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MARCH 1950

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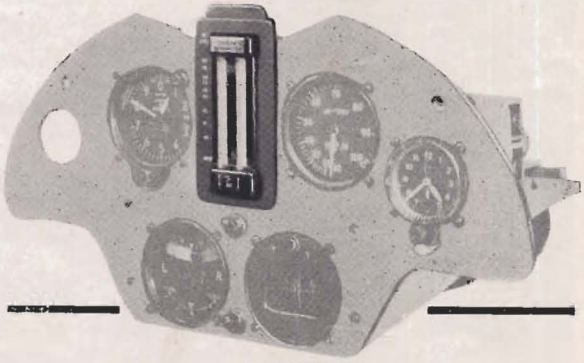
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THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

MARCH 1950 ★ Vol XVIII No 3

EDITOR:

VERNON BLUNT

ASST. EDITOR:

VERONICA PLATT

ADVERTISING and EDITORIAL OFFICES:

139 STRAND, W.C. 2

PHONE: TEMPLE BAR 6451/2

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COVER PHOTO:
"Slingsby T21" (Two-Seater) at Surrey Gliding Club.
Photo: K. C. Fitzroy.

Editorial

THE political and spiritual inversion which has for five years kept the clouds right down to the deck in Great Britain is now beginning to lift, heralded by and in some respects due to a high pressure area in the Antipodes, and Socialism in England, is, thank God, now coming to an end and with it the threat and tendency to regulate our lives and even our "dangerous" thoughts. Even if the Conservatives are unable to redeem their promise to do something for Flying and Gliding Clubs, they will not exact from us the condition that if we want to fly we must think socialistically, or fly with the R.A.F. Millions could be spent on useless schemes, exhibitions, P.R.O.s, British Councils, etc., but a few tens of thousands could not be spent on encouraging people to glide, with both a most valuable defence element and a most penetrating international influence. There are under 2,000 folk practising gliding in Great Britain to-day, and therefore few votes to be counted among them, although they number among them (besides those who gave their lives in the process), many who were the builders of our recent victory against the Axis powers—we refer to our Airborne Forces—and this goes for U.S.A. as well, and whose influence on the design of present-day high performance aircraft, both military and civil, is still being felt.

The A.T.C. Flying Scholarship Scheme for 250 pilots a year will serve to kill three birds with one stone. First it will stimulate recruiting for the A.T.C., secondly 250 boys will learn to fly to service standards, and the flying clubs will get a chance to let their machines earn their keep and be able also to employ full time instructors. They will also get the benefit of fresh young blood, which is highly necessary. It was remarked in the Royal Aero Club the other day that the average age of the members appeared to be about fifty. Younger people could rarely afford to fly.

This scheme is all right as far as it goes, but we are encouraged to look much more hopefully to a paper recently presented to the Treasury on the R.A.F. requirements for 1950-51 which lays emphasis on the danger to our National Defence by reason of the lack of personnel and high performance machines in the R.A.F. to-day. What an admission was made by the decision to buy 80 B29 bombers. What is clearly needed is a great resurgence of our National Spirit and a great revival of air activity at all levels of the community. We are sure, and evidence reaches the Editor every week, of the great suppressed desire to fly, among both sexes of our youngsters, and that if quite inexpensive steps were taken to make it less costly, the number of people who would take up gliding would be at least several times the number at present able to engage in it, most of whom confess they are unable to afford it. We can only hope, therefore, although we sincerely believe, that the future holds out much promise of help for the poor who wish to fly but cannot afford it. It may not come whilst the Socialists are in office in Great Britain, but it is unlikely that they will long continue their frustrating rule, and even this prospect will cause such a lightening of the spirit that much more dynamic will arise in the Movement and that of the U.L.A., even before any positive Government steps are taken.

Still we should like to be able to chronicle that something concrete has happened, rather than speculate on pious hopes. In this connection we would like to suggest that much more might be made of Government contracts. In California, the presence of the Sierra Waves has afforded gliding folk there, not only the opportunity of making the world's record height flights, of which there is some account in this number (our next will contain an account of the world record flight to 36,100 ft.), but also to experiment in artificial nucleation (rain making) under Government contract. The results are phenomenal.

We do not need artificial nucleation here—we have enough rain—but we suggest that gliding folk might be given a contract to investigate down draughts in the Grampians and the hills in the North of England, in all weather conditions. There have been far too many crashes into hillsides in the last 15 years which have had no explanation other than possible theory, but which soaring folk are convinced were examples of unexpected and un-understood down-draughts. Here is a field of endeavour which, for a few thousand pounds, might save many lives and make air transport much safer because much more wisely flown. We commend the idea to the Ministry of Civil Aviation.

The Kemsley Winter Prizes for distance flights between December 1st and March 1st, are for flights with winch launches and aero-tow starts. G. H. Stephenson's winter flight of December 17th is described by himself in these pages, but until the last few days there were no other possible winning flights. But between February 21st and 28th there were six more attempts by aero-tow launch. J. Karran of the Surrey Club made 68 miles, and Lorne Welch of the same club did 60 miles, both flying from Redhill to the Colchester area on February 28th, the last day.

"Steve" will receive 25 guineas, and his club 10 guineas. Karran will receive 25 guineas, Lorne Welch 10 guineas and their club 10 guineas.

SOARING IN FRANCE

8 Hours in Thermals

By GUY BORGÉ

Day : July 17th, 1949.
Place : Corbas Airfield.
Plane : " Weihe " nr. 20.
Type of launch : Winch.
Time of release : 10.37 hours.
Time of landing : 18.44 hours.
Duration : 8 hours 7 minutes.
Gain of height : 7,550 ft.

ON the morning of the 17th July, the weather looked suitable for some interesting performances, and Mr. Bornand, the C.F.I. of the Rhône Aéro-Club, decided that I should try to break the present regional record of 7.16 hours held by my friend Brézun. I therefore took my place in the " Weihe " cockpit, wearing several wool skins, for although the atmosphere in the plane was very warm, I hoped to climb high enough to need these extra clothes.

I started off at 10.20 hours on the second launching wire, just after a " C.800 " two-seater. It picks up a thermal, leaving behind it the correlative down-current, and I must land again, furious at this setback. At 10.36 hours I start again, without daring to climb abruptly because there is no wind and the wires are old. I cast off at 650 ft., a poor altitude for contacting pure thermals so early in the day ; but at about 500 ft. I feel a small lateral swing and I start circling immediately.

For a long time I lose no height, and wait patiently for the lift to improve. After several minutes of hard but exciting labour, it increases, and I reach 3,300 ft. I drift gently northwards, and I then realize that the launch was poor, because of the tail wind. Moreover the Ford winch is moved underneath me to the southern boundary of the airfield ; but I am airborne and no longer need the winch. Some cumulus are forming, and their misty shadows appear to me a good omen for success ; I climb to their base, at 4,000 ft., in company with a " Baby " which follows me like a pet dog. The " Weihe " glides smoothly through the fresh vivid atmosphere and I adjust the elevator trimmer for flying hands off, and close the windows and air intake. In short I prepare my small room for a long stay.

All the instruments except the turn indicator work correctly, and the variometer gives me great satisfaction by its quick action and sensitive precision. The longitudinal clinometer is formed by a U-shaped spirit-level, and I am learning to use this instrument in place of the A.S.I. by careful experimenting I find that one graduation on the clino corresponds to 6 m.p.h. The electrical turn indicator does not satisfy me as the slightest circle causes its needle to drop, an unfavourable state of affairs for flying in clouds. I notice that the cloud-base is lifting very quickly, and at noon it reaches 6,250 feet above the ground.

As one cloud seems bigger than its companions, I fly towards it, confident in the immense stability of the " Weihe." The variometer registers first 6, then 8 and then 16 feet per second, but the lift remains calm in this huge cotton wool mass. I circle quietly, and gain in a few minutes 1,800 feet inside the cloud, which I leave at 8,050 feet. Visibility outside is bad, but I perceive Lyons under my wings, with its great area cut in three parts by the Saône and Rhône rivers. The clouds are spread out in all directions and it seems so easy to soar amidst such favourable conditions that I decide to head for Saint Rambert l'Ile Barbe, in the suburbs, where my family own some land. At 6,500 feet I see the house, with its red roof gleaming in the sun, the small island set in the Saône, and the pool of the Lyon-Plage looking like a small little green square.

With regret I leave behind me this familiar view to return to my base as I am about 11 miles away by this time. The wind has again veered, and it now blows from the west, carrying me above countryside I recognize, having flown over it one month ago during the regional competitions. At 31 m.p.h. my ship sails eastwards ; 16 miles from Corbas, Bourgoin is beneath me, and from there the Cessieu airfield is in view. At my forward speed I could fly to Challes les Eaux in half a hour and see some old friends. But what will my C.F.I. say when he learns of my landing ? He gave me the plane for a duration test and not for cross country flying.

I must come back, making slow progress against the wind, and I find myself losing 13 feet per second. Three miles from Corbas, I am over ground 3,000 feet high, but a charitable cloud provides the means to regain the 6,000 feet level. It is 3 o'clock, and as I wish to fly the greatest number of miles to avoid becoming bored, I set off northwards in the direction of Lyons, crossing over the Bron airfield, where far below me, I see a " D.C.4 " circling the drome. Then I catch sight of our " Olympia " which waggles its wings on seeing me, as a sea-ship runs up her flag when she meets another one.

To pass the time I fly in a straight line, seeking to circle only under what cloud and what part of a cloud I suppose there to be the best lift. But these clouds begin to agglomerate, forming a continuous ceiling and I become very annoyed at this view. It seems wiser to get back as quickly as possible to Corbas where I can get in the smallest thermal and remain airborne until the last moment. I make for home where I see no sailplanes on the ground, a good sign. But crossing a steady down current, I descend to 2,000 feet, very humiliated that I should very soon have to put down while I fly the best of the 9 sailplanes.

1,600 ; 1,300 ; 1,000. All hope is gone of finding any vestige of a thermal under that overcast sky. But the miracle arrives, the variometer wakes up, passes 0 and reaches +1,50 ft. per second. As a last resort I put my bird into tight circles to pick up this last chance. But all at once above me a two-seater " C.800 " appears from nowhere, wanting

to share my meal, and I get out. I wait until it has gained sufficient altitude before eating my piece of cake again. This cake seems very good, so much the better as it arrives at a moment of great need, when the smallest " up " becomes a savoury dish.

I climb to 4,000 feet, again meeting the " Olympia." It flies above me and I see it disappear in the clouds ; the sight of this induces me to stay in clear sky. Again the Bron Airport passes under my wings, and I look at the white drome with respect, so frightful are the rules governing the relations between planes and gliders. But I am now confident about the record, and decide to stay at that place as long as possible. The great hand of the watch turns steadily, although slowly, and each minute passed adds a new chance. I remain at 4,000 feet, leaving the airport when the down currents become too acute, and lazily sail towards home.

At Corbas all the sailplanes have landed, apart from the two-seaters which make circuits for tuition or " baptêmes de l'air." I circle carefully in a —0,50 foot per second, because elsewhere perhaps there is a greater " down." The altimeter hand slowly falls, and I enjoy the wonderful slow sinking speed of the " Weihe."

The record is broken, after 8 hours' flying time, and I keep circling to gain new minutes. From 300 feet, I then increase my speed to 60 m.p.h., make a swift passage at a few feet from the grass and reach the hangars at the far end of the airfield. The skid touches down at 6.44 hours and the new record is 8 hours 7 minutes.

Two weeks later Brézun is to regain his record by soaring 9 hours in the same " Weihe." Before these flights it looked impossible to stay more than 8 hours over a flat airfield without slopes, using thermals only, from a winch launch.

I am now confident about the possibility of remaining airborne in these conditions more than ten hours.

DUNSTABLE TO SOUTHEND ON DECEMBER 17th

By GEOFFREY STEPHENSON

Meteorological Conditions.

THE main interest of this flight lies in the fact that it was made at the time of year when the sun is almost at its lowest elevation. Experience suggests that the weather was quite exceptional, and the sequence of meteorological events responsible for the good conditions, was traced back with the help of Jacques Cochemé. An intense depression centred over the Atlantic had been providing warm air over England for several days preceding the 17th. On the morning of the 17th, a double cold front passed over ; it cleared Dunstable somewhere in the region of 10.00 hrs. This produced a temperature drop of about 10 degrees. The cause of the air behind the front was traced back to its source, and it appeared to have come by a pretty direct route from East Greenland which, I was told, is the coldest part of the Arctic. The wind speed at 3,000 ft., was about 45 m.p.h., and blowing from 280 degrees. Incidentally, when I landed at Southend Airport they had just recorded a gust of 55 m.p.h.

The cloud base was probably well above 4,500 ft., as my maximum height was 4,100 ft. above sea level and the cloud base was considerably higher. The air was unusually rough at all times, so one had to fly somewhat faster than usual.

Details of Flight

When I was launched at 13.25 G.M.T. the wind was blowing directly on to the hill at Dunstable, and I rapidly climbed up to the other sailplanes at 1,000 ft. (all heights in this section are above Hangar Ridge) by just sitting motionless over the Bastion. At the end of ten minutes I had moved along the ridge, and was sitting well out in front of the Lion and alongside Frank Foster in his " Buzzard." We had struck a good area and were at 1,800 ft. and above the other sailplanes. I had noticed that the lift had been coming in surges which seemed to be vaguely related to the rather broken cumulus which was moving fast overhead. The wind was so strong that it would have been absolutely futile to circle in an attempt to gain height over the hill. The best one could do was to slow down and drift backwards when the lift was strong, and then to stuff the nose down in the downdraught which usually followed.

I decided that it was a waste of time to try to gain more height in order to make a comfortable start to a cross country, so I resolved to take the plunge and circle on the next surge of lift. I decided also that if the lift died during the first two circles, I could probably dive back to the hill, and start all over again. However, the next surge came, and as I circled the lift continued. At 2,000 ft. I had burned my boats, and the lift had become very scrappy. As I was anxiously grasping at straws, the only consoling feature was that my direction of progress did not seem to be greatly affected by the direction in which the nose was pointing. This left me free to make the best of what lift was going. At a point just south of Harpenden I had reached 3,200 ft. and felt comparatively secure. I got out the map and decided that Broxbourne was probably within range. As I approached the north side of Hatfield Aerodrome I encountered areas of strong downdraught, and at 2,600 ft. I felt rather unhappy about going on. However, I continued and, after a rather tense struggle, reached North Weald without having lost any more height and, incidentally, without having seen Broxbourne at all !

Just SE of North Weald the lift improved ; the clouds looked better and I struck a genuine 10 ft. per second which took me to my maximum height of 3,600 ft. near Brentwood. The sky ahead looked good, which was annoying because Southend was by now just within range.

The last part of the flight was very enjoyable. I just set the nose on 100 degrees and, sitting about half-way between the main road and the railway line, I was able to relax and admire the view. The cockpit cover was slightly misted and the starboard wing now obscured the lowering sun which had

(*continued on page 57*)

BISHOP DOES IT AGAIN

By HARLAND ROSS, (Golden "C" with 2 Diamonds)

RECORDS were broken right and left, as soon as the Sierra Wave started to generate, during the soaring expedition held at Bishop, California, over the Christmas and New Year holidays.

International Single-place Absolute Altitude :—John Robinson in Ross RS-1 "Zanonia." 1/1/50. 33,800 feet above sea level.

National Multi-place Absolute Altitude :—Fred Walters, pilot and Roman Benn, co-pilot in "Laister-Koffman." 29/12/49. 27,000 feet a.s.l.

National Multi-place Altitude Gained :—Fred Walters, pilot and Roman Benn, co-pilot in "Laister-Koffman." 29/12/49. 18,200 feet.

National Multi-place Absolute Altitude :—(Danish Record) Per Muelengracht, pilot and Jorgan Krebs, passenger in "Laister-Koffman." 29/12/49. 25,000 feet a.s.l.

National Multi-place Altitude Gained :—(Danish Record) Per Muelengracht, pilot and Jorgan Krebs, passenger in "Laister-Koffman." 29/12/49. 15,000 feet.

(All flights must be homologated by the F.A.I. before they are official).

Diamond "C" Altitude leg :—

William Ivans, pilot in "Schweizer 1-23." 29/12/49. 18,100 feet.

Lyle Maxey, pilot in "Prue 160." 31/12/49. 17,000 feet.

The following is a resume of the three soaring days :—

Pilot	Date	Passenger	Glider	Absolute Alt.	Alt. Gained
William Ivans	29/12/49		"1-23"	30,200	18,100
Per Muelengracht	,,	R. Symons	"L-K (Mod.)"	27,000	14,500
Per Muelengracht	,,	Jorgan Krebs	"L-K (Mod.)"	25,000	15,000
Fred Walters	,,	Roman Benn	"L-K (Mod.)"	27,000	18,200
Lyle Maxey	,,		"Prue 160"	21,000	11,000
John Robinson	31/12/49		"RS-1 Zanonia"	32,600	22,100
Lyle Maxey	,,		"Prue 160"	27,500	17,000
John Robinson	1/1/50		"RS-1 Zanonia"	33,800	23,500
Bill Bowmar	,,		"Rigid Midget"	26,300	16,000
Per Muelengracht	,,	Jorgan Krebs	"L-K (Mod.)"	25,000	15,000

The weather was very stable for the first four days, due to a high pressure area over the Colorado Plateau to our east and all the storm centres passed to the north of our field. Finally on December 29th the balloon run at Fresno, California, showed a south-west wind at 12,000 feet of 16 knots and increasing to 78 knots at 45,000. There were small lenticular clouds at thirty-five to forty thousand feet, forty miles to the south of us near Mt. Whitney.

Winds Surface to	Aloft Fresno, Calif. 8,000 ft.	light		Winds Surface	Aloft Bishop, Calif. 200	4
8,000	190	15		5,000	200	3
9,000	180	14		6,000	200	4
10,000	180	15		7,000	190	11
12,000	200	16	Wind Shift Level	8,000	170	21
14,000	210	22		9,000	180	10
16,000	210	30		10,000	180	4
18,000	210	33		12,000	220	12
20,000	210	36		14,000	220	30
25,000	210	50		16,000	220	32
30,000	220	62		18,000	200	32
35,000	220	57		20,000	210	32
40,000	220	54				
45,000	220	78				

After inspecting these reports I knew the wave would be high, so we decided to tow above the 12,000 foot level, before releasing. The first flight off, was Bill Ivans in his new Schweizer "1-23" and Per Muelengracht in a modified "Laister-Koffman" behind my "BT-13." The following is a report by Bill after his landing.

He reported 3 G load in the turbulence while still on tow near the 11,000 foot level. Towed into the wave and climbed at 1,800 f.p.m. and released at 12,100. The climb stayed at 900 to 1,000 f.p.m. and he then started a beat north and south of about five miles. At 14,000 feet he put on his mask and checked the oxygen system and found it O.K. At 17,000 where the climb was 400 to 500 f.p.m. the canopy started to frost over on the inside due to moisture from his breath. Tried swabbing a mixture of half alcohol and glycerine on the canopy and it worked well up to 22,000 feet. Scraped with his glove but the cleared spot would frost over again in about 20 seconds. Could always see the horizon dimly through the small holes in the ice crystals but could not distinguish land marks.

He felt warm up to 20,000 feet, but above that his feet began to get cold, despite two pair of socks, heavy shoes and flying boots. The cockpit of his glider was completely insulated with fiber glass blanket from one to three inches thick.

The climb was now 200 f.p.m. and he had been off tow 45 minutes before reaching 27,500 feet where the lift weakened. He noticed the lenticular cloud 40 miles to the south near Mt. Whitney and headed in that direction, with his sinking speed normal. His indicated speed was 100 m.p.h. and he flew for 30 minutes and lost to 18,000 feet before encountering the wave and starting to climb slowly. The lenticular cloud above him was estimated at 35,000 feet. The lift was 500 f.p.m. and at 26,000 he headed into the wind with apparently zero ground speed. He did not move a control for over fifteen minutes, due to the very smooth air, and his climb was now 200 f.p.m.

Since he had an " A-14 " regulator and " A-13 " pressure breathing mask, at 29,000 feet, he turned the diluter handle to 100 per cent oxygen and set pressure knob at safety position, which produced a positive pressure in his mask. He scraped the canopy, checked his finger nails for colour and tried to wiggle two hunks of ice which looked like feet, but no soap.

Started back toward Bishop and opposite Independence, California, reached his ceiling at 30,500 feet indicated. The canopy ice was now 1/64 to 1/32 thick and it was almost necessary to fly on instruments in order to stay straight and level. As he turned east downwind to explore the second wave the thermometer under the instrument panel read —30 degrees centigrade. The ship had normal sink across the valley for 15 miles so he turned toward the airport. When he tried to open the spoilers they were frozen shut, but he later concluded that the grease was frozen in the linkage, because at 15,000 feet they opened in a normal manner. Made 10 or 12 loops and a couple of snaprolls before landing at the Bishop airport after a flight of three hours.

From this same tow, Per Muelengracht and passenger climbed to 27,000 feet always staying in the vicinity of Mt. Tom straight west of Bishop. His pen ran off the top of his barograph foil so he could not claim a record. After landing he changed the linkage of the barograph so it would reach at least 40,000 a.s.l.

At 3.00 p.m. another double tow was made with Fred Walters and Per Muelengracht, both flying " L-K's," and each carrying passengers. The following is Fred's report of his record flight.

Released at 9,500 feet in the lee of Mt. Tom but almost at once lost to 8,800 before connecting with some very turbulent rollers, then started to climb at 600 f.p.m. The air was very rough up to 12,000 but then flew directly into the wind and found the first wave where the climb went to 900 f.p.m. At 14,000 put on their masks and checked the oxygen equipment and found everything O.K. By turning slightly to right and left continued to climb, at 60 to 65 m.p.h. indicated, up to 25,000 feet. He lost the wave by flying out too far in front of the ridge, so turned back downwind and continued to climb at 200 to 300 f.p.m. to his ceiling of 27,000 feet.

While on the way up Fred tried several things to overcome the canopy iceing problem. One section of canopy was cleaned with water and chamois skin, before take-off, and it stayed almost free of ice the whole flight. Another section was cleaned with an aircraft windshield cleaner but it showed slight streaks of ice crystals.

Fred's ship was completely equipped with radio which operated on a frequency of 123.3 MC with an output of 1 watt. The total weight was 12 pounds including battery. His transmission was 100 per cent at all times throughout the flight. He was always within line of sight of the receiver which was in his automobile on the airport.

During this flight he wore heavy underwear, wool pants and shirt, alpacoline flying suit, 3 pairs of wool socks, heavy shoes and flying boots. His feet began to get cold above 25,000 feet after the sun went down. He landed after a flight of two hours.

Per Muelengracht and Jorgan Krebs had better luck with their barograph on this flight despite the fact that they only made 25,000 feet a.s.l. This gave them a Danish record to be proud of. Per said his flight was almost like the other " L-K," although two flights to above 25,000 feet in one day was quite a chore.

During the night this weak cold front passed Bishop, so the next morning we could see the large beautiful lenticulars were dissipating fast. The race was on to try and get up before they were all gone, but it takes time to get ready for a flight to the stratosphere, and it was 10.00 a.m. before I towed Lyle Maxey in the " Prue 160 " to the lee of Mt. Tom. Two days before, Lyle made 21,000 feet and he became quite cold, so he tried a trick of painting the front end of his ship black in order to absorb more heat. He also tried for the first time, a layer of plexiglas fastened to the inside of his canopy, which had an air space of about 1/64th of an inch. This worked so well to eliminate the iceing problem, that all the other pilots adopted this system and there was no more trouble with their canopies.

Lyle released in the second wave and climbed at 1,000 f.p.m. to 19,000 a.s.l., he then lost to 14,000 with maximum down of 2,000 f.p.m. while flying directly into the wind in order to contact the first wave. His lift went to 1,000 f.p.m. and he climbed up to 22,500 feet. A fast dissipating lenticular lay to the south about 20 miles, so he flew that way in order to contact it. His lift was 800 to 1,000 f.p.m. as he climbed up to the leading edge of the lenticular. There was very little wind drift until almost up to the cloud, where it became necessary to fly directly into the wind, in order to stay in the lift.

The temperature seemed to be higher in the cockpit, due to the black paint on the outside of the fuselage. But the controls became very slack since the magnesium fuselage shrank more than the control cables. He did not try to find more lift because of the controls and returned to the Bishop Airport after a flight of 1. 45 minutes.

By the time that John Robinson in the Ross Sailplane " Zanonia " was towed up, the large lenticular cloud previously used by Lyle Maxey had completely dissipated, and there was not a cloud in the sky. However, I towed him to the

area where the lenticular had been all morning and he was released at 10,500 a.s.l. in a turbulent and thermal wave.

His climb was 300 to 500 f.p.m. after he was able to battle his way up to 12,000, and, he climbed to 24,000 opposite Independence, California, about 40 miles south of Bishop. The lift weakened and he started a glide south toward Mt. Whitney along the crest of the Sierra with normal sink. Finding nothing there, he returned north along the mountains and found zero sink in the previous area of climb. Continuing his flight north he ran out of the zero sink area and found normal sink again. (This is a perfect example of the action of the wave while dissipating, after a frontal passage.—Editor). By now he was down to about 20,000 a.s.l. so he decided to explore the area to the windward of the Sierra crest and found a small patch of lift which he flew just like a ridge wind. He made eights back and forth which took 7 to 8 seconds between turns, while indicating 55 m.p.h. The climb was 500 f.p.m. and as he gained altitude each beat grew shorter, until at the top where he was almost circling, the lift stopped at 32,600 a.s.l.

He made a run north at high speed to Mono Lake area about 50 miles and rode the second wave over the lake, then turned east to the White Mountain and back to Bishop Airport. The total distance during the 5.05 hours flight was 245 miles.

January 1, 1950, looked good with high lenticular to the north and a roll cloud building down the Owens valley to the south. The Bishop winds aloft were fair on the morning run, reaching 48 knots at 20,000 a.s.l. and the direction was more consistent at lower levels than the previous day.

	7.00 a.m.			1.00 p.m.	
Bishop	Winds	Aloft	Bishop	Winds	Aloft
6,000	110	4	6,000	250	4
7,000	170	4	7,000	250	8
8,000	280	2	8,000	260	9
9,000	270	6	9,000	260	8
10,000	250	11	10,000	260	8
12,000	240	14	12,000	260	20
14,000	230	24	14,000	260	33
16,000	220	41	16,000	260	40
18,000	230	40	18,000	250	49
20,000	230	48	20,000	250	44
25,000	220	39			

Since the storm centre was passing to the north of our station, the wave conditions looked the best in that direction with large lenticular clouds for over 100 miles. After talking it over with the tow pilots, John Robinson and Bill Bowmar, picked Reno, Nevada as their goal. John needed this goal flight to complete his Diamond " C " badge.

They were towed south to be released west of Big Pine, Calif. in order to be over 186 miles from Reno. Both pilots released at 10,300 feet a.s.l. and started to climb at once.

Bill climbed at 600 to 1,000 f.p.m. up to 23,000 a.s.l. and then started south toward better looking clouds. But he soon flew out of the lift and headed back toward Bishop. Roll cloud started to build again and turned south and climbed to 26,300 a.s.l. his best altitude.

The temperature inside the cockpit was —18 degrees centigrade, and his feet were getting cold. At this time he found the rubber gap covers on his rudder were frozen and he had no rudder control at all. At 14,000 feet they thawed out and he returned to the Bishop Airport after a 2.10 hours flight.

John's flight really made history by breaking the record for absolute altitude and the largest downdraught in the world. After he released his climb was 1,000 f.p.m. up to 27,000 a.s.l. when he started north toward Mt. Tom. He arrived with 20,000 feet and climbed back to 24,000 before continuing on to Lake Crowley. The lift was spotty and he was down to 15,000 after a glide of 25 miles. He then found lift of 1,000 to 1,500 f.p.m. and climbed in straight flight until over Mono Lake, where the lift was 2,000 f.p.m. to 30,000 feet and 1,000 f.p.m. up to 33,000 a.s.l. He reached the base of the lenticular cloud and circled up to 33,800 in front of the leading edge.

He flew out of the lift but did not hunt for it, as he started north with zero sink. About 20 miles later he was down to 30,000 and west of Bridgeport, California, when he encountered downdraught of 1,000 f.p.m. He continued his glide for another ten miles with the sink getting stronger all the time. At times it was up to 2,000 f.p.m. and he would slow the ship down to try and decrease it but to no avail.

Realizing that he could not glide to his goal with such strong downdraughts, he turned downwind to the second wave but there was still a down of 500 f.p.m. as he crossed Bryant Field at Bridgeport. The field was covered with snow so he turned south toward Mono Lake still losing altitude at 500 f.p.m. Arriving over Mono Lake with 11,500 the large lenticular cloud above him seemed a long way up, but it was now or never, so he dived the ship to 100 m.p.h. as he flew out over the middle of the lake hoping to make contact with the wave.

In the past 30 minutes he had lost 18,500 feet and had flown over 40 miles trying to get out of the downdraught. With one eye watching the shore line and the other watching the climb indicator, he continued at a high rate of speed until over the lake centre where the climb started up at the phenomenal rate of over 2,000 f.p.m. Ten minutes later he was at 32,000 feet and looking down at the lenticular a few hundred feet below.

After that close call he decided to abandon the flight to Reno and turned towards the east at a high rate of speed. A few minutes later he arrived over the airport at 20,000 feet and spiraled down to land after a flight of 5.00 hours. He said the double canopy worked fine and there was no icing on that portion. His total mileage was 192 miles.

Despite the fact that soaring was possible on only three days out of eight, the heights reached were far ahead of any other contest or expedition that I have heard of. Also, that each pilot and passenger was on oxygen almost immediately after release and continued to be so throughout the rest of the flight. Most of the ships were insulated and all had their canopies modified to take care of the expansion and contraction due to the extremely low temperatures encountered. Each time we have an expedition here, problems are solved, that improve our chances of going to greater altitudes, and before long 40,000 will just be a breeze.

SOUTH AFRICAN NATIONAL GLIDING RALLY 1949

By PETER LEPPAN

FOUR new South African records were established at the National Gliding Rally, which was held at Kroonstad in October. Results generally far surpassed those of previous years, and, as many of the pilots were flying the same machines as in 1948, this is a clear indication of the progress being made in the country. This is further borne out by the fact that in 1948 most of the flights were carried out in ideal conditions under high cloud-streets, while this year clear skies made the majority of the cross-countries pure thermal flights.

Of the machines entered, only two were high-performance sailplanes; the "Air 100" recently imported by Helli Lasch, and the "Minimoa" flown by "Boet" Dommisse and Werner Kunze. The average distance covered by these machines was 135 miles, whereas the best individual flights in 1948 was 131. Apart from the "Kranich" two-seater, which made its appearance only in the last few days of the Rally, the remainder of the machines fell into the low-performance, or limited class. Two flights made in these, however, exceed 100 miles (one being to a previously nominated goal), and must compare very favourably with anything achieved in similar machines overseas.

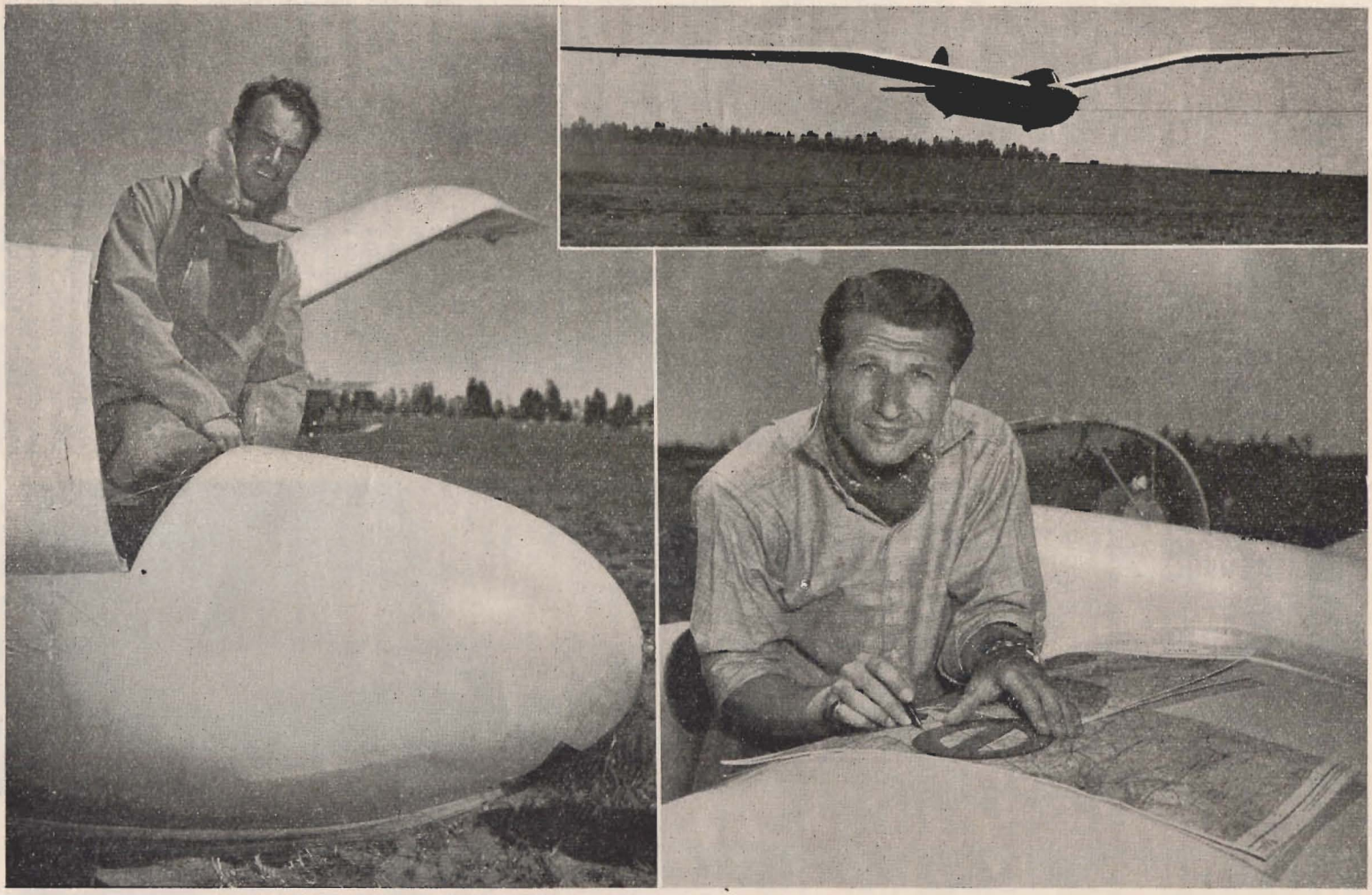


Hans Wuerth.

Windy conditions on the Monday limited flying to aircraft tests, and the weather was not much more favourable on the Tuesday, when "Boet" Dommisse set off in the "Minimoa." Almost 70 miles were covered in an hour, after which thermal activity died, and he was forced to land 10 miles short of Bethlehem.

The next two days were again windy, but small puffs of cumulus promised better things on the Friday. First away was Werner Kunze in the "Minimoa." He set course about mid-day for Piet Retief, and some five hours later was well past Warmbaths, with a promising cloud-street ahead. The surrounding country, however, is bad for landings, and, as he was off his map, he turned back and landed at Warmbaths, a distance of 202 miles from Kroonstad. This proved to be the longest flight of the Rally, winning the Kelvin, Bottomley and Baird Trophy, and setting a new official South African record. In exceeding 186 miles, it qualified for a Gold "C." This is only the second to be awarded in South Africa, and it is of interest to note that only four have been gained in England, where gliding is carried on much more extensively. Helli Lasch made a late get-away and in landing at Witbank covered 172 of the desired 186 miles. An earlier start would have made all the difference, and brought a Gold "C" to one who has done much to promote the sport in this country. Peter Leppan ("Baby") was also late in getting away, and landed at Van der Bijl township (76 miles), a few miles short of his goal of Vereeniging. Lewis Kayne ("Baby") reached Viljoenskroon (35 miles), while "Sparky" Davidson ("Woulf") and Ken Newman ("Baby") landed 28 and 21 miles respectively along the road to Johannesburg.

Clouds forming on the Saturday afternoon lured Ellis Udwin ("Baby") and Eric Tolliss ("Baby") to leave the field in a strong wind. Fierce down-draughts soon caught both, causing them to land after a few miles. A low inversion on the Sunday prevented any cross-countries, but both Helli Lasch and "Boet" Dommisse soared over the town for several hours.



"Boet" Dommisse, winner of the South African Championship.

Above: "Minimoa" on Tow.
Below: H. Lasch.

(PHOTO: KEARTLAND).

On Monday, under a clear sky, " Boet " Dommisse set a South African record for a goal-and-return flight by flying to Vredefort (45 miles) and back; the return trip against the wind taking several hours. Helli Lasch made a fast flight to Zwartkops (139 miles), no doubt surprising the home of South African flying. Ellis Udwin (" Baby ") reached his nominated goal of Heilbron (52 miles), while Dennis Schumann (" Baby ") did a very fast down-wind flight to reach Vredefort 59 minutes after release. " Sparky " Davidson (" Woulf ") landed a few miles short of the same town, and Eric Tolliss (" Baby ") covered 24 miles.

A hot wind prevented flying on the Tuesday, but the Wednesday provided good thermals under a clear sky. Helli Lasch nominated Zastron, and after a long battle up-wind, had the misfortune to land some 20 miles short, after covering 167 miles—a truly remarkable flight. Werner Kunze reached Heilbron, but on the return trip landed at Koppies. Gordon Clarry (" Woulf ") also attempting a goal-and-return, reached Vredefort, but landed after covering 3 miles of the return. The " Kranich " flown by Hans Wuerth with Doreen Fergusson as co-pilot, did very well after a late start to fly up-wind to Brandfort (89 miles), and established a two-seater record. Dennis Schumann (" Baby ") did 18 miles towards Johannesburg, and Andries Dryer 20 towards Bloemfontein. A very fast retrieve enabled the latter machine to be flown again that day, Ellis Udwin doing 39 miles after taking-off just before 4 in the afternoon.

With the same type of weather on the Thursday, the " Minimoa " flown by " Boet " Dommisse and a " Baby " flown by Peter Leppan set off together, and were still in sight of each other over Heilbron. Dommisse landed at Bethal (164 miles) and Leppan at his goal of Villiers (94 miles). Here, as with several other goal-flights, it would appear that height and several hours of daylight were sacrificed to the temptation of a certain 50 per cent goal-bonus. Ken Newman (" Baby ") and Dick Ascham (" Baby ") flew 34 miles and 30 miles respectively towards Johannesburg.

The Friday was the last day of the Rally, and produced some really outstanding flying, and a close finish to both the National and Junior Championships. " Boet " Dommisse, after a long aero-retrieve from Bethal, realised that he would have to cover 160 miles in order to stand a chance of winning the National Title. Time was against a flight of this distance, so when he took off at 2 o'clock he nominated Standerton (131 miles) as a successful goal-flight carries a 50 per cent bonus. With such a late start, it seemed a forlorn hope for a tired pilot. That he made his goal and won not only the Championship, but also the H. R. Lasch Trophy (for the longest goal flight), was proof of the indomitable spirit of one of the outstanding pioneers of the movement in this country. An equally remarkable flight was made by Ellis Udwin. In order to win the George Ward Trophy (styled the Junior Championship, as it is open to pilots flying low-performance machines) he required to do as least 90 miles. In reaching his goal of Warden (108 miles) in just over 3 hours, he achieved the longest goal-flight ever made in South Africa in a (" Baby,") and showed that, in the hands of an expert, a low-performance machine can cover an amazing amount of ground. This was further proved by Gordon Clarry in the " Woulf." In an attempt to reach Baragwanath he landed at Palmietfontein, after covering 103 miles cross-wind—a wonderful performance in a machine with such a low cruising speed. In the only other flight of the day, Eric Tolliss (" Baby ") gained 9,200 feet in a flight which ended near Heilbron (52 miles).

The Rally, during which more than 2,000 miles was covered in cross-country flights, closed with a very enjoyable cocktail party given by the Mayor and Council of Kroonstad. The thanks of all competitors must go not only to the Municipality for providing accommodation and encouragement to a sport which, though the basis of most Continental Air Forces, would appear to be ignored by the South African Press, but also to Sid Nash, Chairman of the Kroonstad Flying Club, and to Ellis Udwin, representing the Aero Club of South Africa, without whose sterling efforts the Rally would never have been held.

RESULTS

High-Performance Sailplanes

E. Dommisse, " Minimoa "	1,695	points
H. R. Lasch, " Air 100 "	1,593	points
W. Kunze, " Minimoa "	1,001	points

Low-Performance Sailplanes

G. E. Udwin, Rand A, " Baby " ..	798	points
P. D. Leppan, Rand A, " Baby " ..	644	points
G. Clarry, Pioneer, " Woulf " ..	559	points
E. Tolliss, Durban, " Baby " ..	396	points
D. Schumann, Rand B, " Baby " ..	255	points
" Sparky " Davidson, Pioneer, " Woulf "	252	points
K. Newman, Durban, " Baby " ..	231	points
L. Kayne, Rand B, " Baby " ..	132	points
R. F. Ascham, Rand B, " Baby " ..	123	points
A. Dreyer, Rand A, " Baby " ..	86	points
M. Clarry, Pioneer, " Woulf " ..	—	

Argus Trophy

Rand " A "
Pioneer

(*N.B.—Ellis Udwin has now emigrated to England*).

DUNSTABLE TO SOUTHEND—

(*Continued from page* 51)

been dazzling during the circling. With the ground sliding past at 100 m.p.h., the general effect was exhilarating. Southend airport soon loomed up, and I arrived at 2,300 ft. All this height, I thought, could be converted into a respectable circuit; but the best I could do was barely a quarter of a circuit, followed by a dive from 1,500 ft. at 110 m.p.h. to avoid under shooting into a pre-fabricated village. Thus, one hour after leaving Dunstable, I touched down at 14.35 in front of Flying Control from whence several helpful people soon emerged . . .

(*From the L.G.C. Gazette*).

This Flight is the Winning Winch Launch Flight for the Kemsley Prize.—[*Ed.*]

45 MINUTES IN A THUNDERSTORM

By NADINE HARLEY
Soaring Association of Canada

It had been an exceptionally good soaring day at Carp, that 27th August. But late in the day the wind veered and increased in velocity; an approaching thunderstorm threatened to curtail flying. But at the same time it stirred the imagination and gave promise of an interesting flight.

At 17.45 Barrie Jeffery, myself and a barograph were towed off in the " Pratt-R." Scattered areas of lift were encountered on tow but were fairly concentrated. It was raining steadily, with occasional flashes of lightning. We headed for the storm centre but, instead of entering it the tow pilot turned sharply away from it, explaining later he was not anxious to fly the " Moth " on instruments with the " P-R " hooked on behind !

It was a breath-taking sight that met our eyes as we skirted the edge of the clouds ; a heavy curtain of rain, miles in width curled at its bottom edge where it touched the earth ; behind it we caught a glimpse of the setting sun.

At 3,000 we released in lift of 5 to 8 f.p.s., entered cloud and climbed steadily to 4,000.

The lift then became intermittent, with violent down-drafts ; we sought in vain for some green air. The buffetting increased until control became difficult ; the machine being literally tossed about the sky.

It was nervous work and when Barrie suggested we might turn home. I agreed. " But," said Barrie, " where is home ? " and we stared silently into the swirling mists, impenetrable and threatening.

Suddenly we seemed to drop like a stone ; fascinated, I watched the red ball shoot to the top of the variometer ; the rate of climb indicator swung a quarter revolution past the 10 f.p.s. down mark.

There must have been lift close by of from 15 to 20 f.p.s. but we couldn't find it and, as we were down to almost 2,000 we decided to leave the cloud. Still we faced the problem—where was home? Being partial to left-hand turns we banked in that direction and to our delighted relief shot out of the cloud to find ourselves a few miles west of Carp.

It was still raining heavily as we rolled up to the hangar at 18.30 and waited for someone to bring an umbrella.

THE DE HAVILLAND CUP FLIGHT

By CAPTAIN R. H. GARNETT, The Glider Pilot Regiment

FROM the office window, Saturday morning for once looked really good for gliding. The subsequent prompt departure and rather hectic drive to the club produced the depressing news that no cloud flying was allowed in the Control Zone that day. As the clouds by this time were looking most promising, with thunderstorms over London, it was decided to start a twenty-mile cross-country flight (at an alarmingly low altitude) to get to a free area. This was achieved, not without some awkward moments when lift was scarce, and at last, beneath a fairly large cumulus, the " Olympia " glider (the other half of " we " from now on) was given her head.

The cloud only worked up to 6,000-odd feet, but provided a stepping-stone to some big stuff towering up just to the north. This was obviously in the process of becoming part of a belt of thunderstorms along the Thames Valley, and it was with some trepidation that we disappeared into this wall of cloud.

This particular cloud, however, was a friendly specimen and produced good steady lift without the trimmings that are sometimes thrown in. The technique of climbing consists of going round in endless circles in the best lift that can be found. With only the hum of the electric Turn-and-Bank indicator as company, visibility about three yards and the steadily mounting altimeter as a reminder of the vast power latent in it, a big cloud is rather an eerie place, alone in a glider.

This time the climb continued up to about 11,000 feet : rapid but rather confused mental arithmetic suggested that it was just not enough for a certain much-sought-after altitude qualification, so we fumbled about in the cloud trying to find a bit going higher.

Three times 11,000 feet was reached and each time the " lift " died away at the *moment critique*. Sometime during this process we ran into hail ; not very much, but three-ply and doped fabric make a most efficient drum. A quick look out of the sliding window revealed quite a lot of ice on the wings. The window was hurriedly shut.

The fourth attempt was made in better cloud from the start. The rate of climb went up to 20 feet per second and periodically stuck in the top of the instrument. Rather naturally, it got rougher in proportion and some of the bumps were most startling. There was more hail and doubtless more ice, but it couldn't be seen, which was just as well. The question of oxygen was just beginning to become serious (there was none on board) when the lift stopped and the decision to break off what might be the climb of a lifetime did not have to be made after all.

After flying south for a few minutes we broke cloud at about 14,000 feet. The whole glider proved to be covered in quite thick ice, including the perspex cockpit cover. However, the window provided a wonderful view of clouds and, for the first time for forty minutes, of mother earth. Thoughts of tea and other comforts became rapidly irresistible, so course was set for home at high speed. The long glide was enlivened by a series of loud cracks as the ice was shed at lower levels and a nasty (but quite unfounded) suspicion that the recording instrument had not been switched on.

The rest of the evening was spent in shooting lines and, of course, filling in forms. The height reached was 14,800 feet. ("PEGASUS.")

RECOLLECTIONS OF A "FLYING FLEA" ENTHUSIAST

(*Continued from page 42 February issue*)

One muscular member was in charge of refuelling, and he would depart with a five gallon can on his push bike to the local garage and return with this considerable weight lashed on his back. We had no special organisation laid on for flying so everyone agreed that the builders should have " first go." It may be worthy of note that although none of us had any experience as pilots we had learned a great deal of basic information from books. Every aeronautical book in the local library had been absorbed in detail. Stories of Richtofen's Circus of the 1914-18 war, fighting Allied aircraft with exciting names like " Camels," " Pups " and " Spads," had been duly digested. The more technical manuals had received full and careful scrutiny. Lift, thrust and drag, the use of controls, stalling and spinning, were all understood theorectically. Consequently it was with a little more confidence than perhaps the Wright brothers had, that I commenced my first flight. A blissful confidence, I might add, born of a little knowledge and a vast amount of ignorance.

The field was large, the grass a little too long and a path with rather rough edges ran across the middle. A fresh breeze blew the delightful smell of hot engine in my face. The machine was vibrating expectantly and a dutiful cockpit check showed that all three vital items were in order. The magneto switch was on (only one magneto), oil pressure was there, and the oil temperature was not quite off the clock. We were facing into wind and my big moment had arrived. The throttle was opened fully and the engine responded with ample noise, if not power. I lurched along oblivious to airspeed, revs., etc. ; my eyes were out of the cockpit watching the ground go past at what seemed a tremendous speed. We hit the edge of the path in the middle of the field and bounded into the air. The control column had been held forward but it was now moved smartly to a central position and the machine after its initial leap of three or four feet skimmed over the ground at a height of one or two feet. Its stability, in light of more recent knowledge, was peculiar. Without consciously moving the controls we proceeded with a similar motion to a saucer descending through water. Not being trained to expect any other form of motion I was not unduly disturbed but revelled in the exhilaration of being airborne under my own control. Landing was a simple but rough affair. The control column was pushed forward until the wheels touched the ground and then the throttle was closed. We pulled up with ample room to spare. This form of landing and the fact that ninety per cent of our operations were spent with the wheels on the ground, took toll of the undercarriage, and the rubber suspension had frequently to be renewed.

Our first sign of trouble was when members who had subscribed to the Club but who, in modern parlance, could be classed as dim were sent off on these hops. A typical case will illustrate this point. The budding aviator was first of all briefed, strapped in the aircraft and pointed into wind. He had been instructed to watch the grass ahead and when it flattened, to prepare for a gust of wind and to hold the control column forward. We watched him gather speed, we could see a strong gust of wind approaching, we saw the flattened grass and the aircraft meet. The " Flying Flea " leapt off the ground like a startled rabbit. The pilot was even more startled, fear replaced reason, and he held the control column hard back and left the throttle wide open. The result was spectacular if not tragic. The nose of the aircraft rose to an unbelievably high angle, the engine roared its protest and the whole ensemble reached a hovering vibrating state of equilibrium at a height of fifty feet. The pilot's head could be seen going from side to side of the cockpit looking frantically at the distant ground. The engine, though trying hard to support the whole weight of the machine, was not a howling success. Gravity won the uneven battle and the descent commenced. The " Flea " slipped backwards and struck the ground with a high rate of descent, tail first. The main wheels then arrived followed in rapid succession by the engine and mainplane, the whole machine finishing up as flat as a pancake.

The " building members " were purple with rage and dashed over to the wreck using all manner of foul language to describe the pilot. He was hauled unceremoniously from the debris. White and shaken he was dismissed with a few well chosen words dealing with his mental powers and lightly touching on his ancestry. On inspection the damage was not so great as had been feared. The engine had gone through the nose of the fuselage and had been saved from damage by the pilot's knees. The fuselage was written off but the wings were not even scratched. We had by this time started to build a second machine so we nsed this fuselage as a replacement for the broken one. The machine was serviceable again in about a month's time and we waited for a trained pilot to test it. This pilot was killed in a similar machine shortly before he was due to test our aircraft. The Air Ministry wisely stopped all flying until the design had been tried in the Farnborough wind tunnel. All " Flying Flea " enthusiasts throughout the country subscribed to the cost of this test. The results are well known ; the " Flea " was unstable in a dive. This could have been remedied, but at the time the " Flea " was condemned as a suicidal widow-maker, thus effectively bringing to a close another stirring epoch in aviation history.

To sum up the advantages or impetus that the " Flying Flea " gave to Ultra Light Aircraft enthusiasts, first the aircraft was not only easy to build, but more important to the amateur it looked easy, and after commencing work he was not frustrated by apparently insurmountable problems as so often happens with more conventional aircraft. Secondly it was cheap to build and fly. Our machine cost £125 of which £65 was the cost of engine ;

the hangar cost another £50. If we treble these figures to have some comparison with present day costs they are still reasonable amounts. Thirdly, it was easy to fly, with no tendency to swing on take-off, and no wing dropping at low speeds; even at very high angles of incidence it did not seem to stall, though its rate of descent could be high as explained in the crash incident. Due to its unconventional control there was a steady yawing oscillation which no doubt could have been improved. Lastly, because of the three main points mentioned, it was a machine that appealed to a certain section of the public; a section which is large in numbers even in these days of jet aircraft; who are enthusiastic and willing to take a reasonable risk. Individually, they are what may now be termed the lower income group. They cannot, therefore, enter the aviation field until, collectively, they can be organised in the building and flying of aircraft within the scope of their abilities and finances. I say no more of the "Flying Flea," except that it had promise in its day of being the required machine, and had it received even an infinitesimal backing by any responsible body in aviation it might have succeeded in its purpose.

The Ultra Light Aircraft Association can achieve a great deal if by ruthless elimination of complexity and cost in design, it can find a machine that can fly safely. Performance is of secondary account. In this quest I wish all enthusiasts and the Association the best of luck.

(The Association is in full agreement with F/Lt. Banner on the necessity for a simple elementary aircraft, of safe and robust design, and simple to build by amateurs with limited facilities. One of our primary aims is the encouragement of home-construction of approved designs of ultra light aircraft under the supervision of our Inspection Organisation. We are doing all we can to arrange for the introduction of such aircraft; already, the Slingsby "Motor-Tutor" has been offered for sale in kit of parts form, and other designs are in hand. For reasons given in our *Bulletin* of last June, we are unwilling at present to sponsor the "Flying Flea" in this country, but we are confident that in due course a more conventional elementary type which can be just as easy to build will become available to our members.—Ed.)

ULTRA LIGHT AIRCRAFT ASSOCIATION

BULLETIN. VOL. 3. No 9.

AERONCA J.A.P. ENGINES

DUE to the resignation of Mr. Rose-Dale and the consequent cessation of his firm's work on reconditioning these units, Mr. Bianchi of Personal Plane Services, Blackbushe Airport, Surrey, has taken over the work on behalf of the Association.

Mr. Bianchi, who is fully approved by A.R.B., has also been appointed as the Association's agent for all stocks of spares of these engines held by the Association. Enquiries from members and others wishing to purchase complete engines should still be made direct to the Association, but any enquiries for spares may be made direct to Mr. Bianchi at Blackbushe.

DESIGN SUPPLEMENT

Contributed by Group Captain E. L. Mole, Chairman, Design Sub-Committee.

On Tricycle Undercarriages

We have received a very forthright paper by Sqn. Ldr. P. E. Hindmarsh, in which he makes a strong case for the adoption of the tricycle undercarriage on ultra light aircraft. He referred to our two-seater trainer specification issued in the *Bulletin* last October, and was surprised to find that such a large majority of members favoured the conventional undercarriage. Whilst he admitted the sense of satisfaction a pilot feels when he has pulled off a perfect three-pointer, he does not consider that the pleasure of successfully accomplishing such a precise manoeuvre is enough to justify the conventional positioning of the landing wheels, which he regards as an out-dated and dangerous system.

Sqn. Ldr. Hindmarsh has had considerable experience on the "Cygnet," which was the first modern design of "light" aircraft to be put into production with a nose wheel. He described the ease of taxying as just like handling a car, stating that the aircraft could be "driven" in and out of confined spaces, between other machines, regardless of wind strength or direction, with complete confidence and safety. He argued that tricycle take-off and landing techniques are just the same as with conventional undercarriages, apart from a few minor considerations. For instance, when taking-off with the tricycle, the aircraft is already in flying position and the pilot has no cause to hold the stick forward to lift the tail—instead, he simply makes a slight backward pressure until the aircraft becomes airborne, when he settles down to the correct climbing speed as usual. For landing, he holds off in the normal way as if to make a three-pointer; when the main wheels have touched down, the stick is held back until reduction of speed causes loss of elevator control and allows the machine to pitch forward on to its nose wheel.

In concluding his paper, Sqn. Ldr. Hindmarsh stresses that there are two main and indisputable considerations in favour of the tricycle. The first is improved view and, therefore, safety. The second is the complete elimination of any tendency to swing during take-off or landing, regardless of wind direction.

We are glad to publish these views in favour of the tricycle undercarriage, as this is one of the highly controversial subjects of U.L.A. design. We propose, therefore, to summarise herewith the advantages

and disadvantages of tricycles, and to discuss their application to ultra light aircraft.

Advantages

(i) better view when taxying and taking-off.
(ii) directional stability on the ground, which prevents swinging in a cross wind.
(iii) simplified taxying and taking-off procedure.
(iv) simplified landing procedure: the aircraft can be landed throughout a wide range of speed, and has no tendency to " balloon " off the ground again as the C.G. is forward of the main wheel base, and thus the weight of the aircraft tends to reduce the wing incidence.
(v) less likelihood of being blown over on the ground owing to the zero incidence of the wing.

Disadvantages

(i) extra cost, weight, drag and complication of the nose wheel and oleo leg.
(ii) longer take-off run on grass airfields due to the additional rolling drag of the nose wheel.
(iii) longer landing runs as landing speeds are inclined to be faster, and there is less wing drag during the landing run to decelerate the machine—but against this, more powerful brakes can safely be used.
(iv) the nose wheel oleo leg is apt to prove fragile on rough ground, and failure of the leg leads to expensive damage.
(v) pitching may prove excessive when landing or taxying on uneven ground, owing to the very short wheel base likely with a tricycle ultra light aircraft.

Generally speaking, the tricycle would appear to win hands down from an operational point of view. The extra cost, weight, drag and complication of the nose wheel and oleo leg are, however, severe penalties for the ultra light, especially as regards our two-seater trainer for which cheapness and simplicity were primary design requirements. It should be borne in mind, moreover, that our trainer is to be used to teach pilots who will probably need to fly aircraft with conventional undercarriages later on. Finally, short take-off and landing runs from unprepared surfaces are one of the main virtues of ultra-light types, and a major selling point of the movement—we aim to have Groups operating from private fields on a " friendly farmer " arrangement.

We feel on the balance that our specification of the conventional under-carriage is justified as regards the two-seater trainer. The conventional undercarriage is also probably justified for all elementary types of ultra light aircraft for which cheapness and simplicity are primary requirements, and which have such a low landing speed that the act of landing is simple. Such aircraft will normally be operated from grass fields and should consequently be able to land directly into wind, so that swinging should present no real problem. With more advanced aircraft, however, such as our high performance class for which cheapness and simplicity are not of such fundamental importance, and which are likely to have higher take-off and landing speeds, the tricycle undercarriage is certainly an attractive proposition. For the high performance class, some simple form of manual retraction gear might well be considered.

We should welcome members' views on this controversial subject. Meanwhile, we are looking forward with great interest to the first flight trials of the " Herald," which are due to begin shortly. The " Herald " is a new design of single-seat ultra light aircraft of all metal construction, made by Hants and Sussex Aviation Ltd. of Portsmouth Airport, and is the first British U.L.A. to be fitted with a tricycle undercarriage. Experience with the " Herald " will do much to settle the argument once and for all !

Mr. Swinn's Auxiliary-Powered Sailplane

Some time ago we mentioned a project by Mr. R. Swinn, now C.F.I. at the Army Gliding Club, to instal a 350 c.c. motorcycle engine as a retractable, pusher power plant unit to his " Scud III " sailplane. We have now heard from him that the installation has been successfully completed. Mr. Swinn says he has flown the glider (without the engine) for about 100 hours up to a maximum height of 5,200 ft., and that it is delightfully simple to fly. His longest flight so far has been of 7½ hours, when he only had to land because of darkness. The addition of the engine apparently makes no difference to the fore and aft trim.

The original " Scud III," which was fitted with a specially converted 250 c.c. Villiers engine, was intended to provide a means of launching a sailplane and climbing to the height required for soaring without the expense and complication of a towing aircraft or a launching winch. Once at height; the engine was to be stopped and retracted into the fuselage, so that the sailplane could achieve its maximum soaring performance. When desired, the engine could be wound out again and started up from the cockpit, so enabling the pilot to return to his base.

Such an aircraft offers the enjoyment of the sport of soaring without suffering the inconvenience due to a sailplane's immobility on the ground. Engine failure is not so serious as with other aircraft, as the machine merely reverts to its normal sailplane role.

Mr. Swinn has altered the original installation design considerably, besides fitting a more powerful engine, and we congratulate him on his enterprise and enthusiasm. We would, however, strongly recommend him to discuss the installation with a professional design consultant to ensure the safety of the aircraft (our Design Team could help him), and we will be glad to sponsor an application for a special experimental Permit-to-Fly from M.C.A. for the operation of this interesting aircraft.

Details of this interesting conversion are given by Mr. Swinn as follows :—

Engine

349 c.c. two-stroke Villiers, inverted, and lubricated by means of crankcase compression fed into the oil tank air space, forcing oil through a regulating sight feed to the main bearings, piston, etc. The system is simple and fairly fool-proof. Thrust

is taken care of by a thrust race mounted immediately in front of the propeller. Flywheel ignition is employed as it serves both for ignition and to reduce the vibration of the single cylinder engine.

Propeller

This is made by Airscrews Ltd. of Weybridge, is 3 ft. 6 ins., in diameter and 1.24 ft. in pitch, and has brass leading edge sheathing. It cost £36. 5s. 0d. but the jigs are being retained by the firm so that another one would be less than half this figure.

Fuel Tank

This is a cylindrical mild steel tank divided into two parts—one part for oil (1 pint) and the other for fuel (3 pints). The fuel is fed by gravity, the tank being situated immediately above the engine.

Installation

The unit is mounted in the neck fairing behind the wing and is fully retractable. The attachment is made by means of three bolts, and the whole unit can be taken off or replaced in eight minutes by one man. The retracting gear consists of a simple screwed rod along which travels the actuating arm to the unit. The rod is driven by chain around a sprocket at the side of the fuselage, and forward to a simple 45 degrees bevel drive and handle. On starting up, the unit vibrates at low speeds, but this rapidly passes away when it settles down to a healthy roar and runs most smoothly—so much so, that one can forget there is an engine on the machine at all.

Controls

These consist of a simple motorcycle combined throttle and mixture lever, plus twin flex ignition lead connected to a simple switch.

Fuels

So far he has experimented with commercial petrol, methanol and Benzole. With petrol, he can only obtain ¾ throttle. Methanol let him down again and again, the revs. dropping unaccountably every few seconds. Benzole enables him to operate the engine at full throttle and has given by far the best results so far, the only snag being that the engine kicked back violently on starting—retarding the ignition has cured this, but causes loss of power. Mr. Swinn would welcome any advice from members on fuels.

(Note : the Design Sub-Committee recommend him to use straight 73 octane aviation fuel, and to consult the manufacturer about the most suitable carburettor jet settings to use).

RESEARCH SUPPLEMENT

Contributed by Mr. A. R. Weyl, A.F.R.Ae.S., Chairman, Research Sub-Committee.

Power-Assisted Sailplanes with "Hot-Water" Rockets

On a former occasion, we referred to our preliminary consideration of solid-propellant rockets for the temporary propulsion of sailplanes—in particular for take-off. We considered that this method was technically entirely practical and worth while developing, but that the costs of the propellant were rather prohibitive. The Americans have calculated the cost of a power rocket for a sailplane take-off with climb to 1,500 ft. altitude, is not less than 145 dollars (£52. 0s. 0d. at the present rate).

With "Hot-Water" rockets, the propellant is plain, ordinary water ; for propulsive use some form of heating is required. The costs of such auxiliary or temporary propulsion are, therefore, only a minute fraction of that of any other rocket propulsion. The propulsive and heating substances are obtainable everywhere, which is immensely important for cross-country soaring, but the snag is that in comparison with any other propulsion, the weight required for a given thrust (or, more precisely, thrust-impulse) is rather high.

H. H. Koelle gives a survey on the application of "hot-water" rockets in No. 4/1949 of the German paper "Die Weltluftfahrt" (The Airworld) from which we take the following details :—

The "hot-water" rocket was proposed by C. Muehlhaeuser in 1939, and the Aerodyn. Research Institute Goettingen secured a patent ; shortly afterwards, the chief-engineer of the Heinkel Works proposed a similar arrangement for the assisted take-off of heavy aircraft, and laboratory tests were made. It was found that for a given impulse (i.e. the product of thrust and duration of the thrust in lb. thrust/secs.), the "hot-water" rocket requires about four times as much propellant weight as a solid-propellant rocket. To give concrete figures : the "specific impulse" i.e. the thrust force per unit propellant weight expended per second is only about 45 to 50 lb. sec./lb. (or seconds), whilst a powder rocket of modern design gives easily between 165 and 200 seconds of specific impulse.

In construction and operation, the "hot-water" rocket is exceptionally simple. It consists of a boiler or water container which terminates in a Laval nozzle ; the latter has a controlling device to open or close it. The container may either be charged with hot (superheated) water, or it can have a special heating device (e.g. the installation of an oil burner with a P. Schmidt duct to give high flame temperature on crude oil, or even coal dust). During the heating the valve at the nozzle is closed. When sufficient pressure is formed, the valve can be opened for operation of the rocket. The very hot water leaves the nozzle at high speed, thus giving a thrust as reaction. During this discharge, part of the hot water is transformed into steam, and the resulting steam-water mixture greatly contributes to the acceleration of the propulsive jet.

During the war, the "Graf Zeppelin" Research Laboratory of Stuttgart-Ruit has investigated this method for the use with sailplanes and training gliders. Huetter proposed to let the hot-water container form a structural part of the air-frame, as for instance a wing spar and leading-edge of the "Grunau Baby." This is feasible as the operating temperature is only about 270 degrees centigrade, which would not impair the strengths of metals. The resulting force would be sufficient for the aircraft to reach altitudes of 1,300 ft. after take-off, and the additional weight of the rocket installation (without propellant, of course) would be of the order of 22 lb. The thermal efficiency is only about 10 to 12 per cent ; nevertheless, the operation is exceptionally cheap for the purpose in mind. Compared with the prices of U.S. rockets, the costs are only about 1/100th to 150th.

CONSTRUCTION SUPPLEMENT

Contributed by Mr. H. L. Pitt, Chairman, Construction Sub-Committee

In taking over construction, perhaps the Executive Committee will forgive me if I write in personal vein for the first time.

My experience dates back to 1912-13, when, as an engineering apprentice, I joined with a school friend to design and construct a biplane with an "outrigger" tail. It was fitted with an 8 h.p. Jap Motorcycle engine, with a pusher propeller between the outriggers.

As the space we had available for a workshop was very limited, we were obliged to divide the span into a centre section of about 10 feet, and two outer span cells of about 7 ft. 6 ins., making a total span of about 25 feet. Wings, struts, and all parts were made in this upstairs store room, and assembled into units in a covered yard below. The two outer cellules had to be carried separately through the main road, and the assembled centre biplane section with nacelle, similarly wheeled, for about one mile, to the assembly shed. This shed was too small to permit the assembly of the tail and outriggers, so that the whole machine, with undercarriage, had to be lifted bodily sideways out of the shed on to the field adjoining before the tail could be fitted.

We had a large gang of enthusiastic, if somewhat ignorant helpers, some of whom were friends, and others merely curious onlookers. Two on each side were instructed to hold up the tail while others were to tow the aircraft down the slight slope of the very small field, by ropes attached to each wing-tip. By this means it was hoped to attain a speed of between 20 to 25 m.p.h. at which speed it was expected that the machine, as a glider, would take off. The engine was still being lightened and tested, and had not yet been fitted.

My friend and I tossed up for the honour of being the first one to fly, and my friend won. He took his seat in the nacelle, and after photographs were taken—*before* the possible crash made it too late—I instructed the team of helpers.

Unfortunately, not fully appreciating the delicate situation, they held the tail up too high too long, and he did not get off the ground before reaching the end of the field, which was very small.

It was then my turn ! Having more carefully explained to both teams their duties, I duly made my attempt, and did actually leave the ground for about 50 or more yards at a height of from two to five feet—undoubtedly one of the most thrilling experiences I can remember.

This was considered a great achievement, and I was jubilant because the longitudinal stability, c.g. position, and control were satisfactory, and the undercarriage had remained undamaged. (Incidentally, the wheels were actually two of those used on one of Sir Hiram Maxim's early machines).

My friend now requested his second try.

Alas ! The field had a number of mounds about 2 feet high scattered here and there, and the towers inexpertly guided the poor glider toward one of them. My friend had insufficient rudder power to counteract them, as we foolishly had arranged a tow line at each wing tip. The undercarriage hit the mound at just about take off speed, and the aircraft promptly stood on its nose, crushing the beautifully (?) streamlined front of our nacelle, on which we had lavished so much artistic skill.

Nevertheless, the glider had shown its ability to fly straight and level, and that satisfied us sufficiently for us to concentrate on the powered flight.

The relevant part of this story though, is the fun we had in constructing the machine, quite apart from its success or failure in flight. In fact, it never flew under power, as the war came along just when it was nearly ready, and we both joined the R.N.A.S. Looking back, I realise that it was fortunate that we were unable to attempt powered flight at any considerable height, as almost anything might have happened.

Now it is fully appreciated that to design and build a flyable and useful aircraft is to-day no easy task. However, it should not be thought that there were no obstacles to get over in those days. True, we obtained silver spruce, yellow pine, best grade ash, piano wire, turnbuckles, and even unbleached Irish line and dope, without great difficulty, but our incomes—or pocket money—was adversely proportional to the price of materials just the same. As an engineering apprentice I worked from 6 a.m. to 5 p.m. and a minimum 54 hours per week was often increased by overtime, sometimes all night through, other times throughout the week-end ; but working in the Experimental Aviation Dept. of Vickers Ltd. at Erith and Crayford, I was at least able to get some welded sockets and other such detail fittings. As I had also to do technical night classes four nights per week, and my friend was supposed to be studying Law in his spare time (which study was I fear, much neglected) completion of the glider within eighteen months involved much of what is now often referred to as hard work.

All the same, our enthusiasm, was such that real pleasure, or more, triumphant exuberance, accompanied the overcoming of every obstacle. In looking back, I realise that we never really thought of them as difficulties at all. The work, whatever it involved, was sufficient in itself ; as much, if not more, than the end in view.

If we could have added to this pleasure the supreme satisfaction of having a useful transport vehicle in which we could make real and safe flights, instead of the expectancy of a complete wreck at the first trial, our enthusiasm would have been boundless !

Therefore, I say to members who are hesitant and appalled when confronted with their difficulties to-day ; do not regard them as obstacles, but only as something which is part of the job, the overcoming of which will bring its own pleasure and satisfaction. It will be "fun in the doing" even if the results are not 100 per cent successful.

One final point. Our ignorance was appalling. You have all the advantages of scientific progress. Nevertheless, since the Association exists to help you keep within the framework of Safety and Regulations, my own feeling is that one should not be too awed by the highly scientific and technical nature of modern design and construction, nor should one aim at beating the best that an advanced

technical school can do. Basic simplicity should be the aim and ultimate end.

Co-ordination of Constructional Activities

At this early stage we have nothing to report for the *Bulletin*. This is where members can help us and each other. We know that various groups are busily engaged on construction, re-construction and conversions of various types of ultra light aircraft, and they are at various stages between the parrot (talking bird) and the eagle, but we have no detailed information about their progress. Please do not wait until you have tested and flown your aircraft before letting us know the results of your work. Tell us now what you are doing; how far you have progressed—from the discussion to the paper stage—(if doing your own design); from the design to the material finding stage. How you have succeeded *or failed* with premises, costs, materials; what snags you have met—and how you overcame them. If you cannot overcome them—let us know that too—others may have found a way which you can follow.

Will you therefore please help the Construction Sub-Committee by sending the results of your efforts to-day to me at "The Coppice," Sunnydale, Farnboro' Park, Kent.

Aerodrome Accommodation

One of the difficulties which may confront Groups is that of obtaining weather-proof protection for their aircraft, without, if possible, high rental charges. We hope to have some tentative suggestions to offer on the subject of hangarage next month.

OPERATIONS SUPPLEMENT

Contributed by Mr. M. MacDonald, Chairman, Operations Sub-Committee

U.L.A.A. Instructors' Panel

A great drawback to any U.L. Group is the lack of an instructor possessing the qualifications authorising him to check pupils for their initial solo flights, or solo cross-country flights. This has two effects, firstly, the Group concerned is forced to send the pupil to the nearest Flying Club in order that the Club's C.F.I. can check him out (and often this entails great expense), and, secondly, a Group is therefore reluctant to take on any ab-initio pupils. Naturally, this last factor will have a serious effect on the future of the Ultra Light as a whole.

In order to arrive at a solution, negotiations are now in hand to form a U.L.A.A. panel of voluntary flying instructors, all with suitable endorsements, who are prepared to go to a different Group any week-end (on a rota basis, or as required) in order to send Group pupils off on their *initial* solo. This is stressed because all subsequent solo flying (with the exception of initial solo cross-countries) can be made by those pupils who are authorised by the Group's own assistant endorsed instructors.

One instructor has already signified her willingness to help on this scheme, subject to her own tuition commitments. Many others are needed; eventually, we hope to put the scheme on a regional basis. Each Group can come to its own arrangement with the visiting instructor regarding his travelling costs, etc.

It is realised that the checking out of other instructors pupils is a very difficult job, as it takes some time to assess a pupils capabilities, and therefore, one flight may not be sufficient indication. However, it is felt that even these flights will be at a cheaper rate, flown at the Group, than at a Flying Club.

It must also be stressed that the pupil must have reached a high standard before being submitted to the visiting instructor, so as not to waste any time.

To sum up, it will be realised that the organisers of this scheme will need a great deal of co-operation, and a steady flow of regular information from Groups regarding (a) the number of pupils who have reached the solo stage and are waiting to be checked out, (b) the number of ab initio pupils in the Group, and (c) the types of aircraft that are being used for training purposes in the Group.

A questionnaire, covering the above points, is attached to this *Bulletin*; on completion, it should be sent to :—

The Chairman, Operations Sub-Committee,
Ultra Light Aircraft Association,
c/o Royal Aero Club Aviation Centre,
Londonderry House,
19, Park Lane, London, W.1.

and the envelope should be marked "Instructors, Panel."

Important M.C.A. Concession regarding the operation of Group owned aircraft

There has been considerable controversy in respect of the interpretation of the phrase "hire and reward" as applied to communally owned group aircraft. The main question being whether group operated aircraft would have to comply with requirements in respect of "public transport aircraft," which have more rigorous maintenance requirements than are needed for the private flying category. The matter was taken up by the Association with M.C.A. and a test case was put by Cardiff U.L.A.C. in respect of their "Tipsy" aircraft.

This Group's aircraft has been exempted from specific requirements to be complied with in respect of public transport aircraft. Normally payment in money or money's worth either for flying or flying instruction would place the aircraft in the public transport category. We are, therefore, happy to publish the following letter of exemption sent by M.C.A. to the Cardiff U.L.A.C. This is self explanatory :—

Ref. R.66468/49/RL 3.

1st September, 1949.

Sir,

I am directed to refer to your letter of 13th August, and to inform you that, in pursuance of Article 70 of the Air Navigation Order, 1949, the Minister of Civil Aviation hereby authorises the exemption, subject to the conditions set out below, of "Tipsy" Trainer aircraft, G—AFJS, the property of Cardiff Ultra Light Aeroplane Club, from any provision of the above mentioned order which specifies requirements to be complied with in respect of "public transport aircraft" (i.e. "public transport aircraft" as defined in

Article 71 (1) of the Order). The said conditions are as follows :—

(i) the aircraft shall be flown only by members of the Club and no joy flights or instruction flights therein shall be given for payment to any person who is not a member of the Club ;

(ii) no person shall receive a reward of any kind for giving flying instruction to members ;

(iii) the aircraft must be at all times maintained in a proper condition of airworthiness ;

(iv) an authorised officer of this Ministry shall be entitled at all reasonable times to inspect the aircraft and the Club's operational organisation ;

(v) third party insurance shall be effected to an amount agreed between the Club and this Ministry ;

(vi) this authority shall be withdrawn if the above conditions are not complied with, or in the event of the Ministry's representative finding that the Club's maintenance and operational standards are not satisfactory.

As regards your enquiry in respect of persons (i.e. wives, fiancees or friends of members) who, for the purpose of being given flights in the Club's aircraft, are enrolled as Day Members, I am to say that a person so enrolled may be regarded as a member of the Club for the purpose of Condition (i) above.

The Department notes that insurance has already been effected against third party risks and considers the amount to be satisfactory. The cover note enclosed with your letter is returned herewith.

I am, Sir,
Your obedient Servant,
(Sgn.) J. A. WEEKLY.

M.C.A. have asked the Association if any other of our affiliated Groups would like a similar exemption in respect of any aircraft operated by them. If a similar exemption is required by any Group, will the Secretary please apply to the Association giving details (Type and Registration Letters) of the aircraft for which exemption is required, together with details of insurances effected for the aircraft. For guidance the normal 3rd party insurance is considered sufficient (£10,000 any one accident—unlimited in all).

News from the Groups

The Association is pleased to announce the affiliation of three new Groups :

The Montgomeryshire Ultra Light Aircraft Group,
Hon. Secretary, W. Thomas, Esq.,
22, High Street,
Newtown, Montgomeryshire.

Private Flying (Ipswich) Ltd.,
Hon. Secretary, S/Ldr. F. Driessen,
16, St. Peter's Street,
Ipswich, Suffolk.

The Wycombe Flying Club,
Hon. Secretary, V. Stoodley, Esq.,
"Hamble," Riverside,
Bourne End, Bucks.

Anyone interested in any particular Group should write to the Hon. Secretary at the appropriate address.

OPERATIONS SUB-COMMITTEE

Instructors' Panel

Name of Group or Club.....
.....
Address .....
.....
Flying Field.....
Types of Aircraft in use for Training Purposes....
.....
Pupils ready for (a) initial solo.....
Flying Experience : Dual.
Names .....
.....
.....
.....
Pupils ready for (b) initial cross-country.....
Flying experience : Dual/Solo.
Names .....
.....
.....
.....

Please state dates desired for a visit by an instructor, and any other remarks.

NEWS FROM THE CLUBS

THE BRITISH GLIDING ASSOCIATION

Londonderry House,
19, Park Lane, W.1.

Circular No. 2/50. February, 1950.

1. The National Contests, 1950.

The dates of the National Contests to be held at the Derbyshire and Lancashire Gliding Club, have been changed to one week earlier. The Contests will now be held from the **22nd to the 30th July inclusive** with the 22nd as a practice day only.

2. International Contests. Pilots' Standards for Candidates for the British Team.

The following Pilots Standards have been laid down by the Council for candidates for inclusion in the British Team sent to any International Contests.

(a) Possession of a Gold "C."
(b) A good record for previous competition flying.

The assessment of qualification "B" will be made on the results obtained by pilots in previous National and B.A.F.O. Contests or the like.

3. "Gliding." This Publication, edited by Jacques Cocheme, A.F.C., is now available. Copies price 3s. 6d. can be obtained from

Gliding Clubs, or direct from John Hurry, of 17, Queen Street, London, W.C.2. It is hoped that this will become a Quarterly magazine, but this depends on the success of this the first issue.

4. Annual Award of Cups and Trophies for 1949. The Council, on the recommendation of the Flying Committee has made the following awards for 1949 :

1. **The de Havilland Cup**
   Awarded to Captain R. Garnett for the height gained of 12,240 ft. on his flight from Redhill Aerodrome on the 16th July, 1949 in an " Olympia."
2. **The Manio Cup**
   To D. H. G. Ince for his Goal Flight of 192 miles from Long Mynd to Yarmouth on the 9th August, 1949 in an " Olympia."
3. **The Wakefield Trophy**
   To P. A. Wills, C.B.E., for his distance flight of 232 miles from Hatfield to Gerrans, Cornwall, on the 1st May, 1949 in a " Weihe."
4. **The Volk Cup and The Seager Cup**
   Both these cups awarded to J. W. S. Pringle, M.B.E., and J. Grantham for their Out and Return Flight of 77 miles from Cambridge to Dunstable to Cambridge on the 12th August, 1949 in a " Kranich."

Kindly note that all outstanding flights that take place during 1950 must be submitted to the Secretary for consideration by the Flying Committee for Annual Awards, not later than the 15th January, 1951.

LONDON GLIDING CLUB

Flying News for January

W/E, Sunday, 8th January. On Monday, in a westerly wind, several members flew. Among them was Jessie Wright, who did ten minutes in a " Tutor." Low cloud and drizzle on Tuesday : no flying. On Wednesday the " Olympia " belonging to the College of Aeronautics was brought over and flown by Yates for two hours. There were " Dagling " hops for Bell, Sayers and Haigh, and soaring for many others. On Thursday Huggett passed his oral examination for his " C " certificate with flying colours (should it be gliding). There was drizzle during the first part of the morning, followed by strengthening SW wind. It was too gusty to allow " Tutors " to fly. On Friday, Dave Clark managed his Silver " C " duration in the " Prefect." It was very gusty and his endurance is to be admired. Saturday was a day for circuits only. There were 31 launches. Machines flew round and round and round.

On Sunday meteorological conditions were quite unusual. A 20-knot surface wind blew from the south-east, whilst at 500 feet there was a 90 degree veer, causing machines to drift to NE as soon as they started gaining height during the launch. This veer occurred at a very sharp inversion, pilots actually reporting that it became warmer as they climbed. Under these conditions one would expect to be able to soar where the upper wind climbs over the lower wind pouring down the hill. D. B. James actually did this, and soared approximately over the bowl for some ten minutes. It was a very weird sight : a machine soaring apparently in the downdraught, if the wind sock were to be believed.

W/E, Sunday, 15th January. Practically no flying took place until Saturday, when the wind became soarable after the low clouds covering the hilltop in the morning had cleared. During the morning the Hertfordshire Hunt came down the hill, hounds and all. When soaring started, Frank Allen walking along the top of the hill was surprised to see the ends of the Sutton harness dangling over the side of a " Tutor." He conferred hurriedly with the day instructor, and much flagging and considerable panic finally brought the pilot to earth. He was aghast on being told why.

Sunday was a pleasant change, a 15-20 knot WSW wind giving good soaring on a short bowl beat and also at the Zoo for those who could get down to it. Both the " T 21 " and Furlong's " T 21B Dragonfly " were in use, most of the club fleet and half a dozen private machines, though not all at once. Late in the day the wind veered and there were nine machines in the air together at dusk. Altogether there were 45 launches for a total of nearly 30 hours flying. The only incident calling for comment was one which should act as another warning for anyone who has not yet experienced the clutching hand of the lynch bottom in a strong south-westerly wind. Frank Foster, one of our best pilots, was caught napping by it, and his " Buzzard " suffered in consequence. It is one of those things that has to be experienced to be properly appreciated : but please don't investigate it in Club machines.

W/E, Sunday, 22nd January. This week started well by carrying over Sunday's soaring wind and producing some slight thermal activity. The few members present made good use of the opportunity. Doughty took his " C " with 18 minutes on the hill, and Dunbar, returning after an absence due to Rugger injuries, checked out again on the " T21 " and then had 20 minutes in a " Tutor." Ruck, Huggett and Pinkerton also flew the " Tutor," and Clark, Hanks and Pollard shared the " Prefect " to give a day's total of nearly nine hours for 13 launches. After that start the week proved almost blank, only 28 launches being made for less than an hour of flying time.

W/E, Sunday, 29th January. An exceptionally poor week. Hard frosts and easterly winds produced no flying until the week-end, when 29 launches gave a total of only 69 minutes flying time in spite of several 1,000 feet launches in a strong ENE wind. It was so cold that it was necessary to do hard digging jobs in order to keep warm. Totals for January. Launches 280. Time 66 hours 36 minutes. One " C " and one Silver " C " duration.

LUNEBURG GLIDING CLUB

1949 has been a year well spent for us. We have gained much experience and learned many a lesson, particularly during the B.A.F.O. Contests at Gutersloh in May.

507 hours have been flown during the year for 7,060 launches, and this is on thermals alone. Far better results could have been attained were it not for the 800 feet maximum height restriction which, imposed by Operation Plain Fare during 1948, continued until the 13th of August. Although this reduced our flying time it certainly did not damp our enthu-

siasm, in fact, the standard of flying, was probably raised, for to thermalise at all below 800 feet is extremely difficult.

The first months were spent in training and preparation for the Contests, the team for which were as follows :

" Weihe "—Sgt. Basham.

" Kranich "—Sqn. Ldr. Pelling.

" Meise "—F/Sgt. Tonner and L.A.C. Smythe (to fly on alternate days).

Our " Rhon-Buzzard " was taken as a spare aircraft.

All were extremely well finished, with a high polish, by our three German carpenters and were in good shape when we set off for Gutersloh. All except the " Buzzard " were fitted with two-way radio, as were the retrieving vehicles—two Jeeps and a Fordson 15 cwt. Good luck did not stay with us for long for disaster overtook us on the way to the meet when the combined efforts of a swinging trailer and the atrocious road surfaces caused the " Weihe " outfit to turn over and several days were needed before the team were fit to operate.

Our transport stood up well to the hard usage imposed, thus rewarding those who had worked so hard on it beforehand. The weather, on the whole, was very poor and cross-country flights fewer than expected. Nevertheless Sgt. Basham flew the 200 kilometres back to our home airfield and gained a height of over 2,000 metres.

We returned from the Competitions sorry not to have done better but glad to have taken part. The many lessons learnt will not be forgotten this year.

On our return to Luneburg we rapidly lost all our instructors except the C.F.I. who certainly had a difficult task during the next few weeks while more were being trained.

Frustrated thermalising continued steadily, despite the restrictions, until August 13th when the welcome news arrived. We were free ! There were feelings of overwhelming joy and great anticipation as we pushed the aircraft out that day, and we were not disappointed for six " Silver C " heights were obtained during that same afternoon.



Group Captain Christopher Paul, D.F.C., Chairman R.A.F. Gliding and Soaring Association.

After the first great day pilots were told to return after one hour (except those attempting " Silver C " duration) to give the others a chance. Duration legs were obtained by L.A.C. Stokes in a " Grunau " and A.C. Woodward in our " Mu 13," the latter raising our club duration record to 5 hours 47 minutes.

Cross-country flying was attempted by several pilots and " Silver C " legs gained by Gp. Capt. Harston in a " Grunau " and Sqn. Ldr. Lamond and Cpl. Ansley in the " Meise," the latter being the furthest flown from base this year—91 kilometres. The Gp. Capt's flight completed his " Silver C "—congratulations !

July 24th was without doubt our best day, meteorologically, and 27½ hours were recorded. Unfortunately this was during our ' imprisonment ' so no great results were seen. Nevertheless, it is still referred to as the " Gold C " day ; for thermals of hitherto unknown size and speed lasted nine hours and the cumulus above held great promise.

Our second day of freedom showed the highest daily total for the year of 29 hours 20 minutes, although the weather was not up to that on the " Gold C " day. The daily number of launches reached the record figure of 156 on the 26th of June, using only one winch.

Another incident worthy of note was a launch of 3,100 ft. in the " Kranich " by Kiting in a strong wind.

Our workshop team have done admirably during the past year and apart from routine inspections, have repaired the " Buzzard," " Kranich," " Weihe," and a " Grunau " after their crashing. One aircraft which has given almost trouble free service throughout the whole year is the " Govier," two-seater, dual control sailplane. A rare type which we are proud to possess, it is excellent for dual instruction and passenger trips because of its side-by-side seating and its perfect docility.

Owing to service postings we have a constant flow of members which necessitates a large scale primary training programme. This ab initio syllabus is conducted by four " B " Class instructors. Three " SG 38's " are used, two in

service whilst the third is on periodic inspection or repair, the latter being a rare occurrence, because for the production of 32 "A" and 34 "B" certificates we have had one broken skid and one case of broken ribs.

We progress, and in doing so record 23 "C" certificates, mostly obtained in dry thermals, but some under cloud and one in a front. The next step for us is ridge experience and several members have spent enjoyable days at Scharfoldendorf with Air Headquarter's Gliding Club. We have looked out and intend to try a small ridge near base when we have two serviceable winches and an east wind, and in that way hope to continue soaring all the year round.

Sqn. Ldr. Pelling has now left us and has handed over chairmanship of the Club to Flg. Off. Howard of the W.R.A.F., a keen pilot, Miss Howard is now flying "Grunaus" and is proving herself extremely capable in her new position. We all hope she will do as well this coming season as she deserves.

So much for last year, now for the new. Although the ever present threat of posting hangs over us all, our plans are laid and preparations already begun.

CAMBRIDGE UNIVERSITY GLIDING CLUB

1949 was the club's most successful year since its formation in 1935. The two most notable flights were those of J. W. S. Pringle and J. Grantham in the "Kranich" from Cambridge to Dunstable and back on August 12 and a climb of 10,080 feet, by J. Grantham and B. E. Bell in the "Kranich" on July 24th. Both of these were British records. Another fine performance was that of D. D. Carrow who won the Kemsley winter cross-country prize with a bungy-launched flight of 104 miles from the Long Mynd to Newbury on March 16th.

Another important event of 1949 was the addition of a "Prefect" to the club's fleet of sailplanes. Since its arrival on February 25th this machine has flown three Silver "C" distance legs and two height legs. On October 15th it was flown by Barbara Green, who thus became our first woman member ever to graduate to a sailplane.

The year closed with a visit to the Long Mynd of some standing wave enthusiasts with the "Olympia." No waves were found, but 16 hours soaring in strong west winds were considered a satisfactory substitute. Alexander was unfortunate enough to achieve over 4 hours on an attempted 5 hours duration.

This was also the first long trip to be undertaken by our recently overhauled Rolls Royce; much to the relief of those who had spent a great deal of their spare time working on her, she behaved perfectly.

Nobody has yet been able to make a qualifying flight for this year's Kemsley prize, and with only a few weeks left prospects do not seem two bright. However, there is still plenty of enthusiasm, if only because the winning of it would provide a solution to the eternal problem of how to pay ones' gliding bill.

On Saturday, January 28th, we held our annual dinner, at which Professor Sir David Brunt, presented the Brunt Inter-University Gliding Trophy to Gil Phillips, who won it for us last April with a climb of 9,100 feet. This trophy is presented annually to the University Club a member of which records the greatest gain of height during the academic year. Guests came from Imperial College and from Surrey Gliding Club, including Ann Douglas and Wally Kahn; Doc Slater entertained us afterwards with his whistle.

On the following Sunday, we arranged a full day's flying at Bourn. The "Prefect," "Cambridge," "Kranich," and a "Cadet" between them had 64 launches, a club record for one day. A spot-landing and bombing competition was won by Ted Waner, and a trailer-backing competition (an idea shamelessly stolen from the Surrey Club) was won, appropriately enough, by Ann Douglas.

Although there was no snow, as there was on the corresponding occasion last year, there was a cold east wind which caused some of our guests to admit that there may be some truth in our claim that Bourn in January is the coldest spot in England.

In spite of these unpromising conditions, some lift was occassionally found; Ken Machin climbed several hundred feet in the "Prefect," and Phillips in the "Kranich" found a small patch of 2 f.p.s. lift.

Primary training has continued at Bourn, and at Marshalls several aero-tows have been taken on promising looking days. Although patches of no-sink have been found, nobody has yet been able to get away on a cross-country. However, as we write, there is still a little time before the Kemsley Prize period finishes, so we have not abandoned hope yet (quite).

DERBYSHIRE AND LANCASHIRE CLUB NOTES

A quick review of the 1949 returns shows 4,178 launches for 1,256 hours' flying, with seven "A" certificates, six "B's", nine "C's," and one Silver "C." Not a very satisfactory year as regards certificates, but we hope the 2-seater training policy will give better results this year.

Saturday, Jan. 21st. Wind E. 10 m.p.h. 12 launches with the training 2-seater, followed by a very interesting lecture by Jack Saunders in the evening, describing the life history of a Depression.

Sunday, Jan. 22nd. Low cloud all day, with no flying. However various working parties were organised, on the site, in the workshop, etc.

Saturday, Jan. 28th. Wind E. 20 m.p.h. Very cold and thoroughly unpleasant, but there were sufficient enthusiasts present to warrant a few circuits in the "T-31."

Sunday, Jan. 29th. Wind E. again. 20 to 25 m.p.h. Colder and even more unpleasant than yesterday; nevertheless Fred Breeze took his "Kite I" over to Main Tor and had an hour's flying—(good luck to him); while a few training flights were carried out at Camphill.

Saturday, Feb. 4th. Wind SSW. 15 m.p.h. Training with the "T-21," the "T-31 "having retired to the workshop with a minor indisposition. About 200 people attended the Annual Dinner and Dance at the Spa Hotel, Buxton, in the evening. Roger Dickson was the M.C., and had gone to a lot of trouble to ensure that the occasion was a success, even to the extent of hanging his "Viking I" in the roof of the Ballroom. To the secret indignation of some

of the more serious minded, it neither fell down nor got damaged, and was flying again at Camphill the next day.

Sunday, Feb. 5th. Wind WSW. 20 m.p.h. Backing to S. later. First the West Slope was soarable, with scrappy thermal up to 1,200 feet or so, then in the afternoon the South Slope came into play; giving a total of some 10 hours' flying between about 7 machines.

Saturday, Feb. 10th. Wind W. 40 m.p.h. Incredibly rough, with snow, hail, sleet, rain and everything except thunder and lightning. Seven private owners scared themselves silly in four machines at the cost of one skid. Everybody was frightened and most people admitted it.

Sunday, Feb. 11th. Wind SW. 15 m.p.h. Extended circuits in "Cadet," "Eon Baby" and both "2-seaters," until snowed off again in the afternoon.

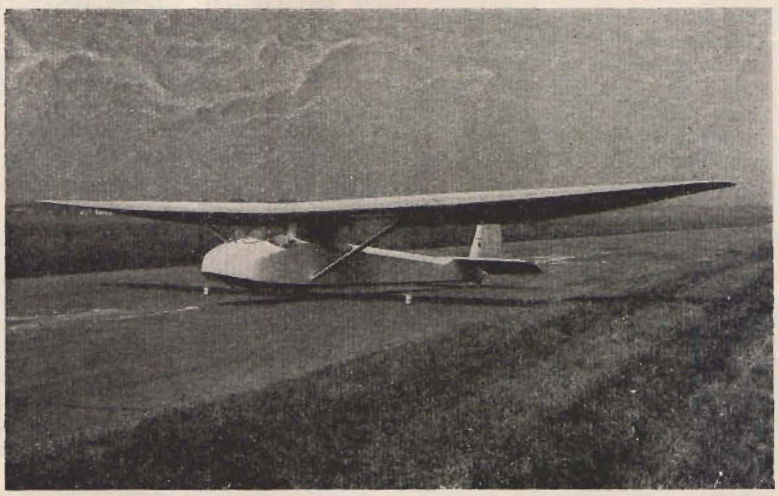
Since these notes cover that period of the year in which least can be expected, we feel fairly happy to have achieved some 65 hours' flying by the middle of February; and what with various other plans for development, we feel that we are altogether in a very healthy state. Incidentally, these other plans include the 'acquisition' of a Link Trainer, which by the good graces of Harry Midwood will shortly be set up in a little cubicle in a corner of the hangar. But doubtless more of this anon.

THE SCOTTISH GLIDING UNION

A certain amount of embarrassment has been noticeable at Balado during the past month. The embarrassment that is consequent upon the misbehaviour of an unruly child in a well regulated family, or that of the sparrow when it finds a cuckoo in the nest. Our problem is that of a noisy minority amongst our bed-fellows, the Loch Leven Flying Club, and we stress the word minority, because by and large we get on well with the other members. Nevertheless, we have as yet found no method of restraining the homicidal tendencies of this minority; they have become an endemic threat to our tempers, our gliders and our lives. The members of the S.G.U., a goodly number of whom are ex-R.A.F. pilots, can appreciate the fact that the only interesting thing in powered flying is low flying. But as one of them put it to whom we consider the chief offender: "I've got more flying sense in my little finger than you have in your whole body!" An overstatement of the fact perhaps, but who likes to be shot up by tired business men with only a few dozen hours to their credit. Perhaps some of the readers of this magazine can suggest a remedy; the difficulty as we see it is that pilots, so called, who go in for this sort of behaviour are invariably too stupid to appreciate the consequences that have so often attended this juvenile form of exhibitionism.

We are fully aware that Balado possesses many unique advantages over most British Gliding clubs. It nestles serenely and beautifully at the foot of the Ochils; a magnificent soaring site is within very easy reach of the airfield, and the club facilities are capable of dealing with an almost unlimited number of gliding enthusiasts. Socially, Balado is at the apex of the Edinburgh-Glasgow triangle, and transport to these

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cities, particularly to the former, presents no great difficulty. With these trump cards we have always found that the summer courses possess great appeal to many people from far and wide, and this year we are making a bid to increase the range and scope of these courses. They will last a week a piece and are distributed as follows : one course per month in April, May and June, and two courses per month in July and August, making seven in all. In addition we are running a special Instructors' Course for our members, just to make sure that there is an adequate surplus of instructors. The courses cover the " A " to " C " standard. Any of the other more advanced glider pilots are of course more than welcome to come and use our auto-towing and soaring facilities, particularly during the weeks when courses are to be held. For those who want to spend a real holiday in bonny Scotland, write to the Secretary and demand more particulars.

Flying activities have been somewhat restricted during the month due both to the weather and due to the fact that we have not fully recovered our wits from losing the " Eon Baby." There has been more emphasis placed on routine training flights, rather than on any especial efforts at cross country flying. The most interesting item was the disclosure that flying has taken place on 43 Sundays last year and that on 38 of these the heroic, lion-hearted, never-say-die Tom Davidson had been chief primary instructor.

Letters to the Editor

DEAR SIR,

The pilot's reports of last Winter's cross-country flights for Lord Kemsley's prizes, sent in to the British Gliding Association, have been handed over to the Research Committee. It is hoped to compare them with similar reports of this Winter's flights in order to discover what lessons can be learned about cross- country flying in Winter. However, up to the present the weather this Winter has proved far less favourable than a year ago, and in order to learn why cross-country flights have been more difficult to make, it would be useful to have reports not only of successful flights, but of flights which were attempted without success, and the pilot's remarks as to the reasons for failure. We would be grateful if such information is sent to the Research Committee in addition to reports of successful flights.

Yours faithfully,
A. E. SLATER.

DEAR SIR,

Having read the letter from " Ex A.T.C. Instructor " published in the January issue of your journal, I should like to suggest that he does not appreciate the function of A.T.C. gliding despite the fact that he was once an A.T.C. Instructor himself.

If one accepts that the A.T.C. as a whole is of benefit to the R.A.F. and that A.T.C. gliding is an incentive for young men to join the A.T.C. then one must accept that A.T.C. gliding is beneficial to the R.A.F. which club gliding is not. The cost of A.T.C. gliding can only be assessed therefore in terms of the total cost of the A.T.C. and the value which the R.A.F. derives from pre-entry training and the incentive which it gives young men to enlist in the R.A.F. It is very doubtful whether the R.A.F. would benefit very much from a subsidy to the gliding clubs at the expense of A.T.C. gliding.

On the other hand it should be realised that quite a number of ex A.T.C. cadets have joined the clubs as a result of their appetite being wetted for gliding during their gliding training in the A.T.C. The London Gliding Club can confirm this fact.

I suggest that your contributor's experience is misleading for the crash ratio in the A.T.C. is by no means as high as he suggests. One would not expect the ratio to be as high since the ratio of " A " certificate type flights to the circuit and soaring flights at present is much higher in the A.T.C. than in the clubs.

In conclusion I should like to make a plea. As a member of the London Gliding Club and as an A.T.C. gliding Instructor, I consider that it is high time that the antagonism which certain sections of the club community have towards the A.T.C. and vice versa, should cease. The aims and objects of Club and A.T.C. gliding are quite different and comparisons are therefore difficult. However, each has something to offer and I am sure that each benefit from the others experience. So let us pull together and not against each other so that British gliding will benefit from our combined efforts.

Yours faithfully,
J. M. HANDS.

Ed. Note. We have communicated the contents of the above letter to " Ex A.T.C. Instructor " who remains unpenitent. He writes : " Has Mr. Hands heard of the pre-war scheme by which the clubs were paid by results in training A.T.C. cadets. It is true that there are twice as many A.T.C. Gliding Schools as Gliding Clubs, but more clubs would arise if the pre-war scheme obtained. The incentive to join the A.T.C. would be the same and to return to the club after military service. As to the crash ratio in the A.T.C. please note that I said " launches " —not ground slides. My experience is one A.T.C. crash to about 180 launches."

DEAR SIR,

Mr. Furlong's letter in 1949 *Sailplane* sounds as though some of the new generation of Gliding chaps have been fed on a little skilful German propaganda. Before the war, I almost shed tears over the iniquities of the Treaty of Versailles when in the company of German gliding folk. I wouldn't fall for that one again !

As regards good ideas, I think it matters little who thought of anything first or last as long as we use the good ones and avoid

the bad ones. Another thing; some ideas suit some local conditions but are a failure or even a menace elsewhere. Many young men now taking the lead in gliding affairs have been initiated and graduated in Germany. Now this, in the long term, could turn out to be one of the fruits of Victory, and *they* have all been rather sour plums so far. So, let us hope for the best.

I do know that many who have done well in Germany have discovered that there are snags, weather difficulties and territorial limitations (to say nothing of economic and "bureaucrafty" problems) to be met at home, and not equally presenting themselves in Germany. If we older men who know home problems well, and have not had the opportunity of a good "go-in" at the Jerry leavings, can keep our tempers when our counsel is flouted, generously and freely give it when asked, and at the same time be deaf to that crashing bore, the pro-foreign, hysterical, you-pay-and-I-Fly (and prang) chap, then there is yet hope!

By the way, when towing the "T.21" two-seater, the tendency to catch up with and dash itself against the towing vehicle can be obviated by making up a suitable bogy and towing tail first. You need not say that I thought of it first, even if I did.

Sincerely,
GEORGE HINCHLIFFE.

DEAR SIR,

May I take this opportunity to suggest that we now make a really energetic effort to remove what appears to be our most obstinate bottleneck—namely, the difficulty of obtaining in sufficient numbers a suitable engine for ultra-light aircraft?

It occurred to me that if all members could agree to subscribe a set sum per head, a fund could be set up to meet at least some of the cost involved in the production of a prototype engine. No manufacturer, quite understandably, seems willing to take the risk unless assurred of a subsequent market, but it would be another matter, perhaps, if the U.L.A.A. members could contribute between them two or three thousand pounds; the fact in itself ought to be sufficient to convince the manufacturer that a potential market exists. We have, I believe, about six hundred members. If each could manage say £5, a sum of money with considerable talking power would be produced. £5 no doubt represents a lot of money to all of us, or we should be buying our two-seater aircraft off the peg complete with C. of A., but the point is—how badly do we want our ultra-lights, and how much longer should we be content to just go on hoping that something will turn up unassisted? I am not suggesting that the U.L.A.A. Committee has not been making every effort towards progress ever since its inception, but I think it is now up to the entire membership to get together and push hard. I don't expect complete agreement over this suggestion of financial sacrifices for no immediate return; but in the event of a majority approving, something might be achieved. The technical aspects of handling the fund I must leave for others to discuss—I have only presented the outline of an idea, to be criticised ad. lib. by other members. At all events, *I* am willing to subscribe. Individual members like myself may possibly be more interested than Group members who have made some construction progress, but the need for a suitable engine, in current production, seems to be the matter on which our whole problem rests.

W. E. HARRISON.
High Wycombe, Bucks.

TOOWOOMBA SOARING CLUB,
TOOWOOMBA, Q'ld.,
AUSTRALIA.

DEAR SIR, 15-2-50.

Members of this Club are anxious to help any intending migrants with sailplane experience, to settle in this district.

A review of the advantages offering as compared to other areas is as under:

Employment.—The city (35,000 population) is the centre of a large wheat and dairy farming district. Secondary industries include heavy diesel and electric motor manufacture, textile and clothing factories, flour milling, brewing, railway construction engineering, leather processing, printing, and the usual other mechanical trades.

Living facilities.—Located on the Dividing Range, 80 miles inland from Brisbane. Elevation 2,000 ft. Climate temperate, with occasional fog and cold snaps in winter. Accommodation good, although housing construction not up to demand. Homes available for sale vary from £1,000 to £3,000. Weekly rentals from 25/- upwards. A bus network provides adequate transport for work and leisure. Rail, road, and air services to other parts of Australia.

Gliding facilities.—This is where we can really write, but space is the limiting factor. Briefly, the Club can offer hangarage for private aircraft at no charge, full launching by winch, car, or air tow, and flying conditions that are unequalled elsewhere in Australia. Weather is mostly clear all year round, and this area is adjacent to that which has provided all Australian long-distance sailplane flights to date—see accounts of these in past issues of "S. & G". As yet we have not explored the possibilities of wave lift off the lee of the 2,000-ft. drop in the Dividing Range, but this is a most likely area for such a happening. The Club has one two-seater and two single-seater sailplanes, with three more in construction. All flying is done on flat country, from an ex Air Force drome with 2,000 yard runways. Thermal lift is plentiful, and the countryside offers ample landing space when on cross-country flights. Flying is done at week-ends, and sometimes mid-week for aero tow launches.

Already there is a large number of English and European migrants about here, but so far none with sailplane experience or ownership.

If there are any of your readers interested in taking up this proposal, an airmail letter will be answered likewise. Members of this Club will make every endeavour to locate employment or accommodation, and will be only too pleased to accept migrants as Club members.

Sailplane flying in Australia has a creditable past, and an unlimited future, we look forward to hearing from those of your readers who can help themselves and we in Australia, by coming out here either independently or by the Australian Government's subsidised passage. Further particulars on this may be obtained from Australia House, in London.

We will be forwarding photos of our Club equipment and activity soon, which will be of interest to *Sailplane* readers.

In the meantime, thank you for your help in publishing accounts of Australian gliding activities from time to time, and hope that at some future date your columns will include reports from English arrivals who have found the soaring here to be even better than expected; it really is first class.

Yours faithfully,
NIAL M. HART, *Hon. Secretary.*

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"C" ... 5
Silver "C" —
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JANUARY, 1950

"B" CERTIFICATES.

No.	*Name.*	*A.T.C. School or Gliding Club*	*Date taken*
1882	William John Smart	Luneburg G.S.	10.12.49
3859	James Gray Ervine	203 G.S.	7. 1.50
7172	Richard Blake Sutherland Purdy	Surrey G.C.	23. 9.49
8606	Robert Clayton Cairns	Scottish G.U.	18.12.49
8740	Kenneth Arthur John Lockwood	Bristol G.C.	8. 1.50
9191	Clifford Thomas Lake	146 G.S.	18.12.49
9597	Hugh Richard Rhys	125 G.S.	31. 7.49
9954	Frank Anderson Smith	104 G.S.	4. 9.49
10313	John Robson Rogers	Scharfoldendorf G.C.	19. 6.49
11237	Sydney George Beech	Midland G.C.	3. 9.49
11244	David John Edwards	London G.C.	19. 8.49
11250	Malcolm James Wilford	London G.C.	1.10.49
11264	Alfred Norman Kinkhead	203 G.S.	1. 1.50
11265	Arthur Norman Edward Ham	Luneburg G.C.	4.12.48
11266	Cecil Gifford MacIntosh	Derby & Lancs G.C.	8. 1.50
11274	David Anthony Doidge	Fulmar G.C.	20. 9.49
11286	Robert George Frecheville	Derby & Lancs G.C.	8. 1.50
11296	Edward Jesson	Luneburg G.C.	10.12.49
11302	Robert Haigh	89 G.S.	31.12.49
11307	John Henry Singleton	Luneburg G.C.	10.12.49

"C" CERTIFICATES

10113	John Lee Cotton	Midland G.C.	15. 1.50
10311	Ann Cotton	Midland G.C.	15. 1.50
10313	John Robson Rogers	Scharfoldendorf G.C.	12. 8.49
11237	Sydney George Beech	Midland G.C.	13.11.49
11265	Arthur Norman Edward Ham	Luneburg G.C.	4. 9.49

U.S.A.

17th NATIONAL SOARING CONTEST

July 30th to August 13th, 1950. Grand Prairie, Texas.

To all Soaring Hombres Allover . . .

Podner you are invited *right now* to the biggest SOARING doins you ever seen.

Come next August that "ghost herd in the sky". is going to be Sailplanes and you can be ridin' that range where the cumulus bile high and wide, it may be that the "committee" will guarantee every contestant a Gold "C" or your money back, we'll let you know in a later bulletin—that is if we hear from you.

That noise people hear going by won't be no "mule train," it will be those trailers rollin' by—on their way to Amarillo or some place in Kansas to fetch the contestants. Guys and Gals—this is going to be the rip roaringst, slam bang, rootin-tootin-shootinst National ever put over any time anywhere.

They ain't nobody barred this time—makes no difference if you got a "crow-bait" type sailplane you are going to be right in the runnin' right down to the finish. The "committee" may fix it so every body becomes the American Soaring Champion—we'll let you know about it in later bulletins—if you are interested.

To be downright serious—we want every SOARING enthusiast everywhere to know about our plans for the 17th National. The Contest (sanctioned by SSA) is to be sponsored by the Grand Prairie Texas Chamber of Commerce, Arlington State College and TSA. We want the widest possible participation by everyone interested in the sport of soaring, whether that interest be as a pilot or otherwise. We have lots of room here in Texas and we can accommodate everybody right at the contest site.

We think we will organize a great national contest—we have before the rules committee of SSA certain of our plans that will make this an interesting contest for anyone that takes part. We realize that most of us don't happen to have handy one of the slickest and latest designed sailplanes, but we can all have a chance at a championship and have fun, win or not. In this contest we can all feel like a Johnnie Robinson or Paul McCready.

We want you to help us with our planning. You can let us know of your plans, and tell us if you are interested in receiving future bulletins, which will give complete details of the competitions. If you are interested let us know, if you don't let us know, we'll not clutter up your mail box.

A penny post card or a long letter, we don't care, just let us know if you are interested.

Dr. W. C. Sellman, Jr., Chairman,
Contest Executive Committee,
17th NATIONAL SOARING CONTEST.

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