was a mistake. It would have been better to have attempted to fly one League only.

The maximum number of contest launches done on any one day was 153, and there was no problem in running for long periods on take-off intervals of one minute.

The operation of the launch point itself was carried out in a most peaceful manner by John Archer, and was helped by the development, this year, of the Distant Marshal position, which fed the gliders

across from the peri-track in the right order. The flying during the championships was unique for the small amount of crashery compared to previous years. Apart from the greater appreciation of the problem of field landings, I think there is little doubt that it was helped enormously by the large number of fields available early in the year. Most pilots I talked to had landed in a couple of cornfields during the championships. In August this would have annoyed the farmer and damaged the glider, but at Whitsun it did neither.

Altogether 30,595 cross-country miles were flown, with an average contest flight distance of 63½ miles. There were 342 field landings (in addition to about 100 on airfields and other gliding sites), and only one glider was unable to fly the next day on account of damage.

Marking System

During recent championships we have used very similar marking systems, but this time the shortcomings of the speed task marking became obvious on the Mynd Race. The expected cumulus did not appear, and only two pilots arrived at the goal. Since the existing system heavily penalizes those who do not arrive, many pilots lost heavily, too heavily, on this day. I would like to suggest that in future a system might be adopted where the speed marks vary according to the numbers who reach the goal, but do not cover the whole range of marks. As follows :-

Speed marks are given to those who reach the goal ranging from 60% (or possibly 70%) of the total marks when 60% or more competitors arrive, to 20% when 20% or fewer get there. The reason for not giving 100% speed marks if all arrive, reducing to practically nothing if only one competitor reaches the goal, is to avoid too heavily penalising the one person who fails to get there by, say, one field (as happened in the 1957 Nationals race to Nympsfield), or giving virtually no bonus at all to the one or two who succeeded in reaching the goal in a difficult race (the Mynd 1959). The precise top and bottom limits would need to be set after re-marking a number of existing races in order to achieve a satisfactory balance, but it would appear to be in the range mentioned (60% or 70% down to 20%).

No account of Gliding Championships would be complete without reference to the Met. In this country we are quite unbelievably lucky in having met. men like "Wally" Wallington and John Findlater who can accurately forecast the *number* of cumulus on the route to the west, backed up by the Met. Office and first-class facilities, even though the "portable" met. room had to be moved by crane. We are lucky, too, in the tug pilots, who do a grinding job efficiently, and anonymously. I would like them to know that they really are appreciated.

Future Champs

And for the future : I think that the present general pattern of the Nationals suits the sort of gliding that we do in this country, but that there are great possibilities in the development of National Gliding Week Regional contests, certainly in World Championship years. I am sure it would be a pity to try to run divided full Nationals, for apart from losing the atmosphere, the organisation of two separate contests of 40-plus gliders would require nearly double the people to operate them. It is possible to run, in National Gliding Week, specialised contests, some of which might have the status of Championships.

It is hoped next year to try to have two National Gliding Weeks, one ending with Whit Monday, and the other with August Bank Holiday. This would allow the organisers of one event to be able to fly somewhere else in the other week.

If four or five clubs would come in, it would be possible to hold a Standard Class Championship, perhaps two Open Weeks at interesting sites where only a smaller number of gliders could be taken, an inter-club contest with, say, one entry from each club (on a club glider), and possibly a junior training competition for pilots who had never entered competitions or who had not quite completed their Silver C. Such an event would include talks, etc., on field landings and soaring techniques, etc., and might be of interest to people who in their own clubs are, for one reason or another, rather cut off from soaring outlook and practice.

Finally, the writer would like to thank all those very many people who gave up their time, and put in so much work to help with the Championships.

A CHANNEL CROSSING

by Squadron Leader J. Croshaw

On Friday, 5th June, 1959, I had my regular discussion on the weather prospects for the week-end, by phone, with the met. forecaster at Northolt. Not much good on Saturday, but Sunday might bring interesting weather conditions.

Andover on Saturday was not a happy spot for the gliding fraternity—very strong blustery winds and soon rain. After a few flights in the T-21 to give newcomers experience of such conditions, we retired early to the hangar and the bar.

At 09.00 on Sunday morning the sky looked more promising. Cumulus was already forming and the wind had veered and decreased a little in strength. Northolt's met. forecaster, though as non-committal as only met. men can be, gave roughly the following picture:—

A cold front had passed through during the previous evening and night; it was now lying over the southern North Sea and stretching down into Northern Europe, and was becoming increasingly inactive as one moved south along it. The front was moving eastwards at about 25 knots. Behind the front the thermal activity was strong up to 7-8,000 ft., but the thermals were likely to be difficult to work in the lower levels because of the strong gusty winds. These thermal conditions would be about the same in South England, in the Channel area and, as the day went on, in Northern Europe and on into central Germany. The winds at about 2,000 ft. would be:—South England, about 290°/15 to 20 kt., Channel area 270°/15 to 25 kt., becoming more north-westerly and decreasing in strength as one penetrated towards central Germany. The cloud base would be about 3,500 ft. at first, but would increase steadily during the day.

I discussed the prospects with the Wessex C.F.I., Bebe Sharman, and decided on the following plan. Take-off about 10.00 hrs., aero-tow to Upavon (about 20 kms. upwind from Andover), release there, and, if conditions were good on the way to Andover, press on as quickly as possible to Hawkinge, near Folkestone, a distance of just over 200 kms. If the weather conditions were as forecast and I could get to Hawkinge in about 4 hours, and provided I could achieve sufficient height between Folkestone and Dover, I would cross the Channel and attempt to fly 500 kms.

I released over Upavon at about 2,500 ft. a.s.l. at approximately 10.30 hrs. The met. man was right: the lift was strong but low down, the winds tended to break up the thermals. By this time it looked as though the cloud might over-develop ahead of me, and I wondered about carrying on beyond Andover. However, I decided to carry on as far as Lasham—a good decision, for from then on conditions improved, and I made good time to Reigate, reaching there at 12.25 hrs. The cloud base, which had been 3,400 ft. over Upavon, was now 4,200 ft. and apparently rising.

Now over-confidence crept in and nearly brought me down. I was about six miles north of track, in the area to the south of and between West Malling and Maidstone, when I misjudged the distance to the next cu. I got to the point of selecting my field and was already flying the pattern for a landing when the gods answered my pleading and I flew into a good 2 to 3 metre-per-sec. thermal; this restored my height to 4,500 ft. and renewed my hope of getting at least as far as Hawkinge.

Apart from a little anxiety in the Ashford area, when I was again below 2,000 ft., I reached Hawkinge without much effort. I passed over Hawkinge at about 14.20 hrs. at about 4,000 ft. and steadily climbing under cloud, which was moving out to sea. At the coast at about 5,000 ft., I flew upwind towards useful-looking cloud near Folkestone. I picked up good lift, 2.5 metres per sec., and, judging myself to be just out of the airways, entered cloud at about 5,800 ft. I climbed steadily to 7,800 ft. when the conditions became turbulent and the lift erratic; I left the cloud at 8,200 ft. on a heading of 150°. The time about 14.30 hrs.

Ahead lay Cap Gris Nez, behind me on the left I could just see the breakwater of Dover Harbour, while Folkestone was on my starboard quarter. I set a speed of 50 kts. and tried to check height lost against distance covered. When just over half-way to Cap Gris Nez, it was obvious that I could make land easily, but with the strong westerly wind blowing, I could see that I would have to get inland as far as a line

roughly between Dunkirk and St. Omer before I could be certain of getting lift. I could see good cumulus over Dunkirk.

I changed course to run down wind and reduced speed to minimum sink. This brought me over the coast about half-way between Cap Gris Nez and Calais at a height of about 3,600 ft. The wind was blowing almost parallel to the coast at about 25 kts. I passed over Calais at about 2,200 ft., but failed to find any steady lift; there was a very turbulent thermal, which a more skilful person would most likely have made something of, but I was not able to work it. As I progressed eastwards, I flew nearer to more promising conditions and my hopes rose. But just south of Gravelines it became obvious that I could not reach the lift area except at a dangerously low altitude. I therefore decided to land, and, by using the turbulence from the sand dunes, was able to do so on the beach to the east of Gravelines. I considered it much safer to land on the beach than to land in one of the small fields in the area.

After a few minutes the local policeman arrived and we found one man who understood a little English. With their assistance I managed to get the spectators to keep at a distance of 2 metres. Then I made my first statement. Who I was; where I came from; I was an R.A.F. Officer, and the glider, with its roundels, was an R.A.F. Club machine. My F.1250 established my identity as a R.A.F. "Capitaine" and all was well. The policeman guarded the machine while I went to a telephone with the master of a local school for children who had been removed from their "irresponsible" parents. I rang Andover, reported my landing time, place and telephone number, and asked how I was to be retrieved—long silence, then a promise to ring back.

I returned to the glider to find that the military police had arrived—another statement. Then a discussion, conducted in English/French/German on the state of the tide and what to do with the machine. We decided to dismantle it and put it in the school, "Enfance à la Mer", where it would be safe from tide, wind and souvenir hunters.

With many French gestures and much English anxiety, we dismantled the Skylark and carried it, piecemeal, to the school. There it was safely stored in a large barn-like building and the entrance was barred.

Now my host to be, M. Bruneval, took me by the arm and conducted me to the room in which I was to sleep—"Yours for as long as you like" he said, through his pretty fourteen-year-old daughter, who acted as interpreter from then on. He then gave me soap and towels and almost thrust me under a shower—how very welcome that was.

At midday on Monday, 8th, I again 'phoned Andover to be told that there was some difficulty about retrieving me, so I decided to get myself and the Skylark back to England by my own methods.

I contacted a Mr. Brown, the Air Charter representative at Calais/Marck airport, and told him of my problem. He said that he could arrange the movement from there to Southend, if I could get to Calais/Marck. I then rang Mr. Gregson, the A.A. shipping agent in Calais, who arranged for a suitable truck, complete with the necessary packing, to take me and the Skylark from Gravelines to Calais/Marck.

The truck arrived at Gravelines at about a quarter past three. The Skylark was carefully loaded and, with me in the back of the truck to watch over it, we were on our way to the airfield by half-past four. I was almost sorry to leave the very kind people who had treated me so well, and would not accept anything but a handshake by way of thanks.

We arrived at the airport just after five o'clock, having been delayed by the traffic police who complained that the back of the truck did not carry the statutory trailer markings. In the rain, and under my supervision, the Skylark was transferred to a Bristol freighter, and secured for the air journey.

Formalities at the Airport were few; my F.1250 sufficed. Air Charter Ltd. agreed that all expenses incurred could be paid through them at a later date. The A.A. representative had already agreed to pay the telephone bill and to collect from me through the London office.

At 18.50 hrs. I was at Southend, the formalities were quickly over and by 20.30 hrs. the Skylark was safely stowed in a hangar, and I was on my way to my home at Ewell, Surrey.

Happily the Skylark suffered nothing more than a covering of dust. I was in my office on time on Tuesday morning, a little tired, but feeling that my experience of Sunday and Monday had definitely been worth while.

OBITUARY



WOLF HIRTH

WOLF Hirth, whose death on 24th July we regret to report, was one of the greatest pioneers of soaring flight. It would be difficult to establish that anyone has done more than he for the progress of the art, and certainly no one has served its interests in so many different ways or for such a long period; of his 59 years, all but the first 20 were devoted to it.

Many of the major advances in soaring were made in pre-war years at the series of annual meetings on the Wasserkuppe mountain, near Fulda, and at the first of these, in 1920, Hirth was already there with a home-made biplane glider. In 1922 he built a Harth-Messerschmitt from plans, but it was a dangerous though famous type and he damaged himself in two crashes. But a worse accident befell him in 1925 when he lost a leg after crashing a motor-cycle which he was testing for a firm.

Instead of giving up gliding after this, Hirth added aeroplane flying to his accomplishments, and flew a Klemm to the Isle of Man T.T. races in 1929.

To return to gliding: Hirth got his A in 1922, B in 1923 and C, with a flight of 2½ hrs., in 1924. In 1928 he went with a party of Germans to the French gliding contest at Vauville and won the principal prize. Later that year I saw him for the first time, flying at the Wasserkuppe contest, where he made the second longest cross-country, 25 miles (the longest, 45 miles by Nehring, beat the world's record).

In 1930 came a famous trip to America. He set out in his Klemm and got as far as Iceland, but the Danish authorities would not let him proceed to Greenland without depositing a vast sum which he could not afford, so he had to put the machine on a ship. Arrived in New York, he made a spectacular soaring flight along Riverside Drive, using slope lift over the steep bank of the Hudson, till the police signalled him down because traffic had come to a standstill.

Then in September he went to Elmira for the first American national contest, and on 4th October made a historic flight of 33 miles—historic because it was the first in which "dry" thermals were deliberately used, and the first in which the tight circling technique was employed. This event ushered in a short period in the early 'thirties when three outstanding pilots were well ahead of the rest of the world in cross-country technique—in fact, hardly anyone else was ever seen to circle at all; by a trick of fate, all three eventually lost their lives in gliding accidents: Günther Groenhoff in 1932 when he jumped out too low after his Fafnir had damaged its tail on launching, Robert Kronfeld in 1948 when testing the motorless prototype of a large tail-less aeroplane, and now Wolf Hirth in 1959.

Another technique pioneered by Hirth was auto-towing—at least, for training pupils, for launches by car-tow had been done before. This was at his own gliding school at Grunau in Silesia, and he gave the world full details of his procedure, which will be found in THE SAILPLANE & GLIDER for 8th and 15th January, 1932. And yet another technique, that of soaring in lee waves, was pioneered by him in a notable flight from Grunau on 3rd March, 1933 (see THE SAILPLANE & GLIDER for 23rd June), when, after the roughest aero-tow of his life, he contacted wave lift under a lenticular cloud known locally as the "Moazagotl."

Grunau was, of course, the home of the famous Grunau Baby, which Hirth had a hand in, though its chief designer was Edmund Schneider (who now builds sailplanes in Australia). Among other types made there was Hirth's own Moazagotl of 66 ft. span, produced in 1933.

—300—

The Silver C certificate, instituted in 1931 and later made international, was first allotted without any numbers, and in the earliest published lists Kronfeld was placed first and Hirth second; with the advent of Hitler, however, the order was reversed and Hirth became officially No. 1. By the beginning of 1933 there were still only 8 Silver C pilots in the world, and Hirth took steps to increase their number. In fact, just after Christmas, 1932, he visited Dunstable and gave the London Club a series of lectures on how to use thermals; this bore fruit six months later.

In 1933 he left Grunau and started up a school at the Hornberg, near his native Stuttgart, specially for training pupils to Silver C standard—the first school in the world to teach advanced soaring; and in the same year he published a book, "Die Hohe Schule des Segelfluges", which was translated into several languages—the English edition, called "The Art of Soaring Flight", came out in 1938. By that time he had produced a much larger book, "Handbuch des Segelfliegens", and it has been further enlarged since the war.

To serve his Hornberg school, Hirth started a factory at Göppingen, near by; its best-known products were the Wolf single-seater, the Goevier two-seater, and the Minimoa, a slightly reduced version of the Moazagotl, which was responsible for several national records in other countries, including Britain, where Philip Wills owned one.

Early in 1934 Hirth joined a soaring expedition to South America; then, on 26th July that year, flying from the Wasserkuppe, he put up a world's distance record of 219 miles, only to lose it to Heini Dittmar next day. Among other countries visited by Hirth, not yet mentioned, were South Africa and Japan.

Hirth's long accident-free period after 1925 was brought to an abrupt halt in 1936 when he was looping a locally built Grunau at Budapest and the controls failed at the top of the loop. His injuries were so severe as to keep him in hospital seven months, and he never flew in contests again, though he continued to drive cars and fly both light aeroplanes and gliders.

His many foreign travels and his common sense gave Hirth a commendable international outlook, and it was with much pleasure that I received a postcard from Switzerland in October, 1939, saying that he hoped the war would be over soon because "it's bad for soaring"; and again, in October 1940, a letter from Belgrade signed K. Wolf—but the handwriting was unmistakable, and the news it contained, about what some leading German glider pilots were doing, was published in THE SAILPLANE & GLIDER for December, 1940. Thurstan James, founder of THE SAILPLANE and now editor of *The Aeroplane & Astronautics*, tells me that he, too, during the war, used to receive mysterious postcards signed "W.H."

The Göppingen factory was burned down during the war, it is believed by sabotage, and a new one was built some miles away at Teck. When the advancing Americans arrived there in 1945, their officers were made to sign the visitors' book. I stayed there, and at Hirth's home in Stuttgart, in 1951, and was able to confirm from his library that the magazine *Der Segelflieger*, though it claimed a longer ancestry than THE SAILPLANE & GLIDER, started life as *Der Jungflieger*, and only changed its name in February, 1931; since THE SAILPLANE started in September, 1930, it can rightfully claim, therefore, to be "the world's first journal solely devoted to motorless flight."

At this time Hirth had been elected president of the Aero Club of Germany, and later, when the executive duties were taken on by someone else, he remained "honorary president." For the past seven years he had been a devoted member of the board of OSTIV. And he was awarded this year's Lilenthal Medal by the F.A.I.

On the day of the accident he had already had one short flight at Teck when he went up for another in a Lo 150; after some ten minutes the machine appeared out of control and crashed; and as Wolf Hirth's heart had been giving him trouble some days before, it is assumed he had a heart attack while flying. He leaves a wife and three children. A.E.S.

C. GRAHAME-WHITE

CLAUDE Grahame-White, the pioneer aviator, who died on 19th August, had a brief connection with gliding when he accepted the position of treasurer of the British Gliding Association in 1933. He explained to the Council that he was prepared to do anything so long as he was not asked to fly, as his wife forbade it. However, he was unable to spare time for the work and soon gave it up. A.E.S.

Correspondence

THE STANDARD CLASS

Dear Sir,

In the June issue of SAILPLANE AND GLIDING, Boet Dommisse made a case against the idea of the Standard Class World Championships, but I would like to suggest that the whole of his article is based on a completely wrong premiss: that the object of the Standard Class is that all pilots should fly the same machine and thereby the winner will represent the best pilot. This is not so; the object of the Standard Class is as laid down in the F.A.I. regulations as follows:

> "To encourage the design and construction of gliders cheap to build, safe, cheap and simple to operate and to repair, and thus to encourage the expansion of gliding throughout the world."

The specification is intentionally laid out on rather broad lines to allow designers as much elasticity as possible in their approach to this problem. Mr. Dommisse and others have suggested that in fact we should shortly see a lot of "exotic" Standard Class designs, but I do not think that there is the least possibility of this happening, because it will cut across the whole intention of the Class and such a design would have no chance whatever of winning the O.S.T.I.V. prize. The other fallacy in his argument is that the Standard Class is likely to frustrate or slow down the development of Open Class aircraft. I think there is no sign of this happening.

What we are trying to do in the F.A.I. is to use the Championships as a means of channelling the attention of the world's designers into ways we think from time to time most beneficial to the development of gliding. Clearly one of these is to encourage more and more technical advance in the Open Class, directed solely to ever-increasing performance and efficiency, but I assume one of the early results of the Standard Class is the Fauvette, and many people will feel that the technical horizons opened by this new design are more exciting than anything ahead of further developments to aircraft such as the HKS.

At one time after the war we came to the conclusion that the world needed some cheap and sensible two-seaters, and so we instituted the Two-seater Championships. Within quite a few years we saw the Slingsby Eagle win this class, and numbers of both exotic and sensible two-seaters have come into existence. The problem was solved, and I think everybody benefited thereby. The F.A.I. therefore switched its attention to the next important problem, which was felt to be for a much larger number of cheap, sensible and safe gliders to be made available for the expansion of the Movement throughout the world; hence the Standard Class.

It may be that one of these days the F.A.I. will feel that the Standard Class has fulfilled its function, or more probably they may amend the specification in the light of developments to come. But I think already most people see exactly what we are after and agree very much with our views, and that the result is going to be of the greatest possible benefit to gliding all over the world.

PHILIP WILLS

GLIDING CLUB STATISTICS

Dear Sir,

May I with great respect take issue with Air Commodore Paul concerning his letter on gliding club statistics in your June issue.

The use of statistics to prove the efficiency of a club may be misleading, and to take the cross-country mileage per member as the main measure of that efficiency, even more misleading. The number of club members who are able to go cross-country on club aircraft (as opposed to privately owned aircraft) must surely be a small percentage of the average club membership, and their performance hardly seems a reasonable yardstick by which to judge the enterprise and efficiency of the club as a whole.

It might be argued that the number of launches per flying day is a more realistic guide. This does at least show to some extent how successful a club has been in giving its members the maximum opportunity to fly.

On this basis, omitting the Centres and Associations which can hardly be considered

in the same light as individual clubs, the Cornish Club, which was at the bottom of the list under Air Commodore Paul's rating, now comes top. And the club to which I happily belong, and which wasn't previously rated, exceeds the performance of the remainder as follows:

Annual Number of Launches per Flying Member

Southdown	40.3	Scottish G.U.	35.4	Derby & Lancs.	22.5
Bristol	36.9	London	27.1	Cambridge	17.5
		Midland	22.8		

Which only serves to show that statistics can be used to prove anything and should be used with caution.

RAY MARSHALL,
Kenley, Surrey.

TURNING POINTS IN DISTANCE FLIGHTS

Dear Sir,

The object of the original introduction into the International Rules of a dispensation that a distance flight might be made in a broken line was, I understand, to put pilots like us who live on islands on an equal footing with those who live on and fly across continents. In my view this equation should be maintained as closely as possible.

Distance flown in a straight line down wind must always be easier than in a broken line. Apart from the wind there are the increased navigational problems and the difficulties associated with establishing the turning points, particularly photography.

It appears that until recently the English translation of the F.A.I. Rules did not insist on the declaration of the turning point, although the original text demanded it. This declaration is unfair and unnecessary. If positive proof is available that a distance has been flown round one or more turning points this should be adequate to satisfy the distance requirement. Whether an undeclared turning point should be permitted in a goal flight is a separate consideration. The above arguments apply to it with equal force. If the object of the Rule is to compare these flights with straight flights then without a doubt a "free" turning point should be permitted here as well.

I should like to suggest that the British Gliding Association put forward this view at the next meeting of the C.V.S.M. Meteorological conditions make 300 and 500 kilometre flights in this country more difficult than elsewhere. It is quite wrong that a rule of this kind should be allowed to increase the disparity.

The Wildfowl Trust, Slimbridge, Glos. PETER SCOTT.

THIS GLIDING

"WHEN Albert Tarnow was asked how he liked going solo, he said: 'It was lovely, *so* peaceful and quiet.' "—*London Gliding Club Gazette.*

Definition of Crash

"A glider was undamaged when it crashed in the corner of a field at Court Farm, Brabourne, on Sunday evening."—*Kent Messenger.*

Wedding Glide

"A newly wed Italian couple exchanged rings today in a glider 500 ft. up, completing a wedding ceremony that started on the ground."—*Press report from Parma.*

Current Trouble

"He left the headquarters of the Derbyshire and Lancashire Gliding Club at Camphill, Derbyshire, at 1 p.m., but at 5.45 p.m., some 2,000 feet above Wharfdale, he found a lot of currents and landed in a field close to the main road at Ben Rhydding."—*Yorkshire Post.*

Glider Stops Play

"The wayward glider zoomed towards the pitch, and sent umpires, batsmen and fielders scattering in all directions. . . . The first ball after the delay claimed a Stalbridge player who had then scored 19 runs. 'Lost my concentration,' he said."—*Daily Express.*

Despise not the Humble Air-pocket

"He set out from Stratford to travel to Usworth airfield, near Sunderland, and when his glider left an air-pocket and began to lose height he ditched it in the field."—*Northern Echo, Darlington.*

CLUB AND ASSOCIATION NEWS



THIS month I very much regret to report that two of our regular Press Secretaries have met with fatal accidents.

Their loss to gliding is sad but they will not be forgotten by club members who knew them or by those who only read what they had to say about their club activities.

By their enthusiasm for gliding and desire to let others know they did much for the success of SAILPLANE AND GLIDING.

The Norfolk club this month send in their first club news since flying started at Tibenham and I look forward to receiving news in the future as the club develops.

The continued success of SAILPLANE AND GLIDING is making the work of supplying back copies more and more difficult. Each issue is carefully viewed and the possibilities of sale valued by the Magazine Committee before printing. It would be easy enough to ask for larger printing orders but expense won't allow this. We have to work to a close budget. But some clubs have no doubt got some unsold copies which we would like to have back. Clubs will be credited the numbers of copies returned if in good condition. The following are sold out and the B.G.A. would be grateful of any of these issues: February and June 1958, February, April and June 1959.

To club Press Secretaries a reminder that club news should reach me by Wednesday, October 14th typed and double spaced on foolscap sent to S.E. Ambulance Station, New Cross Road, London, S.E.14.

COLIN MOORE, *Club and Association News Editor.*

ACCRA

THE rains and the home leave period have curtailed gliding activities here for the past few months but with the advent of the September-November soaring weather, the launching rate is beginning to go up again.

The Club's new Prefect arrived safely in February and all solo pilots were soon transferred to it. So far Messrs. Bunce, Landay, Lorenz, Siddle and Thomas have made their C flights. £600 towards the cost of this machine was lent by Club members and the first instalment of repayments has now been made from Club income.

Karl Tiede, our German ground engineer, has returned from leave with a K6—which has not yet had the weather here to prove itself. Even so, Karl managed to keep it up for half an hour the other day in the most

unlikely looking conditions. The fond care lavished on this machine by Karl and his wife, Ilse, has staggered us all, particularly the sight of its being put away in its tailor made "pyjamas" at the end of each week-end.

We have to end on a sad note in recording the death of Ron Smee in a gliding accident on 14th March last. Ron Smee, a competent pilot and club instructor, was one of those who helped to start our club three years ago and is sadly missed by all members who knew him. P.G.B.

BLACKPOOL AND FYLDE

THREE more B's have been recorded since our last report, by Bill Kendrick, Mike Carey and David Pollitt, and with four other first solos, it would seem that Jack Aked is rapidly working himself out of a job on the T-21B. However, there are several new members in the offing, so we shall still hear Jack advising people to treat the stick "as if it were a delicate piece of cut glass" (particularly so, as one new member is an ex-Shackleton pilot).

Most of the Eon pilots have had a flight at Scorton on the Fells, and the T-21B has also been flown there with great success. This latter excursion gave us a chance to give some of our friends at Scorton a flight over their village, and the occasion was graced by the presence of a representative of the Press, who reported the proceedings, with photographs, in the local paper. The portable winch, now fitted with automatic pay-on, has now been finished with solid cable in place of the heavy stranded material formerly used. This works satisfactorily and should give us an extra few hundred feet on the launch. K.R.P.

BRISTOL

SINCE the last report the lines on our cross-country map have become a little more congested, especially those stretching into Norfolk. Sunday, 19th July, looked a day of days and five pilots declared Yarmouth for Diamond distance.

However, it was not quite so good as it looked and when the landing reports came in it was found that only Scott, in his new Olympia 419 had reached his goal. The other four, Morgan and Aldridge in Skylarks, Gaze in his Eagle and Jones, Olympia, had all been forced down by the sea breeze between Norwich and the coast. On the same day, Barnett flew the Prefect to Hungerford and Samuels completed his Silver C by doing five hours in the club Skylark and landing at Lasham.

On the previous Tuesday, 14th July, two more Silver C's were completed; Saint flew the syndicate Olympia to Lasham doing five hours on the way also, and Clarke flew the rhubarb and custard Skylark to Middle Wallop. Collier did an out and return to Lasham in the club Skylark and Gaze flew Nympsfield -Lasham -Nympsfield -Lasham in the Eagle for Diamond distance, subject to confirmation. On 30th July Tim Bradbury went to Upavon in the Club Oly for his height and distance, whilst brother Tom completed his Silver C with a distance flight in a R.A.F. Grunau.

Once having been shown the way, people are becoming more ambitious in their cross-countries and the cross-country miles this year have reached a new high level. This also accounts for the bleary eyes on Monday mornings as people stagger to work after a 400 mile retrieve. It is likely that more triangles will be attempted in future to save retrieving time and cost, and Peter Scott is already showing how it's done by going round his own pet triangles in the 419.

Heights have not been so plentiful this year, the best being 13,500 ft. by an R.A.F. pilot on 29th July, whilst Derek Stowe went to 12,500 ft. on the same day in the Skylark whilst looking for Diamond height.

A recent visitor was Stephen Mackie from Belfast who brought a Jaskolka, promptly christened "The Gas Cooker", to sample the Nympsfield thermals, which he did with varying success and several degrees of flap.

Having had the B.B.C. at Nympsfield again the members have all gone square eyed from watching the idiots lantern which was specially installed for the occasion. The "fakes" looked quite realistic to everyone's surprise, which goes to show that you can't believe everything you see. A.L.S.

BULAWAYO

AFTER a number of major setbacks at the old field at Denver, the club moved last year to a new site at the foot of the Matopos Hills. Appropriately we have named it Rhodesfield as it is part of Rhodes Estate.

Most of 1958 was spent in building a hangar, marking runways and generally

re-organising. Flying recommenced in October using our T-31 and our new two-seater Bergfalke. We have concentrated on training and the pilots who have gone solo in the Bergfalke have been able to soar on their first flights. It is possible to soar in thermals all the year round here and the best months are August and September. All our pilots are straining at the leash to go on cross-countries in the next few weeks when we hope to have a few notable flights to record. We have a completely rebuilt Grunau almost ready for flying and also we are awaiting a Wolf from Cape Town. With the exception of the T-31, our machines will all be syndicate owned.

On the 13th July 1959, we air-towed the Bergfalke 100 miles to a Gliding Display at Thornhill R.R.A.F. Station, Gwelo, arriving at 8.00 a.m. This was to support the newly formed Midlands Gliding Club. Salisbury Gliding Club was also present in force with six machines and as conditions were perfect with thermals popping up all day, everybody was happy. The crowd of some 2,000 saw aerobatics, inverted flying by the Swallow, parachute jumping and numerous passenger flights. We hope to organise something similar in the near future. This last Sunday, 2nd August, we had a good soaring day when the Bergfalke did 3 consecutive flights of over an hour, climbing to 6,500 feet each time, G. Levinkind obtaining his first Silver C leg with a gain of height of 4,500 feet. The T-31 also soared well, in fact she appears to climb far quicker than the Bergfalke but between thermals there is of course no comparison.

Well everything looks promising for the club and we hope to have more interesting news next time.

G.H.

CAMBRIDGE

THIS has been the best summer in the Club's history so that our logbooks will show a record number of launches and flying hours at the end of the year.

The most important event in June was the Camp at the Long Mynd which logged a total of 163 flying hours, although there were only 8 flying days. On one day alone, the six Club-operated aircraft flew 58 hrs. which was more than the flying done during the 5 months from October last year to February. In addition to J. Alderton's and B. J. Edwards's 5-hour flights there were a number of remarkable cross-country flights: John Pringle flew a 67-mile triangle in the Skylark, John MacKenzie completed his Silver C with a leisurely trip to Stratford lasting 5½ hrs. in the Olympia, and Dan Delap got his height and distance legs with a brilliant goal flight of 60 miles in the Tutor, thereby gaining his Silver badge, too.

The most soarable day of July was the 19th when G. S. Neumann took the Olympia to Oxford and back, a total of 126 miles, arriving back at Cambridge two hours before thermal activity died down. During the following week Stewart Johnstone and Mike Bedford completed their 5-hour flights in thermals over Cambridgeshire and thereby gained the Club's 4th and 5th Silver C this year. At the same time Dan Delap started his "post-graduate work", still loyal to the Tutor, by taking this elementary craft on a 32-mile out-and-return flight.

At the beginning of August a party of enterprising members, headed by Andrew Stephenson, took the Olympia for a week's camp to Sutton Bank. They had about 15 hrs. flying and were much impressed by the Yorkshire Club's hospitality.

During July and August the Club held a number of courses in which a large number of pilots went solo, often after no previous gliding experience at all. The credit for the success of the courses goes mainly to Ted Warner and Ken King who instructed, to Bryce Smith who organised, and to a number of indefatigable winch drivers.

G.S.N.

CROWN AGENTS

SIR Stephen Luke, who succeeded Sir George Seel as Senior Crown Agent in the spring, has kindly consented to become a Patron of our Club.

Both Knights Companion, with their Ladies, attended the opening of the National Gliding Championships at Lasham, League II of which was won by Mrs. Rika Harwood and partners. Another entry in League II was the Club's Slingsby T-45 "Swallow", which finished 27th out of the 41 competitors.

The 1959 season produced a record number of our overseas members visiting Lasham; the list includes Paul Thompson, Mike Wilson, Pete Visagie and S. F. Bailey from Kenya; Richard Dodsworth from Northern Rhodesia; John Marshall from South Georgia; Barry Smith from Uganda.

J.E.G.H.

DUBLIN

It is over a year since we figured in these Notes but this does not mean that the Club has become inactive. As a matter of fact, quite a few A, B and C Certificates have been gained during the past twelve months culminating in past-President John Byrne gaining the first Irish Silver C and Gold height to boot.

John was launched in the Petrel in the early afternoon of Sunday, June 21st, and from a rather poor auto-tow contacted the local wave from the Dublin Mountains. This wave operates when the wind is between roughly South-East through South to South-West, but, previously, had not been thoroughly explored although C.F.I. Freddi Heinzl flew in it for some three-and-a-half hours one winter afternoon.

On this occasion, John literally struck gold and climbed steadily in smooth conditions to 6,000 feet. From there on the rate of climb decreased but remained steady with some turbulence until it petered out at about 12,000 feet. As John already had his Silver gain of height and duration legs, the treble was in the bag and he turned down wind to complete the necessary 50 kilometres. After flying some three or four miles, he encountered another wave in the system and soared to over 13,000 feet, which he felt was getting high enough without oxygen. Turning down-wind once more and only reducing speed when he encountered patches of lift or no-sink, John covered 60 miles to Ballybay in Co. Monaghan.

He says that it was only when he got below 3,000 feet that he had any worries as he found the terrain in that part of the country to be definitely unsuitable for landing. He eventually made an into wind, up-hill landing with the aid of a violent sideslip and full spoilers and managed to jump out of the cockpit in time to halt his machine which had started to roll down the slope backwards! We now await official ratification of his flight.

Jim Bellew surely qualifies for a consolation prize because, as the holder of both Silver distance and gain of height, only the duration flight has robbed him of beating John or tying with him for the honour of the first Irish Silver C. Jim has made several flights of over three hours in his quest for the magic five-hour qualification, two of them in May of this year and he also made a valiant attempt in the Kite II on the day John Byrne made his successful effort.

We held a Gliding Rally at Baldonnel over the Whit week-end and, although from a soaring point of view, conditions were very poor, we had lots of fun and achieved over 150 launches which was not too bad considering only one tow-car was in use. We were pleased to welcome "Sven" Mackie and his new Jaskolka and we are sorry he didn't have an opportunity to show his machine's ability to soar.

The Petrel is fitted with a multi-panel canopy which sadly impairs the pilot's vision apart from the drag it creates. We have seen a photo of an English Petrel fitted with a magnificent bubble canopy but, despite numerous enquiries, we have not been able to trace the makers. Does any reader know where such a canopy can be procured or is the mould still in existence? Any information will be gratefully received and should be sent to J. Sym, c/o Bank of Ireland, College Green, Dublin. J.A.S.



"Bill" Liddell, Ulster Club, completes his 450th hour of solo soaring.

HALIFAX

The news from Halifax this issue is mainly of progress in site clearance. We are now beginning to see what our site will finally look like, but despite all the hard work put into demolition and clearance, the

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amount still to be done is considerable. We are clearing the lower fields to prepare a landing field for light aircraft and we hope ultimately to make use of this area for aero-tow. Our Club President, Ian Fisher, is hoping to try out the suitability of this area in the very near future. The next thing on the list after site clearance is to convert the farmhouse into a clubhouse complete with all vital amenities such as bar, workshops, dormitories and kitchen, so we are not expecting to relax our effort for a long time yet.

News from our winch engineers is that our two-drum winch is nearing completion and should be in service very soon, in fact we hope to have given it a thorough testing by the time the next issue goes to Press.

Our flying still consists very largely of training circuits, though some exploration of the ups and downs of the site is going on. Our club instructors are bearing up very well under a very heavy load and show no signs of wilting.

A number of pupils are approaching solo stage and several have taken advantage of courses organised by other clubs. With us for the past three weeks we have had a visitor from Austria and a very useful exchange of views and ideas has taken place.

S.C.

KENT

OUR summer courses are in full swing and are very heavily booked. The weather has been excellent for training, and all course members have had plenty of flying.

The A.G.M. was held in Maidstone on 11th July. The official business was completed in record time. Philippa Buckley was elected to fill the place on the Committee left by the retirement of Mickey Gilbert. After the meeting an informal discussion was held. Among others who won applause from the meeting were Roger Neame (Treasurer), and John Cook (Course Secretary), who have done such a lot of work for the Club during this past year.

The Chairman gave members a picture of the latest position *re* a new permanent site. It was generally agreed that this had several hopeful features, and we look forward to hearing more positive good news soon.

In the meantime flying continues at Lympne where members have had some excellent soaring flights. Roy Hubble took the Club Olympia 43 miles to Westdean, near Seaford on 19th April. Roger Neame completed his Silver C with a triangle flight Lympne-Canterbury-Eastwell-Lympne in the Skylark II on Sunday, 7th June. The ridge has been giving good lift in southerly winds, and Roger also contacted wave lift in a northerly wind on 16th May.

On 19th July, Allen Frost, a new member from Silver City Airways, went solo in the T-31, gaining his A and B, and was heard to say that it was very nice, but a bit different after 8,000 hrs. on such things as Bristol Freighters! Geoffrey Tilley also went solo and gained his A and B in the T-31 on 9th August. Fred Wilson and Laurence Wiltshire enjoyed a week at Perranporth, and both gained their A and B. Fred also got his C. We were very glad to see Joan and Peter Simpson over August Bank Holiday. Joan marked the occasion by getting her C with 19 minutes in the Prefect on Saturday.

P.J.T.

LAKES

As if in compensation for a previous summer's clouds and rain, the current season has been generous in its allocation of fine weather, which, in coinciding with our first year's experiment in running courses, has been indeed welcome. Up to the end of July, six courses have been completed, and in a period of 45 days flying was possible on 44 of them, but more important still, soaring conditions were proved on 34 days.

Up to and including the August Bank Holiday, from the commencement of the courses, 1,276 launches were made, and 126 hrs. flying completed.

Two recent flights worthy of mention in view of their comparatively recent transfer to single-seaters, were those of Reg. Wolff in Allan Pratt's Kite with a spell of about 40 mins., and of Jack Paley in the Club's Tutor, who found a good thermal and soared for 38 mins. In both cases altitude of well over 3,500 ft. were attained.

Towards the end of July a unique cloud formation was witnessed by certain members. The wind was rather fresh from a N.E. direction, and a large dark cloud appeared to move across the site from the S.W. with a base of perhaps 2,000 ft. from the underparts of which, three distinct funnels were seen to reach almost to ground level. Unfortunately nothing was airborne at the time to take a closer look.

After much hard work and organisation the "At Home" was held during the August

Bank Holiday week-end, but though the weather was fine, a cloud sheet from the N.W. dampened out any possible convection and no unusual flight was, therefore, recorded. Philip Wills won the Earl of Lonsdale's Trophy for the best flight from the site reaching Sutton Bank. We trust a fuller account of the meeting will be described elsewhere in this issue.

J.W.A.

LONDON

FLYING has continued at high pressure throughout June and July with over 4,000 launches, 1,000 hrs. and 2,000 miles cross-country flying during this period.

John Furlong flying a Skylark III made a very fine attempt at his Gold C distance on the 19th June when he flew to Norwich and back to Henlow but was unable to cover the last few miles after nearly seven hours in the air. Another good flight on that day was by Colin Richardson in the Sky who flew to Nympsfield and back, 150 miles.

Our chairman Godfrey Lee, trying to reach Plymouth on 8th August, flying his Olympia in a very light wind reached Honiton about 140 miles.

Silver C distance has been achieved by Peter Hearne in his Meise, and Geoff. Kerr in the Prefect who landed just short of his goal at Lasham.

Many people have qualified for Silver C height, including young John Cardiff who reached 5,000 ft. in a Tutor.

The August Bank Holiday week-end started badly on the Saturday, but improved for the Sunday and Monday, we managed to fly over 100 hrs. from nearly 400 launches.

Our Skylark II was fitted with the new 2B canopy during its C. of A. and we are very pleased with the new outlook.

Work on the garage project has been badly handicapped by the good soaring weather, but the foundations are now complete and we hope to see the erection of the steelwork starting this autumn.

We are pleased to welcome Roger Mann to the club, he is stationed nearby and is already making himself very useful at the club.

On the 29th June we had a lot of fun with a Television programme in the afternoon. The transmission was live and although a cu-nim passed over us just as we started, we had to carry on in the rain.

Preparations are in hand for the Aerobatic Contest on Sunday, 20th September and we hope the weather will be as kind to us as it has been the last two contests.

J.F.W.

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MIDLAND

SINCE we have had three Olympias and a Skylark in the Club fleet, the number of cross-country flights has increased markedly as it is now possible for two high-performance aircraft to go away, and still leave two for those who find fun in local soaring.

On 20th June, Mike Randle took an Olympia to the Welsh coast from The Mynd to Towy, 50 miles. This is the first time that a flight has been made so far in this direction, over formidable landing country, and high to boot. On 28th June Keith Mansell did a fine Silver C flight to Towcester 81 miles, not leaving the Club until 17.00 hrs., and on the same day, Tom Hood ground away five hours on the ridge.

We were all very pleased on 7th July, to see Jack Minshall go 46 miles to Eaton in Cheshire, for his Silver C distance, and none more pleased than he. Bob Swift flew his private out and return dog-leg on 19th July, of The Mynd, Shrewsbury, Bridgenorth, Shrewsbury, The Mynd, a nice flight of 65 miles. Another Silver C distance this year, was David Benton, who went to Filton 70 miles on 24th July, and Clive Shippam his Silver C distance to Iderno.

Bob Swift landed at Dunstable the next day in an attempt to get to the East Coast. Ted Shephard also fell short on 7th August, and landed near Cambridge, after flogging for over six hours in no wind conditions.

On August Bank Holiday we accepted a kind invitation and challenge to go to Derby & Lancs. Club to fetch a Beer-tray Trophy, which has been the object of fairly regular inter-club meetings since 1937. Blyn Davies took a Club Olympia, and a most reliable crew, and now the Beer-tray is on The M.G.C. sideboard. May I put it on record, that there could have been no more open-handed hospitality, than that which the M.G.C. members received. A very warm "thank you" Derby & Lancs.

C.G.

MOONRAKERS

THESE notes are concerned mainly with the happenings at the highly successful Club Camp at Edgehill from 29th August to 5th September. John Williamson, our C.F.I. was the main organiser but all the members assisted in compiling the camp's living and cooking equipment by bringing all available tents, sleeping bags, camp stoves, etc.

The Olympia 2, Olympia 419, Kite, and T-21 were transferred from Upavon for the week and together flew 72 hrs. from 330 launches. The weather was kind and the wind blew from the north-west most of the week to provide a fair quota of ridge soaring. It was too light, however, to give the hill any power once instability started as each day warmed up. The light wind simplified the job of using the abundant supply of thermals that the hill generously produced. In all there were 45 flights of over 15 minutes.

Geoff. Chandler completed his Silver C by flying his five hours. The ridge gave him little help and most of the time was spent in thermals. Robby King also finished his Silver C with a climb to 4,700 ft. He has been striving to repeat either distance, height or duration since his 106 mile, 6 hr., 5,500 ft. flight in the Moonrakers' Tutor two years ago.

On Friday 28th August, John Willy took time off from Instructing and Organising to make a neat Out and Return to Salisbury; a distance of 140 miles.

Eddie Hodges who recently got his B at Upavon, won his C and at the same time virtually made Silver C height, but the barograph showed him to be 150 ft. short. Finally to complete the list of certificates gained at the camp, Mac McLuckie soloed in the Kite to get his A and B.

We are all very grateful to John Greenway for allowing us the use of the site which was ideal for an expedition of this nature.

Unfortunately, as this report is intended to be a true record of the Club's activities, it is necessary to mention less welcome news. On 22nd July our newly acquired Grunau had its nose rubbed off during an away landing. Although it means rebuilding from the cockpit forward, we hope that this demise will be only a temporary one.

Meanwhile week-end and Wednesday flying continues at a very satisfactory rate at Upavon. This is mainly due to our winches and M.T. remaining in good shape thanks to Dick Stratton's leadership in the field of maintenance and to the hard work of a nucleus of industrious members.

K-C.

NORFOLK

AFTER looking at many airfields in Norfolk the Air Ministry have given us permission to use Tibenham Airfield.

We have use of the hanger and the control tower, which is being converted into a clubhouse. Some hard work is needed to repair it but with our enthusiastic members turning to it should not be long before results show.

We have started flying with a Tutor purchased from Southdown and the private Olympia of Dr. Tringham, our Club Chairman, and E. Cunningham, Secretary. We have a T 21b on order from Slingsby's and it's hoped that delivery will be mid-September.

All launches at present are by auto-tow on the runways, using a Ford V8 Pilot.

Tibenham is approximately 14 miles south of Norwich and we will be pleased to see visitors from other clubs.

P.R.C.

NORTHAMPTONSHIRE

In my last report I was able to record that at last we had obtained permission to fly from Poddington, near Wellingborough. The ground has now been surveyed, and we are in process of transferring our possessions (do all gliding clubs acquire such an extraordinary collection of odds and ends?) to the large hut which is to be our clubhouse, while the lack of a hangar seems to have been overcome by the acquisition of a large, partially dismantled M.T. shed, which is to be re-erected near the hut.

Meanwhile, flying has been going on steadily at the R.C.A., Cranfield, where we are still guests. In addition to luxury accommodation, the site has outstanding soaring capabilities, as witnessed by the steadily mounting tale of C certificates gained this summer. In addition to the four recorded in our last report, five more have been gained, by B. Butler, W. Mason, D. Woodford, S. Norsted, and R. Spokes, making nine for the season so far. In addition, two further B's have been gained, by J. Goodman and R. Harding. A Silver C height leg was gained on the site by J. Baker, and G. Pentelow collected one during his week with the A.T.C. at Newton.

Best news of all in the matter of certificates gained is that Ken Pearson, our C.F.I. has completed his Silver C., and so becomes the first member to do so. This is particularly gratifying to members, since Ken has for so long sacrificed his own flying to the needs of this young club, and to the A.T.C. He has thousands of instructional launches to his credit, but hardly ever seems to fly for his own pleasure.

If arrangements at Poddington continue to make satisfactory progress, we shall begin to fly there early in October, and it is intended that the opening day should take the form of a competitive meeting in which all members will take part. There will be four competitions; aerobatics for those flying the Skylark II, a simulated field landing for the Tutor pilots, while people not yet out of the Cadet will do a Model Circuit. Finally, *ab initios* will be judged on a circuit with an instructor. All this should give us something of a gala day and should open this new phase of the club's career very happily . . . *but*—it all depends on how soon we can move the hangar.

B.C.H.

OXFORD

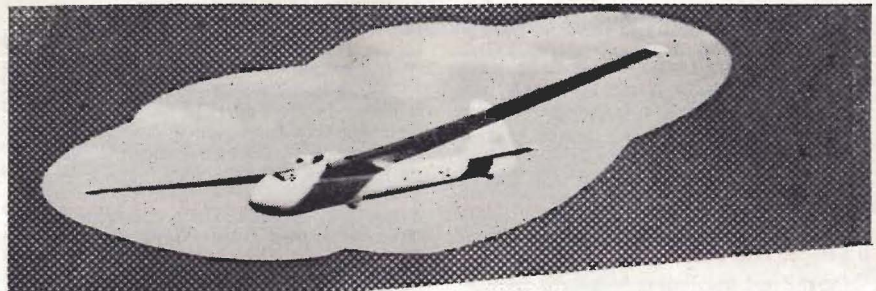
Even the moderate approach to things which is characteristic of the Oxford Club can produce much to report and we may, perhaps, pass quickly over the T-21B which was landed far too heavily by an "expert" and the Grunau which was permitted to take off on its own, to events for which we may seek a modicum of credit.

The first Skylark IIB to be built in this country from a kit has been completed and flown by its owner/builder/syndicate, Messrs. Chris Hurst, John Smoker and Ken Harris. An uncompleted trailer limits its activity to local soaring but its first 60 launches produced almost 20 hrs. flying including a "Silver Duration" to complete Chris's Silver C.

With the unfailing aid of the Kemsley Flying Trust the club acquired the first of the Skylark IIB's and this too has no trailer as yet. This led to an unusual retrieve after an unsuccessful sortie into the hinterland of Weston on the Green by our Chairman, Professor Varley, on one of the few occasions he has been able to fly with us. In the shadow of the local filling station the centre section was fitted to the Olympia Trailer by human attachments, the wing tips into a "Mini-bus" and the tail-plane into a private car, whilst the fuselage followed the road through the village on its own wheel led in the manner of a prize cow by its pilot.

The popularity of this aircraft is shown by more than 60 week-end airborne hours in the few weeks it has been with us.

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be completed from Weston goes to Ian Pratt in the Olympia. It is less than a year since Ian claimed to be the youngest pilot in the country by soloing on his 16th birthday.

Anita and the White G.B. have at last produced a flight in excess of 5 hrs. and followed up with a repeat performance two days later with a 5½ hr. flight home from Lasham. With so many attempts which exceeded 4 hrs. to her credit, it would appear that the fulfilment of the "marathon requirement" is a measure of luck and the toughness of one's seat rather than of soaring ability.

On "the" day Siegfrid Neumann flew the Cambridge Olympia to visit us at 4,000 ft. before returning successfully home again to claim the best flight between the University Cities. John Matheson flew the Gull III Cambridge way in search of Silver Distance and this flight, started in the late afternoon ended around 7.30 at Newmarket 87 miles distant.

C.F.I. John Ellis has also endeavoured to complete his Silver C in the Gull III and it is disappointing that after many tours around Oxfordshire—which far exceeded the required distance (unobserved) that this specific attempt ended 39½ miles away.

The Chris Wright Four-drum Diesel-Electric Winch, repowered since its debut at Lasham in 1957 which has come to stay with us, should have mention worthy of all its 11 tons.

Its array of switches and levers would not be out of place on a battleship but the operation of the winch is so simple as to be —— foolproof, for once the appropriate drum is selected the launch is controlled throughout by a single lever. From the pilot's point of view the snatchproof take-up and rapid acceleration to launch speed, the smooth ride and 1,200 ft. on a windless day suggest that this is one answer to the winch problem.

Perhaps our claim to moderation is unfounded for recently the T-21 was led forth in procession headed by a piper.

Later in the day bagpipes were heard over village, an Instructor having bravely ignored the fact that once he and the piper were airborne, escape would be impossible. The long-suffering Sedbergh, undisturbed by strains never foreseen or calculated by the Technical Committee completed its circuit with a perfectly normal landing while Weston on the Green shook its head, breathed a sigh of relief as peace again descended with the evening dew.

"WEAK LINK"

PHOENIX

WORK on the Kranich two-seater was finished in time for Easter. Flying training began with twenty-five *ab initio* members, and four days gliding over the holiday gave everyone a good introduction to the sport. Weather conditions were far from ideal, but at least everyone got a good chance to learn how to cope with cross-winds and gradients.

In the middle of May we had the misfortune of losing Cpl. Warwick-Fleming, one of our best instructors, who was posted back to U.K. F./L. Plumb, our officer i/c, was also posted. F./O. Mayes, however, has been checked out for instructing, and has already logged quite a few hours in the back seat of the Kranich.

Towards the end of May the club began to reap the fruits of much hard work. The first member to go solo was F./O. Woolgar, who capped this achievement by getting his C on his seventh solo flight. Not content with this, he went on to get Silver C height a few days later. Cpl. Dawson also gained Silver C height—but without a barograph. His comments on landing, though colourful, are perhaps better left unprinted. Early in June he again soared to over 4,500 ft. and this time with *all* the necessary equipment.

Next to go solo was J./T. Waters, who got his C on his fourth solo with a duration of half-an-hour and a height of 4,000 ft. J./T. Butler also got his C on the same day. As we write, the last member to go solo was Cpl. Harden, on 14th June.

Of possible interest to readers is our latest acquisition, a "Rhineland" high-performance sailplane. We believe ours is the only example of this unusual machine still in existence. It has been successfully flown by the senior members of the Club, who report that when treated with due respect it is a very fine glider indeed.

On the 21st June, K. FitzSimons completed his first three solo trips, qualifying for A and B Certificates, he returns to the U.K. next week for demobilisation. We wish him good luck.

K.F.

POLISH

FOLLOWING a nine-weeks-long convalescence at St. Elliott's Hospital in Newbury, our Oly returned to Lasham on

16th of July and straight away got down to serious work in order to catch up on the lost time; and the results are breathtaking: Four duration legs in as many weeks, one Silver C completed, and our first ever Gold C height!

The ball was set rolling by J. S. Ruskiewicz (Rusty to you) who on 19th of July stayed up for 5 hrs. 26 mins. A week later T. Kasper(kiewicz) fell short by 8 mins. on his first attempt but made it 5 hrs. 20 mins. three days later. Next turn belonged to Edward Jerzycki better known as Ted Jerzy. He stayed up for 6 hrs. to make sure, but lost himself in the mist and landed near Basingstoke. At this juncture we must commisserate with Wojtek Lewandowski who after 2½ hrs. of bumpy soaring became very sick and had to abandon his 5 hrs. attempt. Better luck befell "Lefty" Kurylowicz who having done the Height and Cross-country just before the Nationals was the first to complete Silver C this summer.

John Kwasny who bears the distinction of being the first member of our club to gain Silver C in England, looks likely to repeat this performance with the Gold C. Recently he got his height with the climb to over 11,000 ft. and since then made a gallant attempt at the distance, covering some 160 miles. Well done, John!

On the social side this summer provided us with a rare treat, which all of us will remember for a long time: a visit from a young Polish glider pilot, Johnny Gawecki, of Warsaw's Aero-club. He came to England on a "Students' Exchange Scheme" to pick Strawberries in Norfolk, but as soon as this was over he was whisked off to London, and we had a great pleasure of being his hosts for the remainder of his stay in this country.



Johnny Gawecki from Warsaw.

Johnny, who in 1957 was a Junior (under 21) Champion of Poland, now at the "ripe old age" of 22 can boast a Gold C with 2 Diamonds and over 500 hrs. of gliding; he also is a tug pilot and gliding instructor. He spent with us a week and a couple of week-ends at Lasham, and in addition to flying our Oly, he was able to try some other British Sailplanes. In this connection we would like to thank Derrick Piggott for enabling him to do so.

Thus what in May looked like a grim and unpromising season (with our Oly broken and all that) turned out to be the most enjoyable and profitable summer in the club's history. Now the race is on who will will be the next to complete Silver C. Results in the next issue.

J.S.R.

R.A.E.

AFTER a long incubation period the Gliding Section of the R.A.E. Aero Club took the air at Farnborough with a T-31 dual trainer at Whitsun. Membership is in general restricted to those officially allowed into the Establishment, and numbers over 60 at present under the Chairmanship of Jim Torode. The C.F.I. is Dave Martlew, while valuable assistance has been given by a number of Lasham Instructors.

The Club also operates an Olympia (Mambo) owned by a syndicate of members, has a Tutor which should soon be operational, and would like to know of a reconstitutable intermediate machine.

Flying is allowed only during quiet hours, *i.e.* evenings and week-ends, but over 800 launches have been achieved so far by means of V8 tow car and piano wire. The runway is very abrasive and wears the wire to a shred in 150 launches. The site gives good thermal soaring, enabling the T-31 to frequently stay aloft for prolonged periods —Ron Goodspeed did 5½ hrs. in Mambo on 19th July.

W.G.L.

SCOTTISH G. U.

CLUB activities have been stimulated by a steady stream of visitors of the most welcome type, namely pilots with aircraft. We have noted among these a number of creditable flights by Yorkshire groups, one

member achieving a Silver C distance. One party of four members with a Kite II and Swallow, logged a creditable 30 hrs. for a six day visit.

Other visitors of note have been the Handley Page Club Expedition, this visit being noteworthy in many respects, but of particular interest to our members was the hill-soaring of their T-31 to the obvious enjoyment of the occupants. This visit showed considerable planning, and despite poor weather for part of the visit the members appeared to have made the fullest use of the soaring available.

The Courses have as usual been fully booked and have continued to run smoothly highlighted by occasional bursts of high spirits which is evidenced by the empty champagne bottles hanging from the hangar roof.

Club flying records have shown an increase in hours flown but there appears to be a sad lack of cross-country miles. The delivery of the Swallow has aroused considerable interest and Joe Kennedy, flying this aircraft on the 9th August, proved that we can soar in wave resulting from an east wind. On this occasion he contacted a weak lee wave from the Bishop Hill but conditions did not permit an extensive exploration of this and he contented himself with a 1,500 ft. gain in height.

One welcome sight on the airfield has been the re-appearance of our Ground Engineer, Rab Williamson, who having completed the C. of A.'s has at last found time to take up where he left off in flying. This has resulted in the completion of his C. Other certificates gained at this time being Tom Dewhirst—C, and Mabel Ritchie obtaining A and B.

It is with regret that we announce the untimely death of one of our most popular members, Dennis Bryce, in a swimming accident on the 21st June. Dennis had been the Club's Press Officer for a number of years and visitors to the Club during the 1958 Nationals Week will recall the high standard he set in the publicity arrangements, together with the unfailing enthusiasm for our sport.

He had a real talent for creative writing, some of his contributions to the Club Newsheet will be treasured by those fortunate enough to have copies.

Few clubs have been as fortunate in having a member of such good humour and spirit. W.A.S.

SOUTHDOWN

THE summer months have seen the best thermal conditions yet enjoyed at Firle, and flying figures show an encouraging increase over those for last year.

Solos have been flourishing, and in addition to those completed earlier in the summer by Geoff Creffield, Stan Brooker and Peter Chick, three further solos were made on August Bank Holiday Saturday. After much calculation on C. of G. positions and amidst muttered predictions that the weight-lift ratio was distinctly opposed to flight, Les Allard ascended in (or more accurately "ascended on") the Tutor in fine style—a fitting reward for all his ground-borne efforts as transport gaffer. Roger Coote also soloed well, as did Jim Lee, one of the staunchest of club members. The modest celebrations in the evening, however, paled into insignificance compared to those seen the following night at the Rose Cottage after David Harris had converted to the Olympia. Its not that the feat was all that spectacular, its just that 'Arris has that effect. But with luck we may be allowed to visit the Rose Cottage again after the healing passage of time.

A "Southdown" expedition to Spain by Peter Wildbur and Ian Agutter was most successful, each achieving Silver C distance in Grunaus. Peter now becomes vaguely nostalgic everytime he sees a four-legged animal with horns, whilst Ian insists on miscalling our Newbury product the "Olé".

R.M.

WESSEX

THE club has taken full advantage of the ideal weather conditions; Flt.-Lt. Allen and Flt.-Lt. Sharman have been getting in plenty of practice round the 300 km. course and several members are looking quite blasé with their newly acquired Silver C emblems. Quite recently Tony Leroy gained a Silver C Distance and Sqdn. Ldr. Croshaw and Flt.-Lt. Sharman made Gold C heights. Flt.-Lt. Sharman will be giving an aerobatic display at the S.B.A.C. show at Farnborough on the three public days, 11th, 12th and 13th September—and possibly another at R.A.F. Andover "Battle of Britain Day".

This is the day when the old Primary comes into its own, being fitted up with thunder flashes it provides quite a thrill on

its attempt at breaking the sound barrier! Three club members have entered for the eliminating trials for the British Glider Aerobatic Championships. Group Captain Keron, Flt.-Lt. Sharman and Sgt. Gough will each fly an Olympia. The eliminating trials will take place at R.A.F. Andover on Sunday 23rd August.

There has been a heavy demand for glider aerobatic displays for "At Homes" and other displays which shows the growth of interest in the gliding movement.

J.D.

YORKSHIRE

BANK Holiday gave us a full house at Sutton Bank. Bunks were at a premium, and late comers had to use much ingenuity to find a place to rest their weary heads.

Among our visitors were half a dozen members from the Cambridge Club, complete with a nice red Olympia. The Oly was soon in the air and after that very seldom on the ground. Peter Ibberson of the Army Gliding Club brought along a Skylark II and only stopped flying it to improve the high polish it already had. Another welcome visitor was Vic Wright, who now lives at Sheffield. He was soon flying round happily in the Kite II.

The high spot was on Sunday. A strange glider appeared over the Bank, and we were able to read the magic No. 1 on the rudder. We were soon giving a welcome to Philip Wills, who had flown over from the Lakes Club. The trailer arrived all too soon for us, but not before we had been able to extract many words of wisdom from the oracle! Please come and see us again Philip.

All the week-end the wind was more or less West or North-West, light to moderate. Unfortunately, promising mornings soon changed to complete cover, and nobody got away. Hill lift was never very strong, seeming to be cancelled out by wave to a certain extent, so that much of the hill soaring was a bit of a follow my leader business.

Bank Holiday Monday was also the start of a holiday course, adding to the general activity, and the winches were kept very busy. A very large number of spectators were able to see some very good flying, but why will they always park their cars on the approach path?

Holiday courses have been very successful this year, and all are fully booked. Henry is standing the strain very well, and never seems to tire. One or two of the members who live near by are able to give a hand with the flying.

We are eagerly looking forward to the arrival of our 2-drum winch, being built under the supervision of Chris Riddell. A pre-view we had the other day showed it to be a real de-luxe job, with much thought given to the comfort of the winch driver. We are only afraid that with all this luxury, the driver will take even more waking up than usual!

E.H.

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