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JULY 1948

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THE FIRST JOURNAL DEVOTED TO SOARING AND GLIDING

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Front Cover: *SAMEDAN—site of International Gliding Contests, Switzerland. Taken by SCHMIDHAUSER, ZURICH.*

B.A.F.O. Gliding Clubs Competitions.

FASSBERG, 1948

WHEN the third annual inter-Club contest held by the association of B.A.F.O. Gliding Clubs finished at 16.00 hours on Saturday, 22nd May, competitors had flown a total of 350 hours, covered over 6,000 (six thousand) miles on cross country flights, established a new British Goal flight record of 193 miles; qualified for one Gold "C" Badge (height and distance) in addition to two other Gold "C" Badge distances, and no fewer than eleven pilots completed Silver "C" Badges.

Conditions were very good, but by no means exceptional. For the first four days there were clear skies with an Easterly wind, giving dry thermals up to 2,000 metres. On the fifth day a cold front appeared, which gave F/Lt. R. C. F. FORBES his Gold "C" Badge height with 3,660 metres above the launch, and the sixth and seventh days were poor, with little activity at all. Credit for these achievements goes just as much to the pilots as to the weather, and it was considered that the standard of soaring equalled, if not bettered anything previously seen in Germany.

The scène of the contest was FASSBERG, formerly one of the biggest Luftwaffe airfields, which still contains the remains of 500 destroyed aircraft now being reduced to scrap. Four-engined Heinkels, F.W. 190's, J.U. 88s and 188s and representatives of nearly every type fill the dispersals out into the forests of fir and larch which surround the airfield. The soil is sandy, and the surrounding country flat, and typical of the North German plain. There is no hill soaring available, and all flights were dependent upon thermals. The airfield is about 30 kilometres (18.7 miles) north of CELLE, and 254 feet above sea level.

The Competitions

The main competitions were for teams, SCHARFOLDENDORF, OERLINGHAUSEN and WUNSTORF. Each entered a team of 3 pilots and 3 "Weihes" for the "A" team contest for the BRADY TROPHY, won in 1947 by OERLINGHAUSEN. The "A" Teams were as follows:—

Oerlinghausen: Flt. Lt. FORBES, Fg. Off. ARCHBOLD, Cpl. COCKS.
Wunstorf: Wg. Cdr. HANKS, Flt. Lt. HUGHES, Fg. Off. MCCALLUM.
Scharfoldendorf: Gp. Capt. PAUL, Sqn. Ldr. HEROLD, Flt. Lt. MALLETT.

For the B.A.F.O. Challenge Trophy for "B" Teams, ("Weihes" and "A" Team competitors barred) the following teams were entered:—

Club.	*Pilot.*	*Aircraft.*
WAHN	Flt. Lt. PERKS	"Meise"
	Fg. Off. CORNWALL ..	"Grunau"
	Fg. Off. HIRST	"Grunau"
GUTERSLOH	Fg. Off. LATHAM	"Berliner"
	Fg. Off. LADLEY	"M.U. 13"
	Sgt. CAMPION	"Grunau"
MINDERHEIDE ..	Sqn. Ldr. LYNAS	"M.U. 13"
	Spr. EVANS	"Minimoa"
	A. C. ROBINSON	"Minimoa"
HAMBURG DISTRICT..	Cpl. BROWN	"M.U. 13"
LUNEBURG ..	Sgt. BASHAM	"Buzzard"
	Sgt. WALKER	"Meise"
	Sgt. HATCH	"Grunau"

In addition, there were individual prizes for the greatest distance, the greatest height, the longest goal flight, the longest out and return flight, in each of the "A" and "B" categories.

Launching

Launching was invariably by winch. There is a strong body of opinion in the B.A.F.O. Clubs that, for competition flying, aero towing is apt

to lead success to the deepest pocket. As all the Clubs have to pay their own way, aero towing is a luxury which would in any case make soaring far too expensive for the majority of members. Consequently it is viewed in the same way as the owner of a 6 metre yacht would view the fitting of an engine, and it is felt that to keep soaring 'pure' no engine should leave the ground, except perhaps for special research purposes. The results of the competition indicate that such a policy is not detrimental to good performance.

Each Club provided its own winching apparatus, and the length of cable varied considerably. The average launch however, was approximately 600 metres.

THE FIRST DAY (15th May)

At an early hour, there was great activity in the main hangar and gliders were being towed out to the launching point while pilots were listening to the Meteorological Forecaster. Within a short while 23 flight declaration certificates were handed to Flying Control and at 12.09 hours Flt. Lt. FORBES in "Weihe R.C.F." was airborne on a goal flight to WUNSTORF, 73.5 kms. (45.75 miles) away. The longest flight declared was by Gp. Capt. PAUL to GUTERSLOH, a distance of 166 kms. (103.5 miles).

By 14.00 hours all contestants consisting of 23 pilots had been launched.

Slowly news began to reach Flying Control, and gliders were found to have landed at various distances from the Airfield. The longest goal flight of the day was made by Gp. Capt. PAUL of the A.H.Q. Team flying a Blue "Weihe" who landed at GUTERSLOH airfield at 17.30 hours, 4 hours 25 minutes after take off from FASSBERG. Out of 23 declared goal flights, only 6 pilots arrived at their pre-declared destinations.

THE SECOND DAY (14th May)

The points obtained by Gp. Capt. PAUL after this goal flight stood out remarkably well on the score board after the first day's flying, and pilots received their Met. Briefing on the 2nd day very methodically, and it was evident that some very long flights were being planned. Once again 23 pilots filed flight declaration certificates which included goal flights to ARNHEM airfield in Holland, BREMEN airfield, DIEPHOLZ airfield, and MUNCHEN GLADBACH near the Dutch Frontier. By 14.40 hours all aircraft were airborne.

The most remarkable flight of the day was performed by Wg. Cdr. HANKS of the R.A.F. WUNSTORF Team flying a "Weihe," who landed at HENGELO in HOLLAND a distance of 241.5 kms. (150 miles) from FASSBERG. Another notable performance was that of Fg. Off. MCCALLUM also of WUNSTORF, flying a "Weihe," who flew a distance of 199 kms. (124 miles) to reach LINGEN in HOLLAND. The OERLINGHAUSEN Captain, FORBES reached DREIERWALDE, a distance of 195 kms. (121 miles) and about 50 kms. (31.5 miles) short of his goal (ARNHEM).

Out of the "B" Teams, the best flight of the day was made by Sgt. BASHAM of R.A.F. LUNEBURG flying a "Meise" who nominated BREMEN as his goal and reached this 2 hours 20 minutes after leaving FASSBERG, a distance of 96 kms. (60 miles). His team partner Sgt. WALKER, whose goal was also BREMEN, flew on to GANDERKESSE a distance of 112 kms. (70 miles).

Of the individual competitors, Cpl. GOUGH of A.H.Q., B.A.F.O. MINDENHEIDE Club, accomplished a goal flight to VERDEN, a distance of 64.5 kms. (40 miles) in a "Grunau."

At the conclusion of the second day the Teams were placed as follows :—

"A" Team	WUNSTORF	1191	Points
	SCHARFOLDENDORF ..	1045	,,
	OERLINGHAUSEN ..	672	,,
"B" Team	LUNEBURG	465	,,
	MINDERHEIDE ..	278	,,
	WAHN	159	,,
	GUTERSLOH	61	,,
	HAMBURG DISTRICT ..	38	,,
Individuals	Cpl. GOUGH	86	,,
	A. C. HOSE	23	,,

THE THIRD DAY (15th May)

With good weather prospects, the contestants were away to an early start, all set on long distance flights, but many pilots experienced difficulty in staying airborne. Flt. Lt. FORBES in "Weihe R.C.F." was first airborne at 12.10 destined for LINGEN, some 200 kms. (124 miles) away. This he reached at 16.30 hours, having accomplished the longest flight of the day. Of 9 Pilots in the "A" Teams, 3 landed within 50 kms. (31.25 miles) of the airfield. "B" Team Pilots had notable success with flights to BUCKEBURG, a distance of 109 kms. (65 miles), and a goal flight to WUNSDORF, 73.5 kms. (46 miles), by Sgt. BASHAM of the LUNEBURG Team.

As a Bank Holiday event, there was a Spot Landing Contest restricted to pilots with no previous service experience, using any type of aircraft. Seven pilots entered, and were given 3 landings each. The marking was judged by placing a stake in the ground and measuring the distance from the nose of the glider to the centre of the stake. After a close finish Sqn. Ldr. PELLING of the LUNEBURG Club won, with an average of .08 metres from the stake.

3rd Day Results

"A" Teams	OERLINGHAUSEN ..	1558	Points
	WUNSTORF	1505	,,
	SCHARFOLDENDORF ..	1307	,,
"B" Teams	LUNEBURG	584	,,
	MINDERHEIDE ..	328	,,
	WAHN	240	,,
	GUTERSLOH	209	,,
	HAMBURG DISTRICT ..	54	,,
Individuals	Cpl. GOUGH	86	,,
	A. C. HOSE	23	,,

THE FOURTH DAY (16th May)

Flight Lieutenant FORBES was on the scene early the next morning, his speedy return from LINGEN (Holland) having been largely due to the radio fitted to his machine. All three "Weihe" aircraft of the OERLINGHAUSEN team were equipped with radio. This consisted of a light-weight trans-

mitter receiver-infantry set with a quarter wave aerial fitted in the wing, the set itself being fitted in the recess behind the pilot's seat in the cockpit. The retrieving vehicles were equipped with type 19m sets which, when operating on the 41 metre band, enabled the crew to keep in contact with the aircraft and to follow the glider on its flight towards its goal. They were also fitted with bunks where the pilots slept on return journeys, thus being fresh and alert for the next day's flying. The vehicles possessed adequate maps, and meteorological information was always available for the pilots. These added facilities paid tremendous dividends as will be seen from the day-to-day points obtained by this particular club. It is emphasised, however, that these radio facilities were first tried out at OERLINGHAUSEN in a baby " Grunau " only last year, and there are still many problems to overcome.

First off again was the OERLINGHAUSEN " A " Team closely followed by A.H.Q., B.A.F.O. All pilots again contemplated long distance flights as the weather forecast seemed extremely good. Two goal flights to LIEGE were nominated but due to unforeseen circumstances the pilots only reached HAMM in the RUHR a distance of 222.5 kms. (139 miles). The day was also notable for the goal flight to R.A.F. GUTERSLOH 166 kms. (103.5 miles) by P. MALLETT flying a " Weihe " of A.H.Q., B.A.F.O. team. The captain of WUNSTORF " A " Team, HANKS, covered a distance of 237.7 kms. (148 miles) in 4 hours 20 minutes in flying to Dortmund airfield, missing by about 70 kms. (43.75 miles) his goal of ARNHEM, HOLLAND.

Sgt. BASHAM of R.A.F. LUNEBURG " B " Team flying a " Meise," continued his good performance by reaching HERFORD, a distance of 141 kms. (88 miles). Aircraftman ROBINSON flying a " Minimoa " for the A.H.Q., B.A.F.O. " B " Team accomplished a well planned goal flight to BUCKEBURG, a distance of 109 kms. (68 miles) in 4 hours 15 minutes.

The day's results were :—

" A " Team	OERLINGHAUSEN ..	2475	Points
	WUNSTORF	2203	,,
	SCHARFOLDENDORF ..	2009	,,
" B " Team	LUNEBURG	783	,,
	MINDERHEIDE ..	627	,,
	GUTERSLOH	400	,,
	WAHN	240	,,
	HAMBURG DISTRICT ..	76	,,
Individuals	Cpl. GOUGH	101	,,

THE FIFTH DAY (17th May)

All " A " Team pilots were available on the fifth day, and each made a very good start. Weather conditions were predicted as being the best so far and the 6 Gliders representing the 3 " A " Teams all gained sufficient height to set course for their cross country flights. By 12.49 hours, two pilots out of the 15 representing the " B " Teams did not fly, and the remainder were all airborne by 15.00 hours on flights ranging from 109 to 300 kilometres (68 miles to 187 miles).

As reports came in to Flying Control it was obvious that this was to prove the most successful day of the competition. By 18.30 hours, FORBES and ARCHBOLD had reached their goal on a flight to BUTZWEILERHOF Airfield near KOLN, a distance of 310 kilometres (193 miles), thus establishing a new British goal flight record, breaking by more than 50 miles the record established by P. A. WILLS in 1939. This also qualified as two Gold " C " Distance flights. The news of this great success had hardly been recorded when at 18.30 hours further news was received that PAUL of A.H.Q., B.A.F.O. team, flying a " Weihe," had landed at GELDERN Airfield near the Dutch frontier, a total distance of 308 kms. (192 miles) from FASSBERG. This also qualified for a Gold " C " distance flight.

After these remarkable performances other flights of the day were: 1 Goal flight to Gutersloh, by Herold, A.H.Q., B.A.F.O. Team in a " Weihe " a distance of 166 kms. (148 miles), P. MALLETT, in a " Weihe " of A.H.Q., B.A.F.O. team to DORTMUND, 237.5 kms. (148 miles). 2 Goal flights by HANKS and HUGHES of Wunstorf team both flying " Weihe's" to DORTMUND Airfield and a flight of 129 kms. (80.5 miles) to LUBECKE by MCCALLUM, the third member of the WUNSTORF team.

The best flight of the day by " B " Team members was made by the sole Army entrant, HAMBURG DISTRICT Club one-man team (Cpl. Brown), flying a " M.U. 13," he covered 237.5 kms. (148 miles) to reach DORTMUND Airfield and gained 565 points, which later qualified him for the first prize for the greatest distance by an individual pilot in any type of glider except " Weihe." The sole remaining individual entrant, Cpl. GOUGH of A.H.Q., B.A.F.O., accomplished a well-planned goal flight to BUCKEBURG Airfield, a distance of 109 kms. (68 miles). Other " B " Team outstanding flights were 166 kms. (103 miles) by Sgt. WALKER of LUNEBURG, flying a " Meise," two goal flights by LYNAS and Cpl. EVANS of MINDERHEIDE team to WUNSTORF, 73.5 kms. (64 miles) in a " M.U. 17 " and a " Minimoa " respectively, a height of 1200 metres (3939 feet) above point of launch in a " Grunau " by HIRST of the WAHN team, and a goal flight to GUTERSLOH, 166 kms. (103.5 miles), by LADLEY of the GUTERSLOH team.

At the conclusion of the day's flying, which was one of the finest of the competition, the Clubs held the following positions :—

" A " Team	OERLINGHAUSEN ..	6319	Points
	SCHARFOLDENDORF ..	5587	,,
	WUNSTORF	4621	,,
" B " Team	GUTERSLOH	1215	,,
	LUNEBURG	1121	,,
	MINDERHEIDE ..	843	,,
	HAMBURG DISTRICT ..	641	,,
Individuals	Cpl. COUGH	339	,,

THE SIXTH DAY (18th May)

It was obvious that if the pace of the past two days had continued, many pilots, and retrieving crews, would be feeling the inevitable strain of lack of sleep. In addition M.T. vehicles were now producing maintenance problems. The sixth day, therefore, did not follow the form of the previous record-breaking day.

Conditions did not stop FORBES, whose retrieving

crew had been waiting in the same field ready to retrieve him when he landed at BUTZWEILERHOF the previous day. Both he and ARCHBOLD of the OERLINGHAUSEN " A " Team set off for GRIESHAM Airfield, with an Easterly wind blowing prior to the arrival of a cold front. The SCHARFOLDENDORF team, due to transport difficulties in retrieving, were reduced to one pilot (HEROLD) who made a flight under difficult conditions to SCHARFOLDENDORF, a total distance of 111 kms. (68.25 miles).

A complete WUNSTORF team took off confidently between 12.00 hours and 12.42 hours bound for FRANKFURT.

" B " Teams, with ever increasing goal distances, nominated flights to GUTERSLOH, SCHARFOLDENDORF and BUCKEBURG.

Later in the afternoon, information was received that FORBES was again in the news having reached a height of 3660 metres (12,000 feet) above point of launch, thereby qualifying for his Gold " C " Badge. In addition to the height climb, he also travelled a distance of 255 kms. (159 miles) to land at ROMROD, West of FRANKFURT, after flying for 4 hours 45 minutes. For this flight, FORBES' glider was equipped with oxygen, although he did not use it. His team partner, ARCHBOLD, landed short of his goal at MORINGEN after completing 139 kms. (87 miles). For WUNSTORF, HANKS reached ALSFELD, 248 kms. (154 miles) away and about 70 kms. (42.6 miles) short of his goal, FRANKFURT. MCCALLUM landed at KASSEL, a distance of 184 kms. (115 miles) from FASSBERG. LADLEY for GUTERSLOH accomplished a flight to LACHEN, a distance of 109 kms. (68 miles) and Cpl. BROWN of HAMBURG DISTRICT club flying a " M.U. 13 " reached KASSEL a distance of 111 kms. (69¼ miles). Points at the conclusion of to-day's flying were :—

" A " Team	OERLINGHAUSEN ..	7163	Points
	WUNSTORF	5741	,,
	SCHARFOLDENDORF ..	5710	,,
" B " Team	GUTERSLOH	1417	,,
	LUNEBURG	1199	,,
	MINDERHEIDE ..	962	,,
	HAMBURG DISTRICT ..	764	,,
	WAHN	561	,,
Individuals	Cpl. GOUGH	339	,,

THE SEVENTH DAY (19th May)

The weather on this particular day changed with the arrival of the Cold Front and it was dull and overcast, and slight drizzle was forecast up to lunch time. This gave pilots and retrieving crews opportunity for a well deserved rest, and after lunch, out of a total of approximately 30 launches 5 Pilots only were able to remain airborne. The longest flight of the day was 111 kms. (68¾ miles) carefully planned and executed by MALLET of the A.H.Q., B.A.F.O. Team, in 3 hours 26 minutes. Cpl. BROWN managed to keep up after several launches and landed at GOTTINGEN, a distance of 153 km. (95 miles) in 4 hours' flying time.

HUGHES was the only member of the WUNSTORF " A " Team to make points, and he landed at his home base of WUNSTORF 73.5 kms. (46 miles).

OERLINGHAUSEN Pilots and crews took a complete day's rest at 13.20 hours, after ARCHBOLD had climbed 1,200 metres (3,930 feet) above point of launch without being able to obtain any further lift. 3 out of the 5 " B " Teams were inactive, and LATHAM of the GUTERSLOH team reached 1050 metres (3,450 feet) above release.

The day's flying ended rather earlier than usual with the positions of the Teams being :—

" A " Team	OERLINGHAUSEN ..	7199	Points
	WUNSTORF	5795	,,
	SCHARFOLDENDORF ..	5956	,,
" B " Team	GUTERSLOH	1447	,,
	LUNEBURG	1199	,,
	MINDERHEIDE ..	962	,,
	HAMBURG DISTRICT ..	888	,,
	WAHN	561	,,
Individuals	Cpl. GOUGH	339	,,

THE EIGHTH DAY (20th May)

The position between the Teams on the morning of the eighth day was very close indeed, and it spurred A.H.Q., B.A.F.O. Team to be first on the launching point.

The sky was very cloudy with the presence of the cold front still marked. A few cumulus clouds were forming in layers around the airfield, and it appeared a reasonable day for height climbs. PAUL and MALLETT, did climbs and gained points which were sufficient to bridge the gap between the A.H.Q. Club and WUNSTORF and managed to put the SCHARFOLDENDORF Club in the second position.

All WUNSTORF pilots did height climbs and the best was HANKS who reached 1,200 metres (3,939 feet) above point of release.

For GUTERSLOH, Sgt. CAMPION did 4 height climbs and made sure of the leading position of his club. Cpl. BROWN of HAMBURG DISTRICT, did a goal flight to PIENE of 66.5 kms. (41.5 miles) and concluded a very full week of flying.

The scores of the clubs at the end of the Final Day were as follows.

" A " Teams	OERLINGHAUSEN ..	7251	Points
	SCHARFOLDENDORF ..	6078	,,
	WUNSTORF	5913	,,
" B " Teams	GUTERSLOH	1483	,,
	LUNEBURG	1256	,,
	HAMBURG DISTRICT ..	1085	,,
	MINDERHEIDE ..	1012	,,
	WAHN	564	,,
Individuals	Cpl. GOUGH	339	,,

SUMMARY OF RESULTS

1. **Brady Trophy.** (Awarded to " A " Team scoring most Points and limited to " Weihe " gliders only).

1st	OERLINGHAUSEN GLIDING CLUB	7251	Points
2nd	SCHARFOLDENDORF GLIDING CLUB ..	6078	,,
3rd	WUNSTORF GLIDING CLUB	5913	,,

2. **B.A.F.O. Trophy.** (Awarded to "B" Team scoring most points and restricted to any other type of aircraft except "Weihe").

1st	R.A.F. Gutersloh Gliding Club ..	1483 Points
2nd	R.A.F. Luneburg Gliding Club ..	1256 ,,
3rd	Hamburg District Gliding Club (Army)	1085 ,,
4th	Minderheide Gliding Club	1012 ,,
5th	R.A.F. Wahn	564 ,,

3. **Greatest Height Attained during the Contest in any Type of Glider.**

1st	F/Lt. R. C. F. Forbes ..	3660 Metres
2nd	F/O. Ladley	2200 ,,
3rd	S/Ldr. Lynas	2060 ,,

4. **Greatest Distance Flown in any Type of Glider during the Contests.**

1st	F/Lt. R. C. F. Forbes ..	310 kms.
	F/O. Archbold ..	310 ,,
	Sharing 1st place.	
2nd	G/Capt. G. J. C. Paul ..	308 ,,

5. **Greatest Goal Flight during the Contest in any Type of Glider.**

1st	F/Lt. R. C. F. Forbes ..	310 kms.
	F/O. Archbold ..	310 ,,
	Sharing 1st place.	
2nd	G/Capt. G. J. C. Paul ..	308 ,,

6. **Greatest Height Attained during the Contest in any Aircraft except "Weihe."**

1st	F/O. Ladley	2200 metres
2nd	S/Ldr. Lynas	2060 ,,
3rd	Sgt. Walker	2000 ,,

7. **Greatest Distance Flown during the Contest in any Type of Aircraft except "Weihe."**

1st	Cpl. Brown	237.5 kms.
2nd	F/O. Ladley	166 ,,
	Sgt. Walker	166 ,,
	Sharing 2nd place.	

8. **Greatest Goal Flight Planned and Executed during the Contest, in any Type of Aircraft except "Weihe."**

1st	F/O. Ladley	166 kms.
2nd	Cpl. Brown	109 ,,
3rd	A. C. Robinson ..	109 ,,

9. **Spot Landing Contest held on Whit Monday.**
1st S/Ldr. Pelling. Distance from Stake .8 metres.

SUMMARY OF LONGEST FLIGHTS, HEIGHTS AND GOAL FLIGHTS BY PILOT AND TEAM.

Pilot	Team	Height in metres	Distance in Kilometres	Goal Flight in Kilometres
Archbold	A	1200	310	310
Basham	B	1550	141	96
Brown	B	1600	237.5	
Campion	B	1800	109	
Cornwall	B	750	130.5	
Evans	B	1265	108	108
Forbes	A	3660	310	310
Gough	I		109	109
Hatch	B	700	94.5	
Hanks	A		248	237.5
Herold	A		166	166
Hirst	B	1200	108	108
Hose	I	950	33.5	
Hughes	A	2030	237.5	237.5
Ladley	B	2200	166	166
Latham	B	1450	160	
Lynas	B	2060	109	73.5
Mallett	A	1700	237.5	237.5
McCallum	A	800	199	
Paul	A	1466	308	308
Perks	A	1850	62.5	61.5
Robinson	B		109	109
Walker	B	2000	166	

THE FIRST SAILPLANE FLIGHT SOUTH-NORTH ACROSS THE ALPS

THE Swiss and International Sailflying Champion, Siegbert Maurer, crossed the Alps from South to North in a Sailplane on April 21st. In his "Moswey III" he was aerotowed by a Piper Cub from the airfield at Locarno (660 ft.) and cast off at 1,800 ft. at 9.28 a.m. Using the Levantine wind he climbed to cloud base at 7,600 ft., above Biasca. Towards the Alps the weather became worse from minute to minute and he had to fly from side to side of the valley to gain height. This was an extremely difficult part of the flight. It took two hours to gain the St. Gothard Col, which he crossed at about 1,300 ft. above ground. He then entered a zone of prolonged "Downs" and thought he would have to land at Andermatt, but he struck an upcurrent against the Rienzenstock which took him to over 9,500 ft. Above the valley of the Reuss near Amsteg, he was forced down to 6,500 ft. but found an "Up" above Hoher Faulen. Above Grand Mythen he set course for Zurich (over Lake d'Aegeri) where he thought to land, having long since given up hope of reaching Basle, his original objective. But near the Uetliberg, Maurer, still over 4,500 ft. decided to prolong his flight to Birrfeld. But, circling Birrfeld at under 1,000 ft. he again had luck, found a thermal which took him to 5,500 whence Basle again became a possibility. He landed there at 14.40 after having traversed the Jura at Botzberg and rejoined the valley of the Rhine. The flight took 5 hours, the distance in a straight line being over 120 miles and the first complete crossing of the Alps in the North-South direction was accomplished in spite of very difficult meteorological conditions.

AERO-TOWING MEETING AT CRANFIELD, BEDS. JULY 17th—25th, 1948.

(Sponsored by the British Gliding Association).

THERE will be an aero-towing meeting at the College of Aeronautics, Cranfield, Beds., from Saturday, July 17th to Sunday, July 25th, 1948, inclusive. Accommodation and meals will be available in the College Halls. As the numbers are limited, bookings should be made as soon as possible.

ROBERT KRONFELD—*In Memory*

An appreciation written in German by Karl Theodore Haanen which we gladly present as it shows Robert Kronfeld in a fresh light.

IT was a starlit night in 1938 when we—Robert Kronfeld, his young wife and the writer of this article—sat on the hotel terrace of the aerodrome at Croydon. The invitation from Imperial Airways for a free flight Cologne—London and back offered me the opportunity of meeting Kronfeld again after a separation of four years.

He had left Germany in 1934 on account of his convictions but declined every kind of discussion about the political situation in Germany and only stated that he settled in England because he found here the necessary freedom for his work. Calm and matter-of-fact as was his way he reported on his activity. At that time he had designed an *engined glider* in which he flew from London to Paris. He pointed out to me the headlines in the Press which mainly stressed the fact that the flight did not consume more than 5 litres of petrol and that nowhere was the actual flight performance mentioned although the flight had been anything but easy, because of bad weather conditions. (A short while before Lord Sempill, his friend and sponsor, flew the same machine to Berlin within 8 hours and undertook the return flight under such dirty weather conditions that even big Air liners were forced to stay grounded).

This attitude, this strong stress of personal achievement was characteristic of Kronfeld. His life was a continuous struggle with adverse conditions. Not one of his great successes came to him the easy way. For many years he had to go short of many necessities and had to face great financial worries.

It all began when he first started sailflying, on the white dunes of the Kurische Nehrung. That was when he coined the word: "We judge by success but that is wrong. We should judge by what people achieved in proportion to their knowledge and ability. The man who built up his success by hard work and intensive studies ready to sacrifice his personal welfare, deserves more praise than the one who reached his goal by sheer luck and bravado." This very hard work combined with relentless perseverance was the secret of his dazzling success during the time of the rapid development of gliding and soaring. Kronfeld flew the first 100 km. on the slopes of the Teutoburger Wald; he discovered the *sucking-force* of up-winds under clouds; he was the first who dared to venture into unknown cloud formations; he wrote scientific treatises on stationary upwind airfields on mountains and changing upwind airfields of clouds; he was the first to cross and recross the Channel in a glider; he built and he flew; he was the scientist and the practical flyer.

During a thunderstorm flight he travelled a distance of 143 km. and reached a height of 3,000 m., thereby breaking two world records. He designed the "Austria" the greatest glider in the world. She broke up high in the air above the Rhön. When he floated down to earth in his parachute the machine, with sword-like wings, leaped back to him, spreading her arms wide as if she meant to take her master along with her in her death plunge. Kronfeld was looking at a heap of broken plywood and torn canvas. But 24 hours later he flew again to Paris to take part with his "Wien" in the flying demonstrations at Deauville.

Rest was unknown to him. From his home-country, Austria, he brought a certain amount of romanticism into the matter-of-fact life of an airman. No wonder that he felt himself akin to the Cornet Christoph of Rainer Maria Rilke: "reinten, reiten, reiten, durch die Nacht, durch den Tag, reiten, reiten, reiten." Not only Europe but also America and Canada became the arena of his activity. He organised numerous flying meetings, was towed with a cable into the air by a Ford, turned somersaults with his glider, organised, telephoned, foregathered with his friends and had rarely, if ever, a quiet hour. He personally never benefited by any money he earned since his own demands on life were negligible. Everything went towards gliding, towards the design of new aircraft, the development of new flying methods and to the men who worked with him.

"I prefer simple but real men to the most elaborate human machines whose indicator shows continuously 'own advantage'." His struggle with the adversities of life is best illustrated by the remark he once made to the writer of this article: "If things went without a hitch my name would not be Robert Kronfeld."

Kronfeld was no dreamer although he loved the cloud, the sun, the storm, Beethoven, Schubert and Mendelssohn. He was prepared in sharing a good time but as a flyer he was dynamic energy, stark concentration; as research worker and designer he was calm and steady.

"Star" mannerism was alien to him; to friends he was a true friend always ready to help and make sacrifices but his usually calm judgment acquired a sharp irony and a sarcasm so alien to the Viennese when he came across conceit, arrogance, self-importance and showing-off. When the writer showed him the manuscript of a book that was to be called "Robert Kronfeld," he refused his consent and, only when the title was altered to "A Glider Pilot," with his name written in small letters below, did he agree.

Conversation flowed until the small hours, memories were revived, new ideas were born. Everything was subordinated to his great love for flying, his enthusiasm for its technical progress and his ardent desire to give the younger generation the opportunity for sailflying, which he regarded as an ideal instrument to create decent, honest and enterprising young people.

His name will be inscribed in golden letters in the annals of aviation and his friends—particularly those who, in Germany, were witnesses of his first successes and who, throughout the troubled times past and present retained their affection for and loyalty to him, will remember him for ever.

Centre of Gravity Launch

AUTOMATIC SAFETY RELEASE

By R. C. STAFFORD ALLEN.

Heinz Funk, in his articles on this subject, stated the advantages, and dangers, of C.G. launching admirably. The possibility of overloading, and thereby breaking, the wings of a machine when using this method of launching is a very real one, and it speaks very well for the winch drivers, and maintenance engineers, that there has yet been no case of structural failure from this cause.

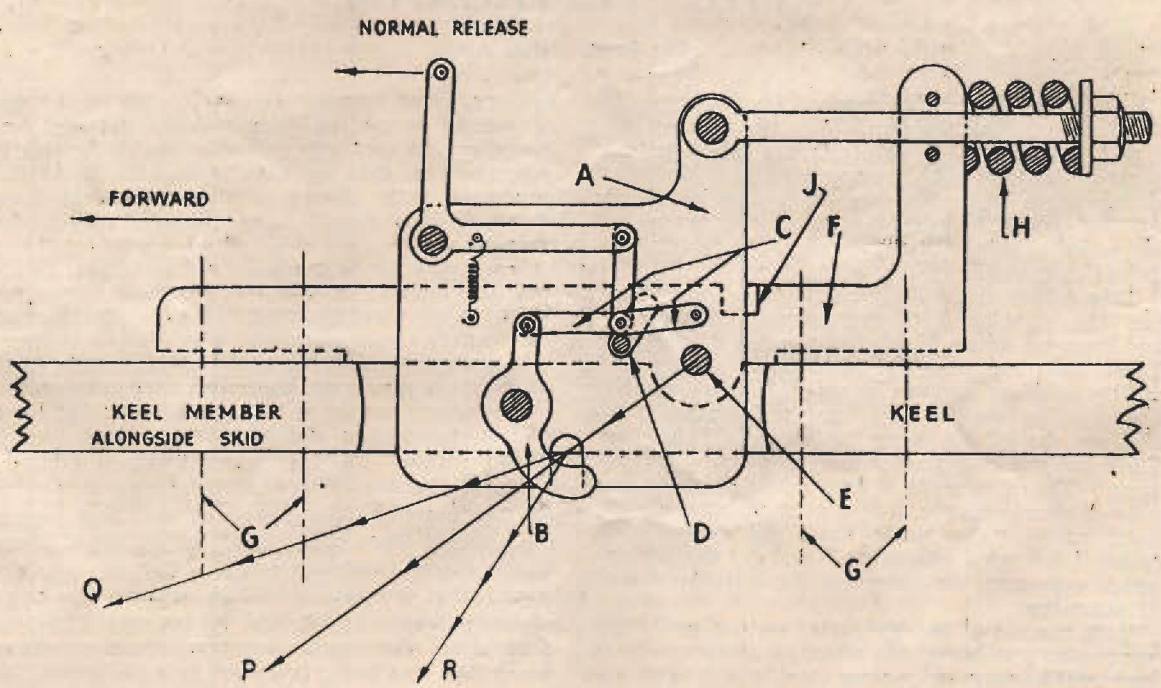
However, it is not possible to guard against overloading due to a sudden gust while the machine is on the cable, except by fitting a weak link on the cable attachment, and as was clearly pointed out, this has severe limitations. The weak link must be of different strengths for different machines, but worst of all, the weak link takes no account of the angle of the cable to the flight path. It is only when this angle approaches 90° that conditions became really dangerous. At smaller angles, excessive cable pull has a fairly large component in the direction of the flight-path and results in excess speed without a very large increase of the normal forces.

The best solution to this problem lies in the machine itself. What is wanted is a release unit which will release automatically if the normal forces on the wing exceed a safe maximum, but which will not pay any attention to the component parallel to the flight path.

Such a release is illustrated in the figure, which shows a section longitudinally through the centre line. A is one of the side plates of a conventional "over-centre" type quick release. The hook B is held shut by the two links C which rest against the stop-pin D. When "triggered" by the normal release cable in the cockpit, the two links C, are lifted up off the stop-pin D, and fold upwards having passed the position where the three centres of their pivots are in a straight line. This allows the hook B to open and drop the launching cable. So far the operation is perfectly conventional.

However, the side plates A are not attached directly to the aircraft as is usually the case, but are pivoted at E between two further plates F, which are bolted to the keel of the machine at G. The

AUTOMATIC SAFETY RELEASE FOR C.G. LAUNCHES



release unit carried by the side plates A is prevented from rotating about E by the spring H whose tension is adjustable. In the normal position the side plates A rest against projections J in the mounting plates F.

If now, an excessive vertical load be applied to the hook, the release unit will rotate about E and compress the spring H. The stop-pin D however, is mounted in the mounting plates F and is not attached in any way to the side plates A of the release unit, in fact it works in a slot cut in them. This stop-pin D, therefore does not move when the release unit begins to rotate about E. In consequence, after a certain movement of A, the links C are pushed over their " over centre " position and the hook flies open.

Now the nose of the machine is toward the left of the figure. We can see, therefore, that if the cable pull should lie along the direction indicated by P there will be no moment at all tending to rotate A and trigger the release since the pull passes through the pivot E. If the pull angle be shallower as indicated by Q, the cable tension actually helps the spring H to pull the release unit in a clockwise direction against its stops J. It is only when the cable angle becomes steeper than P, such as is shown at R, that the cable tension begins to try to open the hook. A little thought will show that, once the angle of P is exceeded, the steeper the cable angle, the lower is the force required to release automatically. This is exactly what is required.

This release could be fitted to any machine for C.G. launching and would guarantee that the wings could not, in any circumstances be overloaded on the climb.

The spring H would naturally have to be set for each type of machine so that the release would " fire " at the safe load for that particular type. The adjustment would then be locked and thenceforth left alone except for tests at periodic inspections.

To set, or test, the spring all that is required is a simplified " pullmeter " as used by the Airborne Forces to test the release gear of Army Gliders. Briefly this consists of a simple hydraulic ram which pulls a ring, engaged with the release hook, while the body of the " pullmeter " braces itself against the frame of the release. The pressure is usually applied by means of a screw piston and the actual load applied is indicated by a pressure gauge connected to the oil in the ram cylinder.

A club would of course only require one " pullmeter " to test and reset all the releases on all its machines.

The releases should not be very expensive to manufacture and it is not suggested that the type illustrated is the only solution to this problem. Practically all known types of release could be adopted to function on these lines. The " pullmeter " again need not be an expensive item and could even be made up by clubs, given the use of a lathe, and, after all, in matters of life and death the cost cannot be computed in terms of money.

THE TEPHIGRAM

By J. C. NEILAN.

ACCORDING to the recognised text-books on the subject, the tephigram is a name given to a " tø " diagram, " t " signifying the absolute temperature, and " ø " the entropy, which my dictionary defines as a noun meaning dissipation of energy. At first sight it looks as though a lot of energy will be needed to sort out what its all about, but it is not as bad as it looks.

Take a look at the diagram. You will see that it has the right-hand bottom corner chopped off, and lines are drawn parallel to the line of chopping. These lines are pressure lines drawn at intervals of fifty millibars, and can be regarded as representing height. The vertical lines are temperature lines, and are drawn for every ten degrees Fahrenheit. These are the co-ordinates used in plotting a tephigram. The other series of lines are used for the purpose of interpreting it, and consist of (a) horizontal lines, called " dry adiabatics," (b) curved lines called " saturated adiabatics " and (c) dotted lines which represent the dewpoint for various degrees of saturation.

With the aid of the tephigram we can easily find out the air's stability, the effect on stability of any expected heating or cooling, and the height and extent of cloud formed by convection, in the air mass of which details of temperature, pressure and humidity are available. But before doing this let us make sure that we have some idea about that important little thing called the Vertical Lapse Rate. This is simply a recording of heights and temperatures.

Now when air is made to rise, it cools, and so long as it remains unsaturated it cools at a fixed rate of 5.4° F. per thousand feet. If it contains moisture and reaches a temperature at which it can no longer hold that amount of moisture as invisible vapour, i.e. becomes saturated, the moisture condenses into visible cloud, and in so doing gives out the latent heat of vaporisation, which approximately halves the rate of cooling. The two lapse rates discussed above are known as the " Dry Adiabatic lapse rate " and the " saturated adiabatic lapse rate." Now suppose the ambient lapse rate (i.e. of the air round about) is 3.5° F. per thousand feet, and that the humidity is such that dewpoint would be reached at a height of three thousand feet, and we consider a thermal rising from the tarmac runways of an aerodrome which heat the lower layers of air from 60° F., the

ambient temperature, to 66° F., at which temperature it breaks away and starts rising :—

Height.	*Ambient T.*	*Dry rate.*	*Saturated rate (say 2.6°)*
0 ft.	60	66	—
1000	56.5	60.6	—
2000	53	55.2	—
3000	49.5	49.8	49.8
4000	46	44.4	47.2
5000	42.5	—	44.6
6000	39	—	42
7000	35.5	—	39.4

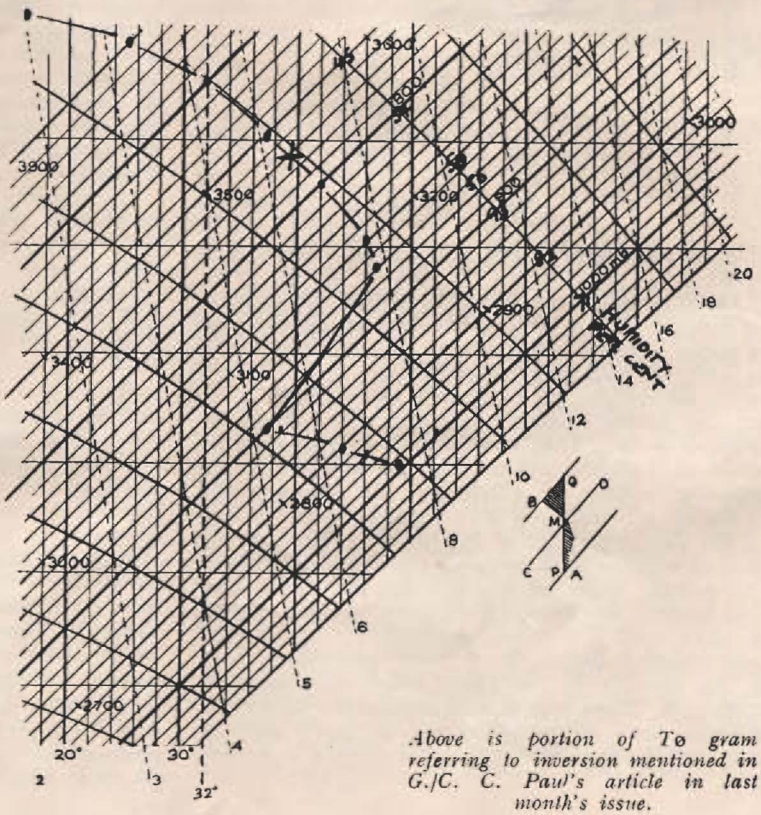
The bubble of air cools at the dry adiabatic rate of 5.4° F. per thousand feet, and will continue to rise so long as it remains hotter than its surroundings. In this case the ambient lapse rate is less than the dry adiabatic rate, and the temperature difference gets less and less until at 3,000 ft. it is only 0.3° warmer than its surroundings. At a very small amount higher it would reach equilibrium, and would fail to rise any higher. But we noticed that condensation level was reached at 3,000 ft., and the lapse rate that the bubble works to is now the saturated adiabatic rate which we will assume to be 2.6° F. per thousand feet. We now notice that our bubble is cooling at a lesser rate than the outside air, so that it is increasing the temperature difference and therefore accelerating. In other words, the air was stable below cloudbase, and a high temperature difference was required to get the air to rise to that height, but having once got there, we have instability. This is the commonest kind of lapse rate in this part of the world, and it shows us the reason why it is sometimes very difficult to reach cloudbase, but how conditions of lift improve tremendously inside the cloud. The reason why our cloud does not go on building up for ever and ever is that it eventually condenses all its moisture, and the lapse rate reverts to the dry adiabatic. It does this gradually, as can be seen by the curve of the saturated adiabatics on the tephigram, which gradually become more nearly parallel to the dry adiabatics as the temperature falls.

Back to the tephigram. Plot the soundings which are broadcast by Airmet on 1224 metres at 8.25 each morning. The resulting " curve " shows stability where it is more vertical than the saturated adiabatics, and potential instability where it lies at an angle less than the saturated adiabatics but more than horizontal, and it is completely unstable if it lies less than horizontal. But what about cloud base ? The broadcast gives relative humidities as well as temperatures. The relative humidity is the ratio between what moisture the air contains and what it would have to contain in order to be saturated at that temperature, expressed as a percentage. The dew-point lines on the tephigram are lines representing the number of grammes of water per kilogram of dry air, and the temperatures and pressures at which that quantity represent 100 per cent relative humidity. Suppose the surface temperature, pressure and relative humidity are 60° F., 1,000 mbs. and 82 per cent respectively. A look at the tephigram shows that 100 per cent humidity at that temperature and pressure represents 11 grammes per

Thickness of Layer between M.S.L. and 1000 mb.

NEGATIVE				POSITIVE			
M.S.L. Press. P	30°F	50°F	70°F	M.S.L. Press. P	30°F	50°F	70°F
	FEET				FEET		
950	1337	1391	1445	1050	1274	1326	1378
952	1282	1334	1386	1048	1224	1274	1324
954	1227	1277	1327	1046	1174	1222	1270
956	1173	1220	1267	1044	1124	1170	1216
958	1119	1164	1209	1042	1074	1118	1162
960	1064	1107	1150	1040	1024	1066	1108
962	1010	1051	1092	1038	974	1014	1054
964	955	994	1033	1036	924	962	1000
966	902	938	974	1034	874	909	944
968	848	882	916	1032	823	856	889
970	794	826	858	1030	773	804	835
972	740	770	800	1028	723	752	781
974	686	714	742	1026	671	698	725
976	634	659	684	1024	620	645	670
978	581	604	627	1022	569	592	615
980	527	548	569	1020	518	539	560
985	394	410	426	1015	390	406	422
990	263	273	283	1010	261	271	281
995	131	136	141	1005	131	136	141
1000	0	0	0	1000	0	0	0

This table appears on all Tø gram forms



Above is portion of Tø gram referring to inversion mentioned in G./C. C. Paul's article in last month's issue.

kilogram. By slide-rule we find that 82 per cent equals 9 grammes per kilogram. Now that figure remains unchanged by any subsequent rise in temperature, so long as no water is added to the air by passage over water or by rain dropping through it. To see where the cloud base is, we draw a line from the surface plot, parallel to the dry adiabatic, till it reaches the dewpoint line corresponding to 9 grammes per kilogram. That point will give the height of cloud base. From that point draw another line parallel to the saturated adiabatic to the point where it intersects the plotted readings. This point gives the height of the tops of cloud. Now see what happens if we anticipate a rise of ten degrees in surface temperature during the day. Cloudbase goes up by about 75 mbs. (about 2,100 ft.). These last things, cloudbase and cloud top will not occur at all unless the point giving the height of cloud-base is to the right of the line giving the ambient lapse rate.

It will be noticed that the height on the tephigram is in millibars, whereas we aviators use feet, and want to know our gen in feet. For purposes of gliding it is sufficiently accurate to take our conversion factor as being 28½ feet per millibar. If accuracy is required, use the formula :—

$$H = 221.1 \times T(\text{Log } p_o - p_i)$$

where H = Height in feet.
T = mean temperature in ° Absolute.
p_o and p_i are the pressure levels involved.
Logs to base 10.

e.g. Surface 1010 Mbs. 70° F. (293° A.).
Cloudbase 870 Mbs. 43° F. (279° A.).
Mean Temperature 286° A.

Log P_o	1010 =	3.00432	
Log P_i	870 =	2.93952	
		0.06480	Log 8.81158
		221.1	Log 2.34459
		286	Log 2.45637
	H		Log 3.61254 = 4098 ft.

More approximately, 140 Mbs. at 28.5 mbs./ft. = 3,990 ft.

The information broadcast by Airmet is not given at dictation speed, so it is advisable to have a piece of paper already prepared with columns of pressure at every 50 millibars from 1,000 mbs. with a blank space for surface pressure, and more blank spaces for the critical points sometimes given where inversions occur. They usually give results of ascents made at Larkhill and at Aldergrove early in the morning, neither of which may be representative of the air in which you hope to disport yourself later in the day. A watchful eye must be kept on the general weather situation and a heedful ear towards the weather expected within the following twenty-four hours. The information given in the forecasts is often scanty and over-generalized, and several cross-country flights have been performed, even in this country, in conditions which were supposed to be duff. The temperatures forecast for the day are extreme cases of generalisation, so don't give up hope just because the tephigram doesn't look very good.

U.L.A.A.

Annual General Meeting

REMARKING that the period of waiting was now almost over and that the time when ultra light aircraft would be flying freely was just round the corner, the Chairman stated that it was perhaps worth while to consider briefly at this stage the future of the movement. We had reached our present position because we had managed—not without difficulty—to convince the powers-that-be that we were responsible people who, while wanting as much freedom as possible to build and fly our own aircraft, appreciated also that there were other users of the air who had to be considered. The example we had been able to set already was, in fact, now serving as a pattern for ultra light aircraft enthusiasts all over the world and he had been very gratified to learn that movements modelled on U.L.A.A. were likely to be formed in the U.S.A. and Australia. " Because of this," the Chairman continued, " we now have a responsibility not only to ourselves but also to enthusiasts in other countries who may only just be starting to fight their battles against prejudice, battles which we ourselves have now largely won. We must, therefore, take particular care to ensure that the example we set is always a good one and in this connection I would like to make an especial plea to all members to remember that we are very much in the public eye and to do nothing that will damage our reputation."

Group Captain E. L. Mole, Chairman of the Design Sub-Committee opened his report on progress made in this field during the past year by giving the latest news regarding Permits to Fly and C's of A for ultra light aircraft. He stated that as a result of negotiations between the Ministry of Civil Aviation and U.L.A.A., agreement had already been reached whereby Permits to Fly were to be re-issued in respect of those ultra lights of pre-war design which had already flown successfully prior to the 6th August, 1947. However, as this arrangement still excluded a number of such aircraft which had either not had an official flight test, or which were still under construction on that date, we were now trying to get the dead-line extended to the end of 1948.

While such issues of Permits to Fly catered for existing ultra light aircraft, both M.C.A. and the Association believed that so far as future aircraft were concerned, a C. of A. was preferable to a Permit to Fly. This would not only ensure greater safety, but would also avoid restrictions in our operations. Accordingly, negotiations with the Air Registration Board had been carried on and these had proved most successful, resulting in the issue of a new draft of Airworthiness Requirements for ultra light aircraft. These greatly reduced the complication and cost of their construction when related to aircraft with a stalling speed limitation of 40 m.p.h.

G/C. Mole had found that the cost of obtaining A.R.B. design approval for C. of A. purposes through professional consultants was, however, excessive (in one case £170 had been quoted). He had,

therefore, decided to form a design team to be approved by the A.R.B. and to act on their behalf. The work of this design team was to be carried out by volunteers in their spare time and Mr. A. R. Weyl, A.F.R.Ae.S., had been appointed head of the team. We hoped shortly to be able to assist members with design or stressing problems at reasonable cost.

So far as individual ultra light aircraft designs were concerned, G/C. Mole reported that the "Chilton" was built and flown under the Permit to Fly scheme and had proved extremely successful. We were now attempting to clear its design for issue of a C. of A. so that plans for its production can go ahead. The Tipsy "Junior," built by Avions Tipsy, a Belgium subsidiary of the Fairey Aviation Co., had been produced in two forms, the prototypes of which were now undergoing C. of A. flight trials. The first prototype was fitted with a Walter Mikron engine of 62 h.p. while the second had a 37 h.p. Aeronca-JAP engine, lent to Mr. Tips, the designer, by the Association. The "Junior" appeared to be a most promising type and G/C. Mole hoped that it would shortly be demonstrated in this country.

The Slingsby "Motor-Tutor" had flown successfully but was under-powered with the engine installed. A Coventry Victor engine is now being modified for experimental flight tests of the aircraft and it is expected that members will see this machine demonstrated this summer.

Of new designs coming forward, G/C. Mole, commented particularly on the "Herald," a promising new design the prototype of which is now under construction by the Hants and Sussex Aviation Co., and the "Resurgam," the design of which has been completed by Mr. Bedson, a member of U.L.A.A. Mr. Bedson had already obtained a licence from the Ministry of Supply for materials to build his prototype, plans for the construction of which are in hand. Both the "Herald" and the "Resurgam" are to be fitted with 37 h.p. J.A.P. engines.

Apart from these two designs, G/C. Mole also mentioned three others which were in hand, all to be powered by Aeronca-JAP engines. One of these design projects was being carried out by two students at the De Havilland Technical School, who had already planned the construction of parts for their prototype, while the other two were projected by well-known manufacturers of light aircraft who had become interested in the ultra light aircraft field.

Turning to the question of engines, G/C. Mole stated that he had studied the design of a 40 h.p. flat twin engine which was being made by one of our best-known motor-cycle engine designers. He had christened this the "ULA" engine. It was ingeniously simple and should be extremely reliable, and cheap to produce. Plans for constructing several prototypes were in hand. Another design was being produced by Mr. Cross, designer of the Cross rotary valve. This was a 1½ litre 3 cylinder radial engine fitted with this type of valve and General Arrangement drawings of the engine had just been received. The Cross rotary valve had been extensively tested in motor-cycle engines and allows of very high compression ratios being used without risk of detonation. This in turn leads to higher power output and low fuel consumption. This was a most attractive looking engine and of great interest to the ultra light aircraft movement. So far, however, no plans for production had been settled.

For motor-glider types of ultra light aircraft, a smaller engine of about 25 h.p. was required and this was being met by Major Weaver, head of the Coventry Victor Motor Co., who had agreed to modify his production 850 c.c. "N" type engine for our purposes. G/C. Mole hoped that this engine would eventually be tried out in the Slingsby "Motor-Tutor."

Reporting as Chairman of the Construction Sub-Committee, Mr. H. N. Rose Dale gave some further news about the Aeronca-J.A.P. engines which, as reported in previous issues of the Bulletin, have been purchased from Messrs. J. A. Prestwick & Co. Ltd. These engines are new but, having been in store since 1939, are going to be reconditioned, tested and passed by A.R.B. and when this has been done they will be available for sale to members at specially attractive prices. Instruments for testing these engines had been loaned to Maxim Engineering Ltd. (who were undertaking the reconditioning) by Messrs. Smiths Instruments Ltd. and Sangamo Weston Ltd. Mr. Rose Dale stated that two engines had already been completely stripped, rebuilt and run but were now awaiting a suitable calibrated airscrew for the final test. When this had been carried out the reconditioning of the remaining engines would be put into operation.

Mr. Rose Dale stated that, as Chairman of the Construction Sub-committee, he was responsible for keeping a record of ultra light aircraft being built and in this connection reported that altogether, eight such aircraft were either being re-conditioned or being built from scratch. Of those being reconditioned, one was a Dart "Kitten" (designed by Mr. A. R. Weyl), one a "Dingbat" designed by Mr. C. W. Taylor) and two were Luton "Minors" (designed by Captain C. H. Latimer-Needham) while a Heath Parasol and three Luton "Minors" were being built from scratch. In addition, a Group which had just been formed in the Bournemouth-Christchurch district was planning the construction of a "Heron" pylon-braced monoplane which, like the Heath Parasol, was of American design. Furthermore we had news of two sailplanes which were being modified to take auxiliary power units while the Aerotech Club at Hayes, Middlesex, were building a two-seater glider with a view eventually to fitting an engine and using it as a motor glider.

A report on the material situation was then given by Mr. Maurice O. Imray, Chairman of the Materials Sub-Committee who stated that his sub-committee had not yet been constituted as such because at the beginning of his term of office, it had been obvious that, owing to the absence of building activity among members, there was not likely to be a great deal of work for a materials sub-committee apart from an examination of sources of supply of materials likely to be called for, the availability of such materials and consideration of possible and suitable substitutes for items in short supply. He

desired to take the opportunity of thanking members of the Executive Committee for their help and advice during the past year and went on to say that, from a material point of view, the biggest single item dealt with had been the purchase of the batch of Aeronca-J.A.P. engines already mentioned by earlier speakers. Mr. Imray drew the attention of the meeting to the specimen engine which was on show for their benefit and in this connection extended his thanks to Mr. Arthur Prestwick, of Messrs. J. A. Prestwick & Co. Ltd. for lending this show engine and also for his courtesy and co-operation over the purchase of the engines during the somewhat protracted negotiations.

Continuing, Mr. Imray said that it was hoped there would be between 35 and 40 of these engines for sale at a price of £75 each to all comers. The price to Association members would, however, be subject to a reduction of between 25 per cent and 33⅓ per cent and in view of the wide interest shown in the engines, he suggested that it would be advisable for intending purchasers to place their orders as soon as possible. Any further details would be given to prospective buyers on request.

As members had heard, the reconditioning and testing of these engines was in the hands of the Construction Sub-Committee.

Referring to the ultra light C. of A. requirements, Captain Sturton stated that the A.R.B. insisted on the inspection of ultra light aircraft during construction and overhaul and that this was, of course, a necessary precaution if safety was to be ensured. To obtain the services of outside inspectors would, however, be a very expensive business and it had, therefore, been decided to form a voluntary inspection organisation within the Association. A start had already been made in this direction and a register of inspectors with suitable experience was now being compiled. The Air Registration Board had already agreed in principle to our proposals and it was hoped that the Board would delegate to the Association authority to carry out all the necessary inspections through the medium of our inspection organisation. Group inspectors would be appointed by the Association to supervise the work of Groups building their own ultra light aircraft and District Inspectors, also to be appointed by the Association, would visit Groups periodically to inspect each completed component before it was finally covered. The completed aircraft would still have to be surveyed by a representative of the A.R.B. before issue of a C. of A. could be recommended but it was hoped that formation of the Association's own inspection organisation would make things much simpler for amateur constructors. The important thing to realise was that inspection really was necessary and in concluding, Captain Sturton said he hoped all members would co-operate to this end. He on his part would do his best to make a success of the inspection side of the Association if elected as Chairman of the Inspection Sub-Committee.

The report of the Operations Sub-Committee was given by F/O. I. G. Imray who stated that, in the absence of any actual operational use of ultra light aircraft during the past year, his work had been concerned chiefly with discussions and correspondence in connection with U.L.A.A. Pilots' Qualifications and Badges. A badge design had now been finalised and it had been decided that a blue, a bronze and a silver badge should be issued in order of merit. Illustrations of the proposed badges were on view for the benefit of those present at the meeting.

F/O. Imray went on to say that he did not intend to take up a lot of the meeting's time by enumeration in detail the tests to be passed to qualify for the different badges. These details would be given in full in a future issue of the Bulletin but for the information of those present, he would give a brief outline of the requirements. These were as follows:

For the blue (enamel) badge, pilots would have to have done five hours solo on ultra light types, including ten satisfactory landings and would have to pass a practical flying test and oral technical examination.

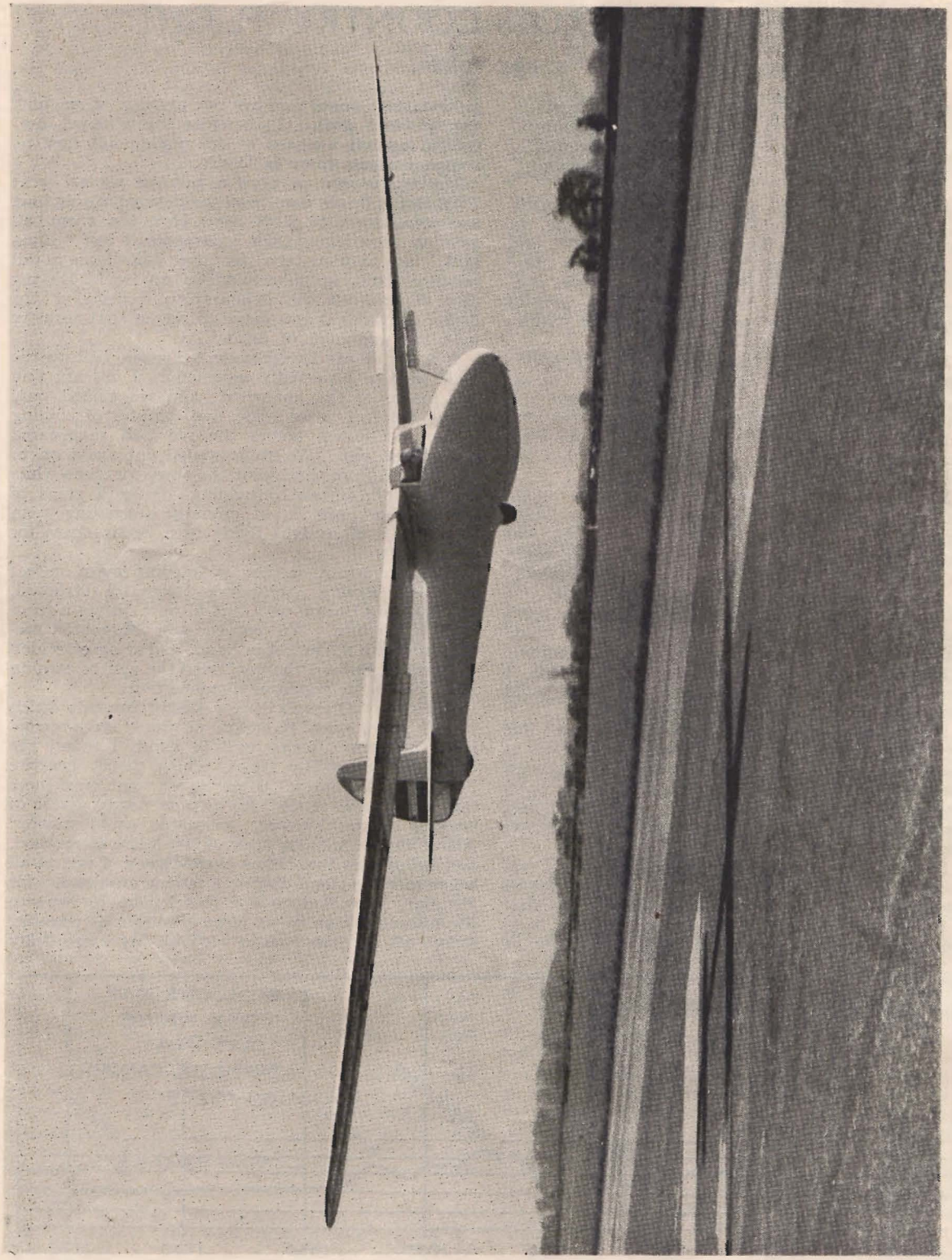
The bronze badge would be awarded to pilots who had put in 50 hours solo in ultra light types and passed a practical test which would include the carrying out of a cross-country flight of at least 100 miles and one successful (practice) precautionary landing. An oral technical examination would also have to be passed.

To gain the silver badge pilots would have to have 100 hours solo in ultra light types, pass a navigational test in the form of a cross-country flight of three legs with no intermediate landings and arriving back at the starting point within a certain time of E.T.A., carry out a further cross-country flight in the form of a "Grand Circuit" of at least 500 miles (in suitable stages) and pass an aerobatic test. In addition, a candidate for the silver badge would be required to produce evidence to show that he was proficient in assisting with engine and airframe overhaul or construction and would have to have a good knowledge of advanced pilot navigation and elementary aerodynamics.

In addition to these three badges, a number of Gold Badges would be awarded annually at the discretion of the Executive Committee of U.L.A.A. for outstanding flights in ultra light aircraft.

F/O. Imray stressed the fact that none of the badges to be introduced was intended in any way to replace pilots licences issued by the Ministry of Civil Aviation but that all candidates for any of the badges would be required to hold at least a Student Pilot's licence which he understood was to be introduced in accordance with the recommendations of I.C.A.O.

During the course of his report, F/O. Imray remarked that, while activity by ultra light aircraft was as yet almost negligible, there had been one highly meritorious performance by one of our members in an ultra light during the past year. He referred, of course, to the establishment by Sqn. Ldr. R. L. Porteous of a world speed record over the 100 km. closed circuit for aircraft with engines of up to 2 litres capacity. The ultra light in which Sqn. Ldr. Porteous set up this record was the well-known Chilton monoplane fitted with a 44 h.p. Train engine. The average speed achieved was 199.115 km./h. (123.45 m.p.h. approx.) and this performance had shown what ultra light aircraft could do.



The latest British design the "Gull IV" piloted by F. N. Slingsby the designer.

SILVER "C" CROSS-COUNTRY FLIGHT

T. REX YOUNG.

Date : 24th June, 1947.
From : Bramcote.
To : Camphill.
Distance : 60 miles.

Take-off : 14.20 hours.
Landing : 17.30 hours.
Sailplane : "Olympia."
Pilot : T. Rex Young.

THIS flight was but a modest one among many far more noteworthy flights made during the National Contests at Bramcote in June, 1947, and its only claims to interest are that it was a first cross-country by a raw sailplane pilot, and was concluded, 60 miles from Bramcote, with an hour of slope-soaring over the south slope of the famous Derby and Lancs. site at Camphill.

The former fact may therefore encourage similarly timid sailflyers to leave their home site this season. The latter goes to show that if a tired and still embryo cross-country pilot can remain contentedly airborne on a slope after 2¼-hours of somewhat dizzy circling, the Derby and Lancs. slope has got that little something the others haven't got !

My turn to fly on June 24th arrived after lunch, and the extent of my timidity will be mercilessly revealed when I mention that the declared goal was Derby (Burnaston airfield), a modest 28 miles away. (A respectable landing-area and the probability of an aero-tow retrieve only *partly* influenced this choice !) At 14.20 hours I cast off from the tug at 2,000 feet, two miles south of Bramcote, beneath a cloud which looked as though it might exert a magnetic influence on the small green ball. Sure enough, it worked, and I put my "Bluebird" into a left-hand turn with nervous hand and thumping heart.

For the next fifteen minutes I wallowed round like an intoxicated bee, gazing with hypnotised eyes at the green ball, which danced obligingly between the 3-ft./sec. and 6-ft./sec. graduations of the Cobb Slater, while the broad expanse of Bramcote airfield receded slowly beneath the "Olympia's" circling wings.

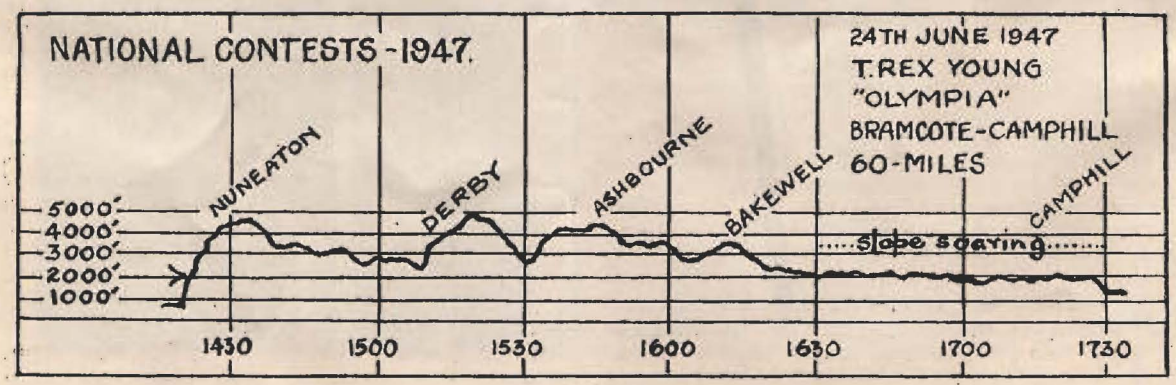
In this early period, we reached 4,500 feet, and being still below cloud-base, and having passed several miles beyond Nuneaton, I decided first that a brief respite from circling would do my head quite a lot of good, and second that an increase in groundspeed would improve our chances of reaching the declared goal. I therefore straightened ou pushed up our airspeed to 50 m.p.h., and flew o compass course towards Derby.

During the next twenty-five minutes we lost some 2,000 feet of height despite some intermediate circling, and were down to 2,500 feet when the green ball gave an encouraging kick, whereupon I put "Bluebird" into another turn just after identifying a rail junction about two miles to port of my track. Having now experienced the exhilarating security of the higher altitudes, I was eager to regain that security with the minimum of delay.

But my efforts to persuade the green ball up the scale were only partially successful. I did not find the centre of the upcurrent, and we gained only about 500 feet, after some five minutes of circling in up and down, before the red ball reappeared and stayed put. We straightened out again on to course, and from that point the story for some while was one of constant struggling for small gains of height, short periods of circling alternating with short spells of straight flying in a hectic chase for further lift.

I did, however, succeed in keeping more or less on track, leaving Ashby-de-la-Zouch to starboard, and spotting Burton-on-Trent to port during a fresh bout of circling. We arrived over Burnaston airfield still with 2,500 feet in hand, and at once decided to press on beyond the goal with the aim of earning more points for a greater distance flown.

With the "Olympia" over Derby, towards which I had flown with thoughts of the "large-towns-large-thermals" theory well in mind, I found the best thermal of the flight, which thrust heartily beneath "Bluebird's" wings as we went once more into a turn and settled down to as steady a rate of circling as my inexpert technique could muster. About twelve minutes later, 5,000 feet was reached, and being then just below cloud-base and not at all eager to enter cloud despite a lasting admiration for Dittmar, I decided to use this height to increase the distance flown by as large a margin as possible, so set off northwestwards without any more delay



than was occasioned by waiting for the compass to stop its infernal spinning.

For the next ten minutes we cruised at 50 m.p.h., and then found another upcurrent, this one taking us, somewhat erratically, from 2,600 feet to 4,500 feet after eighty-five minutes' flying time from Bramcote. From then on followed another period of ups and downs, and a further climb of about 1,000 feet near Bakewell; but the lift then appeared to be on the wane, and when the Derbyshire peaks loomed up ahead, I realised that without the aid of another healthy thermal, I should be unable to extend the flight beyond them.

Moreover, this being my first visit, by air or otherwise, to that part of England, my geography was somewhat hazy, and I was then too busily occupied in conserving height to make much of a success of map-reading. The air appeared to be growing more stable every minute, until we reached a delightful soaring slope, and I started to beat thankfully up and down, deciding meanwhile to sort things out as soon as I had got the measure of the hill.

With the long bouts of circling that had gone before, the weight of my forty-seven years seemed far more weighty than usual, and I sorely needed the solace of My Lady Nicotine. Some minutes of fumbling in the pockets under my harness eventually produced cigarettes and lighter, and I lit the cigarette which brought a new lease of life, and cleared a somewhat muddled head for further thinking.

But this merely confirmed the realisation that we could get no farther, and after a second cigarette, consumed during an enjoyable spell of slope soaring, I turned "Bluebird" behind the edge, and we landed at Camphill, to receive a warm welcome from members of the Derby and Lancs. Club, on whose site we had landed. The delectable tea provided by Margaret Swale and "Jeff" in the Swale caravan was a banquet, and I shall never forget Margaret's early remark that at first sight she thought I was Bira!

The knowledgeable will perceive that this flight was far from well flown. The barograph trace shows that my rates of climb contained much fluctuation, indicating that I did not succeed in keeping in the core of the available lift. It also shows that in the earlier stages of the journey, I thrice encountered upcurrents and failed to stay in them. Moreover, my chosen goal, though downwind of ground-level wind-direction, was selected without allowing for the veer which normally accompanies height. Other competitors went northeastwards, and flew further as a result.

If there is any merit in the fact that the flight was flown fairly accurately on the chosen track, it is relevant to mention that the comparatively slow groundspeeds of soaring flight allow generous time for the recognition of pinpoints and the tallying of landmarks; I found this factor a great help during the major part of the flight.

To the would-be cross-country pilot who has not yet "ventured," this first flight may give some encouragement to "have a go," and for this reason, it has been herein briefly recorded.

POLISH GLIDING

By WITOLD CHARLES STARZEWSKI

(continued from March issue)

We lost most of our machines, but worst of all were the losses of men. Many of our leading gliding pilots fought above Great Britain. The absence of those who lost their lives, and of those who did not return to Poland after the war, will be felt for a long time to come.

On the existent territories of the Polish State the Germans gathered toward the end of the war a great part of their schools and training-centres with fifteen hundred training and intermediate gliders; moreover there were whole series of "Kranich," "Olympia," "Weihe," and many specimens of other types. But the passing front, the armies marching through the country and stationing in it brought about the complete destruction of the majority of the machines. A further blow was dealt when the Czech's took several hundred gliders from the training-ground at Grunow (Silesia) on the Polish side of the frontier.

As a result of this we took possession of only some 150 "SG 38," 100 "GB II," from ten to twenty "Olympia," "Weihe," "Kranich," and a few other types. Most of the machines were severely damaged and almost all deprived of equipment and instruments. Their total number did not amount to 20 per cent of our pre-war stock. There were only a few towing-planes, and winches, and almost all of these had no motors (which had been stolen).

All the equipment belongs to the State which grants considerable amounts for investment and for the maintenance of numerous schools and training-centres scattered over the country. Some training is also done by Aeroclubs which also use state-granted machines. The Government's effort toward the reconstruction of gliding-grounds, hangars and premises of gliding-schools is considerable, and a number of centres have been opened in spite of tremendous difficulties. Thus foundations are laid for a more favourable future development. One of the main obstacles is the lack of qualified men, able to fill the vacant posts in training and reconstruction.

The headquarters of the Association is in Cracow, the ancient and important centre in the South of Poland. The Association is called "Sekcja Lotnicza" (Aeronautical Section) of the Polytechnic of Cracow and it works independently. Its purpose, besides training the students of the Aeronautical Department of the Polytechnic, is scientific research work in the field of aeronautics.

Like pioneers, we had to build out of nothing—to build two schools with hangars, to secure gliders, to transport them at distances of several hundred kilometres, and to repair them—everything with our own hands and almost without money. In spite of everything, training was begun soon after the Germans' retreat from Cracow, and during an experimental sally into the Carpathians first flights in standing waves were performed.

Although unacquainted with the new equipment, we soon grew used to it and even introduced a

number of improvements—among others we considerably improved the supplementary winch for re-folding the tow-cable after the start.

It should be stressed that gliding is accessible to everybody in Poland. The only requirements are: medical examination and the successful finishing of a theoretical course (about 40 hours of lectures). The fees are very low. The costs of board and lodging at closed courses are also accessible. Some scores of such courses have already been held in different centres.

The greatest handicap to the development of our gliding-sport is the lack of the most essential materials, such as: plywood, fabric, Cellon, finishes, waterproof glue, rubber ropes, etc. Petrol for towing-planes is scarce; there is not enough of board-equipment, only a few parachutes, some barographs. Oxygen masks for high flights are not available. Motor-car transport is also "limping" and bureaucratic difficulties complete the picture of our conditions. All this limits the number of possible flights, especially those of high performances. Another consequence is the loss of the opportunity for many an achievement and limitations in training of high-class pilots.

After the war, the State Institute of Gliding (formerly in Lwow) resumed its activities in Bielsko. It is working at new constructions and the results of its work are already (besides the re-construction from the model, as the plans went lost, of the intermediate glider "Salamandra"): the newly created and designed high-performance type "Sep" (the Vulture), built in spite of the lack of an aerodynamic tunnel. It is a very good construction of Nowakowski, and Niespal. Further, the excellent training-glider "ABC" with a transport-wheel, pliable wings and a tail-plane; a new intermediate glider "Mucha" (the Fly), Constructors: Kolowski and Kaniewska is being built now. It is an intermediate glider for advanced training and performance with its data similar to those of the "Meise." Particulars of all these machines will be given in future correspondences. Considering the existing difficulties the achievements of the Institute are remarkable.

Our greatest post-war performances are: 2 flights each of 360 km., 10 flights of from 200—300 km. The majority were carried out from the flying-ground Balice near Cracow, some from Poznań. The number of flights was limited, by technical factors. Both flights of 360 km. had to be interrupted too soon because of reaching the State-frontier—at a great height, in good thermic conditions, some hours before the thermals faded out.

General discussions about the prospects and principles of gliding are also very animated in this country. Much attention is paid to flights in standing waves because of the new possibilities they present. But at present only waves in the vicinity of flying grounds conditioned by the configuration of the landscape, are made use of, and the liberty of flight in a freely chosen direction is very limited. Our goal, however, is always the flight in any desired direction without regard to wind or landscape. This is our chief object, although the problem of wave-flights as I have said, is not neglected. We want to improve our results by new designs based upon fundamental theses somewhat differing from the present ones (increased speed of cross-country flights). Contacts taken up by members of our club last summer with Alpine gliding which the Swiss people brought to a high degree of perfection, aroused much interest by their peculiar combination of ridge- and thermal-soaring and the standing wave, with aerobatic features. The restriction of flights to routes which are closely predestined by the specific conditions, and the limitation of the free choice of the route exists, however, also in this technique of soaring.

Pray for the West Wind

(To The London Gliding Club).

Observe the captive tigress in her lair,
She looks for flight, parading in this quest
Just like the sailplanes lifting in the air
Above the Downs of Dunstable. This crest
May help them to the gold or silver test,
Or, fickle as a lover, to the field
Below; Cadets or Blue Gulls curs'd or blest,
While crashery and pylons cry out: "Yield."

I beg, what pilot with controls to wield
Would hesitate and quit the site to-day?
The west wind's here; exult behind your shield
Of Perspex. Here's to thermals all the way,
With blips of green a filip to your Wills;
Winch up, cast off and nose towards the hills.

MICHAEL ERDMAN.
(125 G.S. and L.G.C.).

CORRECTION.

IN regard to Christopher Nicholson's flight in the "Gull IV," this turns out to be of 120 miles and not 80 as published in SAILPLANE and elsewhere. He cast off from an aero-tow slightly to the North East of Bredon Hill, which is North East of Cheltenham, and landed close by Christo Station, which is six miles South West of Exeter.

Incidentally, the "Gull IV" has also been flown to very nearly 10,000 feet, and has earned golden opinions from all who have flown it.

NEWS FROM THE CLUBS

SCOTTISH GLIDING UNION

On May Day, the A.T.C. cadets selected for this year's free training scheme arrived for their first lessons; it has been decided to restrict their training flights to Saturdays, because of the large turn-out of members on Sundays. Derrick Colvin climbed the "Tutor" to over 2,000 feet from a 600 foot launch on May 2nd—pursued by seagulls which evidently admired his skill in frontal soaring. He was forced to land after twenty-six minutes, battered by hail, and indeed he is still showing a touch of frostbite.



Donald Campbell at Balado Airfield plus the "H17" he built himself.

On the 8th and 9th, the weather was gloriously sunny, and we speeded up launches by using the two winches, on both this and the following week-end. Gliding finished early on the 16th, and we held the Annual General Meeting, over which Provost Eric Anderson of Leslie presided, as Chairman. Last year's Directors were re-elected, with the addition of Derrick Colvin, Ron Flockhart and John Seddon, all of whom have thrown themselves whole-heartedly into the work and spirit of the S.G.U.

It was recorded that we had gained 25 "A," 26 "B," and 3 "C" Certificates between May, 1947 and April, 1948, all from the airfield at Balado, "on the flat," as hill-soaring was not then in progress. A Directors' Meeting followed.

The Keen Types again turned to road-making on Whit Monday, in blazing sunshine. Saturday, 22nd was wet. The 23rd gave us a maddeningly variable wind, with occasional storms of hail and snow—for a change. The new "Cadet" was test-flown at Balado, preparatory to taking her to the hill-site.

During May we have acquired two welcome members from Oerlinghausen Gliding Club, Messrs. Charleston and Bremner; and students of St. Andrew's University have formed their own Gliding Club, affiliated to the S.G.U. We wish them the best of luck in their enterprise.

THE BRISTOL GLIDING CLUB

The flying activities of the Club have been severely hampered during recent weeks by strong winds and rain storms. However, in spite of the weather a total of more than 37 hours' flying from over 800 launches has been recorded during May and this has resulted in 9 "A," 3 "B," and 1 Silver "C" (height) certificates being obtained by Members.

Three flights of two hours or more duration have recently been made. Maurice Chantrill on landing after two hours during which time he had twice climbed to over 5,000 feet, found that the barograph had failed to record the performance and thus cost him his Silver "C" height certificate. Eric Smith and Rex Young accounted for the other two flights. The former cast off from an aero-tow to 2,000 feet and climbed to the cloud base at 5,400 feet and the latter climbed 3,600 feet from an 800 foot winch launch.

The first cross country flight in a Club aircraft was made recently by Maurice Chantrill with a flight from the aerodrome to Colerne, near Bath, and we are all looking forward to the day when cross country flying will be a common occurence amongst Club Members.

The weather played havoc with the first of our weekly courses and training was only possible on two and a half days. During this time 77 launches were made and 4 out of the 9 pupils attending obtained their "A" certificates.

The restriction of flying has, however, been much appreciated by our Ground Engineer, who lost no time in getting members busy on the outstanding maintenance and repair work.

Major repairs have been effected to a "Cadet" fuselage and great strides have been made with the assembly of a new winch. The winch has been designed by Club Members and incorporates an automatic laying mechanism. Launching trials are anticipated at the end of the month.

LONDON GLIDING CLUB

May

By comparison with the previous month, May was a sad frost, producing a mere 94 hours' soaring, the result of a persistent and inconsiderately located "high." Des-

pite this, 113 miles of cross-country flying was put up by Geoff Arnold and Dan Smith. The former completing the requirements for his Silver " C " with a flight to Witham, and the latter making two flights to Ashton Rowant and Royston, in the course of which he acquired his 1000 metres. All three flights were in " Blue Gull." Another noteworthy flight was made by Greig, on the 30th, when he ascended to a vast height in the middle of a large cu. over Luton, collecting a considerable amount of ice on the way. At the time of writing the barograph has not been checked against its calibration chart, but it is hoped it will show a climb of Golden " C " dimensions (3000 metres).

Other interesting events of the month were the circulation, by the Secretary, of the club's accounts for last year, and the training course. The former provides figures which readers may find, as the Secretary says in his covering circular, " interesting, even instructive." Readers with minds susceptible to statistical data will be shocked to learn that the 1101 hours of flying which the club did last year cost precisely £3,669 18s. 6d. Others will just go on flying. Main items of expenditure included £1,157 8s. 7d. for repairs and maintenance, £1,024 2s. 0d. for depreciation and £730 14s. 1d. in salaries and wages. An even more astonishing revelation, however, made in this Puce Paper on the cost of Gliding in Post-War Britain, is the fact that the L.G.C. actually raised no less than £2,944 19s. 7d. towards this, expenditure, out of current income. Main contributors were subscriptions, £1,235 11s. 0d. and flying fees, £629 16s. 0d. Bar profit at £221 6s. 2d. is the one item showing no advance over pre-war figures, when we always reckoned on the bar being a bigger money-maker than flying.

As our Chairman has already pointed out in his Annual Report, by allowing £300 for depreciation instead of £1,024, we could easily wipe out our deficit, but unfortunately our Secretary, Arthur Sweet, is old fashioned enough to believe that books should not be cooked, but served raw. This way, he says, they are good for us, even if unpalatable.

The direction to which we must look for improvements this year, is pretty obvious. The heavy item for repairs and maintenance can be reduced considerably if members would treat their equipment with greater respect. A little more loving care when handling machines on the ground, and a little less of the fire-tender tactics on the transport should see this item brought down to reasonable proportions. On the other side, our Chairman has stated that 2000 hours' flying is our target for 1948. If this is achieved income from flying charges can be expected to rise to the £1000 mark.

The instructional course which commenced on May 24th did not finish until June 5th, but we think a summary of its activities may properly be included in these notes : Course pupils—17 ; total launches, 438 ; total flying time—17 hours solo, 15 hours 18 minutes dual ; certificates taken—4 " A," 5 " B," 7 " C." As usual the weather did not suit everybody. Those who were unable to reach " B " standard in the early part of the course were prevented by high winds from qualifying later on, when the more advanced pupils were able to soar. In addition to the above mentioned awards, several certificates were gained by club members during the month. Groome and Giltrow and Mrs. Foster took both " B " and " C " while Barton took " A," " B," and " C." Further " C's " were taken by Sands, J. C. James and a member of the C.O.A. Mary Greaves took her " B," and Erdman his Silver " C " duration. Unfortunately crashery was rife. The " G.B." was bent after an exhibition by James on a C.G. launch. Robinson tripped over the lynchets (that graveyard of machines and reputations) and broke the " Gull." Pat Foster, on her second soaring flight in " Tutor No. 3," ran aground on the hill-top and then leapt smartly out to get a better view of it blowing over on to its back !

VICTORIAN MOTORLESS FLIGHT GROUP

April, 1948.

Flying Diary

Easter Camp. Easter was kind of wet, remember ? So our flying suffered in consequence. On the 26th, Coogee had nine flights, with Viv Drough doing 13½ mins.; Jack Iggulden did 42 mins. in the " Kestrel," during which he cruised from Berwick to Narre Warren, losing only a hundred feet on the way. On the 27th, it was very windy and turbulent but in the afternoon your instructors became intrepid and flew the " Coogee " in company with Jack and Bill Iggulden flying the " Kestrel." On the 28th the wind had modulated, so bright and early we were out with the " Coogee." On the second flight, " Coogee " had a slight argument with the ground, from which she emerged with skid askew and a raffish hole in the keel under the rudder pedals. This incident, however, had a bright side, as your correspondent distinctly noted three well-developed gremlins scurrying away through the grass, tittering, and holding little hacksaws and hammers. They were heading in the direction of the " Beaufort " two-seater. Speedy and unanimous decision sent " Coogee " out for repairs and the fitting of an aero-tow release. She was back in action the following Sunday. The rest of the day was spent pottering around doing odd jobs (it being too gusty for primary training) and watching the Beaufort Club flying the two-seater. About 5.30 p.m. Ron Roberts and Esme Hilditch went up to cloudbase, 2,000 feet, and wandered back over Berwick. The last day of the Camp was a beaut; warm and sunny, perfect for the primary people. 27 training flights were put through.

18/4/48. " Rhon " and " Coogee" flying, 38 flights, with another 4 minutes, in " Rhon," which is apparently becoming somewhat thermal-happy. On the first flight of the day, your correspondent was winched by a callous husband into cloud at 600 feet, through which she ploughed for 200 feet before popping out through the top, over a spanking clean, glistening fogbank. There was I, drawled the intrepid birdwoman, no chute, no blindflying instruments, acomin' down through them thar clouds, flyin' blind, awonderin' what was underneath thar, thinkin' mebbe I was out over them thar hills, but what do you know, there was that little ole Berwick flying strip, just where I left it a whole 2½ minutes before.

Labour Day Week-End. 24th, 25th 26th April.

24th. " Rhon," " Coogee," and " Kestrel " rigged in drizzling rain. Alec and Joyce Hogan had their first ground skids, sun came out for a while, mushrooms popped up all over the place, " Coogee " and " Kestrel " were flown, then our winch sprang a bad leak in the radiator. Beaufort Club provided a little entertainment by taking up their own telephone cable on winch cable, maliciously burning the legs of two of their members on the way. Jack and Helen Iggulden went back to Town, followed by dark clouds of envy, to see the Oliviers and the Old Vic Company in " School for Scandal." Our winch was fixed in time to get in a few more flights.

25th. Beautiful day, warm and sunny. 33 flights in " Rhon " and " Coogee "; Jack Iggulden took " Kestrel " to 3,300 feet for 52 minutes, but reports that he struggled all the way, which was a slight comfort to your correspondent, who was at that time spending 10½ minutes between 600 feet and 850 feet, spitting chips while the green and red balls played peekaboo with each other; Mike Bruce had 13½ minutes in " Coogee," taking her from 900 feet to 1,200 feet, while Bill Iggulden spent 12 minutes in the " Kestrel." In the Beaufort " Phoenix," with passenger Alec Hogan, Ron Roberts got to 1,700 feet from 600 feet, for 20 minutes. We were visited this day by a dozen or so writers, members of the Quill Club, and a great crowd of spectators.

26/4/48. Correction about those gremlins seen heading for the Beaufort two-seater; it's a lie. They were heading straight for our little old " Rhon " and succeeded to-day in bringing an *ab initio* to earth with crunching noises. " Coogee " and " Kestrel " were flown; no lift about but no bad downs either, so it was pleasant flying. Movietone cameraman arrived and photographed winch-launch in triplicate, as " Phoenix," " Kestrel " and " Coogee " took off together—each on their own winch, of course. Very pretty sight. " Coogee " later went up with " Phoenix," cameraman aboard, and looped for the movies.

Altogether Labour Day Week-end was a success with well over 200 flights by our Group and the Beaufort Club. Even the local birds are becoming interested in our technique; a hwak (tut tut, I mean, a hawk) engrossed in watching the " Phoenix " coming up, had his wing tipped by the cable. Soared away, somewhat ruffled, but fortunately unharmed.

Wacky Remarks Department

Lady having been shown and had exhaustively explained to her quite impressive array of instruments on " Coogee," " Kestrel," and " Phoenix " panels, remarks, " Ah yes, and how do you come down, by instinct? "

Lady, observing two hawks circling at 800 feet, " Oh what are they? " " Hawks," " Goodness, how interesting, they're not real ones though, are they? " I mean, do they throw them up to catch the wind or something? "

Wow! I still feel dizzy from the impact of that one.

Since 1st January this year, we have carried out 709 flights in " Rhon," " Coogee," and " Kestrel," with two winches. Do you remember, back in December (sounds like a corny song), I reported the loss of our field at Mordialloc? I think now is a fitting time for us all to say a heartfelt thanks to our Victorian Soaring Association, which was responsible for obtaining permission to use the Berwick airfield. We have expressed our sincere gratitude to those granting it, Mr. and Mrs. R. G. Casey and Lieut.-Col. Rupert Ryan, but only those gliding clubs who have operated as we were, on a field from which we were liable to be, and finally were, debarred at a moment's notice, can realise just what it means to us to know that we are at Berwick sure of a friendly helpful attitude. The Dandenong papers regularly report our activities, we are making lasting friendships amongst the townspeople, and the beauty of the surrounding countryside adds to our happiness there. Excuse me for a moment while I make noises like a travel book. Berwick itself crouches on a steep little hill, hidden away amongst tall lovely trees, just now mad with the golden leaves of autumn; behind the airfield, with its north/south, east/west and diagonal strips, perfectly shaped oaktrees and high pines decorate the grassy sports arena, while grazing sheep (cost of landing on same, £2. 10s. 0d. per lamb, £5. 5s. 0d. per sheep) add to the pastoral peace. The aerial view brings in two bays, Port Phillip and Westernport, roughly 17 miles distant, the fertile rolling plains of Gippsland clear to the eastern horizon, the bush country of the Dandenong and further ranges, while swinging north-west, from a couple of thousand feet you see the blur that is Melbourne, 24 miles away. Nearer fascinations include a pastel-tinted quarry gouged into a hill, the Berwick water-tower (pilots sometimes observed circling mesmerically above), and last but not least INJUNS. No, not that sort, RAILWAY INJUNS. Heavy with coal and briquettes from Yallourn, they pass by with wonderful snortings and chuffings and SOMETIMES the driver waves to us.

However, this seems to be getting a little out of hand so back to business.

Cross-County Flights in " Coogee."

Calling all " Coogee " pilots. Your Committee has discussed the question of cross-country flights and this is their decision: " No pilot flying Club gliders can at present attempt cross-country flight without permission of instructor and prior arrangements being made for retrieving." There's sound reasoning behind this decree; " Coogee " is the only sailplane we possess at the moment and we don't want her plumped down way out in the mulga.

Honorary Vice-President

Lieut. Col. Ryan recently honoured our Group by accepting a position of Honorary Vice-President. Those who have met the Colonel on his frequent visits to the airfield will be, I know, particularly pleased to hear this.

Hardinge/Davies " Olympia "

In February SAILPLANE, someone said that the days of backyard building are past and machines to-day are a highly-finished product of experience and workmanship. I wish he could see the " Olympia " now nearing completion in Arthur Hardinge's backyard. The workmanship on this particular backyard job is superb. The fuselage is

virtually finished; the wings are well on the way, leading edge is ply covered, ribs fitted. Ken has put in 1700 hours, Arthur 3200. It is a truly epic achievement. There is now no hope of getting to Switzerland for the Olympic games as was the original aim. Its a pity; to put it crudely, such guts deserved success.

DERBYSHIRE AND LANCASHIRE GLIDING CLUB

Notes for May

In 1938 Louis Slater was launched in a "Kite" from Camphill and managed to cross the Bradwell Valley and soar over Siggate Hill, Castleton, in a north wind. On that occasion he was unable to get back and had to land at the bottom of Siggate. The difficulty in those days was that if the wind was strong enough to soar comfortably at Siggate, it was too strong to enable a pilot to reach Siggate without a struggle. The idea of launching across the valley has been simmering gently ever since and at Whitsuntide it began to look like a practical proposition.

On Whit Monday the Club "Grunau" was taken to Siggate bright and early and Jim Lawless was packed off to do five hours. Gerry Smith and the launching crew returned to Camphill determined to organise some launches across the valley. At the Club, however Stan Armstrong had already had the same idea, lost the toss, and sent Robertson in their "Olympia." The scheme went like clockwork; the machines were launched from the south slope to the north corner, flew up the valley behind Rebellion Knoll and crossed to Siggate and Mam Tor. After spending an hour or so between 2,000 and 3,000 feet, they returned one by one the same way. Fourteen launches were made and over 32 hours' soaring obtained. Fred Breeze who completed five hours in the "Kite" the same day was the only pilot who failed to get back to the Club and had to make an landing at the bottom, which he managed very successfully.

On the following day, the wind was east and it is only fair to say that of the five launches across the valley, only two managed to return.

Sunday, 2nd May. Wind N. 10.

A great deal of thermal activity made contact relatively easy. Louis Slater and Duncan Swale in "Olympias" reached 3,600 and 6,400 feet respectively, but the best effort was George Thompson's climb to 8,000 in the club "Grunau." At 6,000 feet his electric gyro packed up and he was also without a parachute. So far we have not bothered about club records but this one seems to have established something of the sort.

Wednesday, 5th May. NW. 20.

The usual mid-week luck. A party was arranged purely for training purposes but a strong wind and rather miserable conditions made it fit only for instructors and such like. Harry Midwood had an hour in the "Grunau" and that was all.

Saturday, 8th May. ESE. 10/15.

Training and circuits only.

Sunday, 9th May. EWE. 10.

Fred Breeze managed to catch a good thermal in the "Kite" and went up to 4,000 feet, a trip made all the more enjoyable, no doubt by the thought that no one else was able to get anywhere near him.

Saturday, 15th. ESE. 10.

Club notes which give news of distance flights, heights attained, training achieved and honours won, but which maintain a decent reticence about the machines which have been rolled into a ball, cannot claim to be wholly honest. It is however more of a question as to how much to reveal. Without mentioning any names, therefore, it shall suffice to say that a young lady, supposed to be doing a low hop, made of our beautiful shining new "Primary," a complete and utter shambles, fortunately without injury to herself.

Sunday, 16th May. Wind ENE. 25.

A small party took the club "Grunau" and an "Olympia" to Mam Tor. Roger Dickson, Brian Jefferson, and Phil Leach flew the "G.B." and Armstrong and Robertson flew their "Olympia." 5 launches produced 7 hours 50 minutes.

Monday, 17th May. Wind ENE 20.

Anti-cyclonic conditions continued but in spite of the east wind we had a most interesting day. As previously explained, machines were launched from Camphill to Siggate and Mam Tor, approximately three miles across wind, to soar at the end of the Hope Valley. 14 launches were made and 33 hours flown, easily a club record in an east wind At Mam Tor, the machines were able to fly between 2,000 and 3,000 feet and all returned safely except one which landed in the bottom. As someone pithily put it—the west wind, let's have some more east wind!

Tuesday, 18th May.

The wind veered slowly to ESE, which made trips across the valley anything but a picnic. Stan Armstrong arrived back with 3,000 feet and Gerry Smith arriving back with 2,000 feet, went on towards Eyam and collected any amount of thermal on the way which took him to 4,000 feet.

Saturday, 22nd May. Wind NW 25.

A gorgeous soaring day which produced over 30 hours' soaring. The "Tutor" was sent off at 3 p.m. to test the conditions. It was obvious at once that conditions were going to be good and every machine we had in the hangar except the "primaries" was pushed into the air. J. P. Mitchell and David Whitworth took their "C" certificates.

Thursday, 27th May. Wind W. 10.

A party arrived at 6 p.m. only to find that Terence Horsley had already been up and had flown to Swinderby, an R.A.F. aerodrome in Lincolnshire. Harry Midwood had just under an hour in the "Kite" but the "Tutor" only stayed up once when Roger Dickson did 35 minutes. Barbara Richards had an hour in the two-seater and managed to maintain 300 feet without much trouble, although the conditions were poor.

Saturday, 29th May. Wind N. 5.

Training only in the "Eon Primary."

Sunday, 30th May. Wind SW. 10.

Bright to the last drop. Gerry's tephigram said it was going to be good and it was good. The wind was too light for soaring but all the "Olympias" connected and H. G. Shepard made a goal flight to Finningley near Doncaster, Alf Verity went to Gainsborough and Roger Dickson took the club "Kite" to Leeds. Stan Armstrong broke the new club record with a climb to 8,600 feet. Kathleen Bodell completed her "B" certificate.

Totals for May.

442 launches. 127 hours.

1 " B ", 2 " C ", 2 silver " C " completed, 2 five-hour legs in addition.

THE YORKSHIRE GLIDING CLUB
Notes on Activities

Flying. Nothing interesting happened in May. The 5th June was a good day with 30 launches and 22½ hours' soaring. De Redder in the " Tutor " reached 3,500 feet; Fidler in " Blue Kite " up to 4,000 and did five hours. Capt. Pothecary, Lt. Purser and Lt. Rimmer of R.E. club gained " C " certificates. The type " 21 " Slingsby two-seater was busy all day on passenger and dual, frequently over 2,000 feet. Incidentally may we please correct April's error when we referred to the last mentioned as a " T.20 ? " Soaring conditions lasted until darkness fell, and the evening thermal was magnificent, although the top of it was not more than 2,000 feet. No cross-country flights were attempted, for the sake of those waiting to fly. On the next day, June 6th the weather had changed and there was southerly wind up to 25 m.p.h. and rain fell most of the time. Phillips (A.T.C.) and S/Ldr. Osborn (64 Group) gained " C " certificates on the south slope (over the White Horse)—not an easy direction due to shortness of the " beat " and the visibility and wind condition, so these should be recorded as very good efforts, especially Phillips who did 25 minutes for his test, with rain all the time. F/L. Harrison of 64 Group attempted his " C " but got into the downdraught and had to land at the bottom. We all had a beastly party in the rain trying to persuade the retrieving vehicle to grip the wet and greasy road surface on the 1 in 5, but made it in the end, and Harrison had a large bill for " refreshments " for whose wet without but dry within ! There has been no soaring since the above up to the time of writing; there were one or two practice launches on the 19th and 20th and we saw the Slingsby " Motor Tutor " flown. We also had a visit from Seddon of the Scottish and Midland Clubs.

General. There have been some more excellent gifts of useful articles for the Clubhouse, but still no panelling material has been located for the walls and partitions. The bar has been built and painted, complete with roller shutter, but as the internal partitions are not erected, it stands there looking rather like the sacrificial altar of some Pagan horde. Perhaps it is ? ! ! Wills and Bergel have visited recently, but on non-soaring days, unfortunately.

MIDLAND GLIDING CLUB
June, 1948

June has seen almost unprecedented activity at the Long Mynd, to which activity a handsome contribution was made by the Cambridge University Gliding Club, who spent a fortnight in camp as guests of the Midland Club during the latter half of the month.

The astonishing total of 416 hours' flying was put in during June by the combined efforts of the two clubs, the best single day being Sunday, 27th June, with a total of over 70 hours. The precise figure for that day is not available at the time of writing this report.

The excellent record of the Mynd for freedom from casualties was marred by an unfortunate accident on 14th June, when Vandome of the Cambridge Club spun a " Tutor " into the hill top, breaking a leg and writing off his machine. At time of writing this report he is stated to be making good progress in hospital.

Charles Wingfield's record goal and return flight.

In writing about the activities during May no mention was made of Charles Wingfield's out-and-return flight of 6th May. Since this is the most notable flight made so far this year by a member of the Midland Club, and since it also constitutes a new U.K. goal-and-return record it deserves a mention here. A start was made from Redhill at 10.50. The turning point at Welford, north of Newbury, was reached at only 800 feet above the ground, and the aircraft was recognised by staff of the Elliot works. This was very helpful, as no official observer had been briefed. The return to Redhill was easier, and took only two hours, a landing being made at 16.30 after covering a distance of 56 miles in each direction. Thermal activity continued for a further hour after this, so that a more distant goal could have been reached from the same take-off time.

The Club log for June is too voluminous to repeat in full here, so there follows some brief notes on the best days—though some flying took place on many others. All heights mentioned are with reference to the launching point on top of the Mynd, which is about 1,500 feet above sea level.

Saturday, 5th June. Wind WSW/20-35 very variable, and backing SW at times—good lift under shower clouds and strato cu. Best height was reached by Wingfield—3,100 feet.

Tuesday, 15th June. Looked promising at first, but test flights proved abortive. Later Proll was launched into a wind that was not stronger than 10 m.p.h., westerly, and remained airborne for 40 minutes.

Wednesday, 16th June. Promising start with wind 15-20 and good cumulus development. Heights of over 3,000 feet were the order throughout the afternoon. Greatest height by Dick of CUGC in Espin Hardwick's " Petrel "—4,500 feet. Pringle of CUGC flew to Much Wenlock, and Neill and Phillips of CUGC both did 5 hour trips.

Thursday, 17th June. Early morning not promising, but later developed into a magnificent day. Wind W 15 with good lapse rate. Wingfield flew to Thrapston, 100 miles, and Pringle to Sutton Cheyney, 61 miles, both starting after noon. Dick took Midland Club two-seater to 5,100 feet above the Mynd in cloud with base at 3,000 feet and tops about 6,000.

Friday, 18th June. Wind very oblique, and only high performance machines could remain airborne in hill lift. Promising looking cu nimbs arrived overhead from time to time, but no useable lift could be found under them though it was evident that they were active.

Sunday, 20th June. Promising start for a good thermal day, but winch trouble curtailed the programme to some extent. The best flight of the day was that of Espin Hardwick in his " Petrel ", and he was able to fly far and wide for miles around.

Monday, 21st June. A 10/10 clamp with cloud on hill top lifted

about noon, giving 25 m.p.h. west wind and good cu. Dick flew 46 miles to Castle Bromwich, in Cambridge "Olympia", so qualifying for his Silver "C". On the way he reached a height of 8,600 feet above sea level, and experienced very considerable ice formation in cumulus.

Tuesday, 22nd June. 20 m.p.h. west wind all day with good cu. Three five hour flights completed.

Friday, 25th June. Wind west 10-15 m.p.h. from noon onwards. Allan of the Midland Club, who has been trained ab initio entirely by the two-seater method with the exception of one series of airborne slides, took his "C" in a very stylish manner. The CFI was heard to state that this was the happiest day of his gliding career. At 1900 hours, a curious phenomenon developed. Wind was NW 15 m.p.h. Cloud had been 5/10 Str. Cu. with base at 1,400, but now lowered rapidly to 600 feet and became 10/10 locally from Wentnor to Ragleth Hill. Many high lenticulars were observed elsewhere before, during and after the phenomenon. Dick in "Petrel" found literally square miles of rising air in the valley on going out at right angles to the ridge from Myndtown Farm, and he climbed steadily to 2,000 feet, through the overcast. Here he found reproduced in stationary cloud a replica of the Mynd itself and also of Wentnor ridge out in front. This must have mightily aided his navigation! He descended through the overcast three times and climbed again readily to 2,000 feet. Breaks appeared in the overcast and the phenomenon disappeared at 2030 hours.

Saturday, 26th June. West wind all day with cloud from 5/10 to 8/10 base at 2,000 feet. Steady hill soaring all day netting a total of 61 hours 50 minutes.

Sunday, 27th June. West wind all day brought the best day's flying time for the month with well over 70 hours.

Interesting Note. Between June 19th and June, 27th Anson and Buckley of the London Club visiting with their own "Olympia" put in some 55 hours' flying between them.

This goes to show what kind of facilities the Mynd can provide for visiting private owners.

CAMBRIDGE UNIVERSITY SOARING CAMP.

The booming Westerlies which blew for 10 days out of the 14 days when the Cambridge Club were our visitors, enabled a record number of soaring hours to be put in. When the Camp finished last Sunday night no less than 410 hours had been flown in 360 flights, giving an average duration of well over the hour per flight.

Ten, five hour duration flights were made, and three cross-country flights totalling over 200 miles, the farthest being to Thrapston in Lincolnshire by Charles Wingfield, the Chairman.

The Cambridge team were captained by David Dick, a Birmingham man and a member of the Midland Gliding Club.

The Club two-seater was busy during the whole Camp giving instructional flying to the members, and on one occasion Dick reached 5,100 feet. 13 legs to Silver "C's" were done, 10 of which were duration, 2 height and one cross-country, the latter by David Dick.

There was one ab initio "C" Certificate taken, the first trainee since the war to come through entirely on the two-seater and the Tutor, and was taken by Allen of the Midland Club.

Two further Camps are to be held this Season on advertised dates.

C. E. H.

ULSTER GLIDING CLUB

To run a gliding club 60 miles from flying ground is no easy matter and as machines were stored at Coleraine, nothing much could be done until the basic petrol ration started June 1st. However, now we are off again with a "Kirby Kite" and "Tutor".

Liddell, our new Secretary, flew his "Gull" for 4½ hours early in the month, but club flying did not

(*continued on p.* 23)

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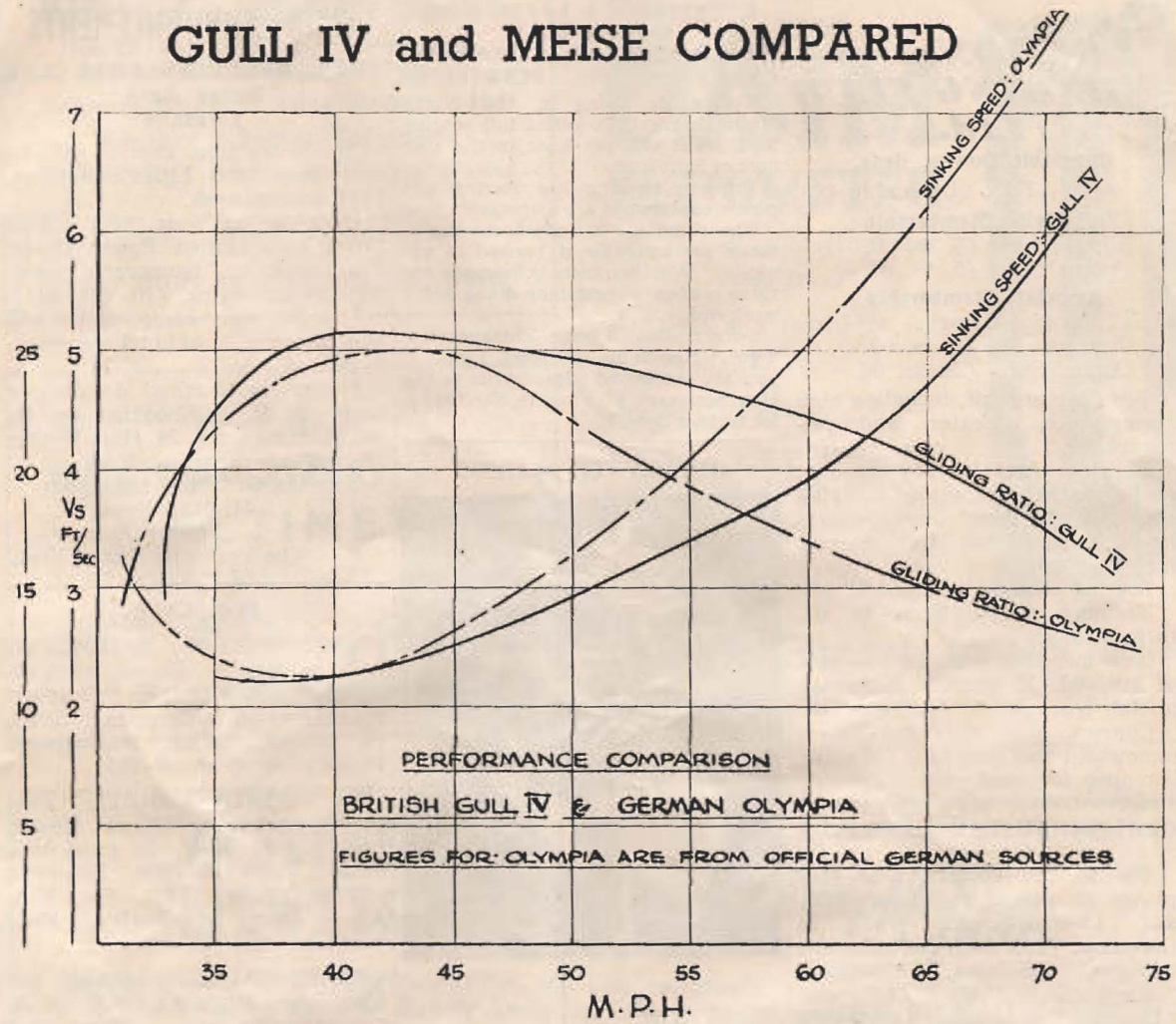
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In March this year Mr. Bergman, the Chief Instructor of the Royal Aero Club of Sweden, visited Slingsby Sailplanes to test fly the range of machines manufactured by the Firm, about the " Gull IV " he said :—

" I consider the ' Gull IV ' to be an all round ten per cent superior to the German ' Olympia'."

Following his visit, the Royal Swedish Aero Club have taken delivery of a " T 21b " two-seater, which by the way is claimed to be the first two-seater exported from England since the war. The proud owners express their complete satisfaction, having gained " considerable heights " when thermal soaring.

ULSTER G. C. (*cont. from p.* 22).

begin until June 19th when Beck flew the " Kite " 5 hours 33 minutes for Silver "C " duration. Magilligan besides being so far from Belfast requires a North or North West wind which comes at the end of a depression and this does not always come on a week-end, also no towing takes place at an hour each side of high tide. Add to this the fact that access to the beach is through a small bridge requiring rigging and de-rigging and it can be realized that gliding is not exactly on tap and our average cloud base is 2,200 feet.

On the credit side is the pleasant feeling that Beck had when he knew he need not come down until the tide went out and therefore the site is ideal for duration. Following Beck at 9.35, Bowman flew 1 hour 40 minutes.

Liddell had 4 hours in the " Gull " ; reached 3,300 feet, and flew nearly to Portrush and back.

The following day (Sunday) Bowman flew 50 minutes and Hayes 30 minutes. Douglas and Barnes also flew but as the wind was light South West, the soaring on the North face was solely due to a light inshore N. wind which was barely soarable.

WILLIAM LIDDELL.

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Full details may be obtained from:—THE SECRETARY, Oerlinghausen Gliding Club, c/o R.A.F. Station, Gütersloh, B.A.F.O., B.A.O.R. 15.

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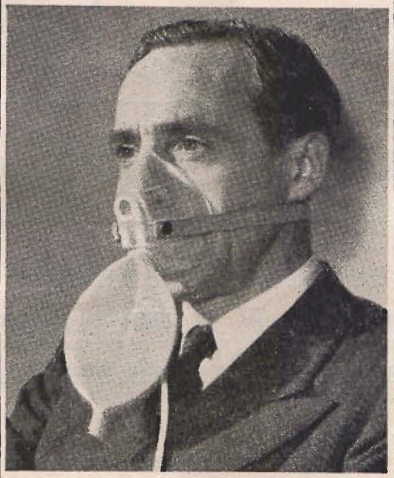
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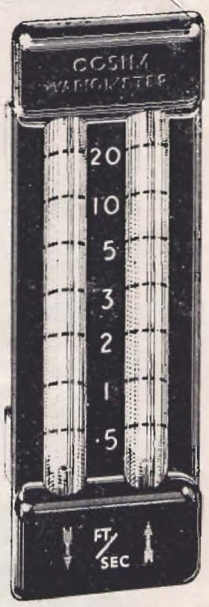
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