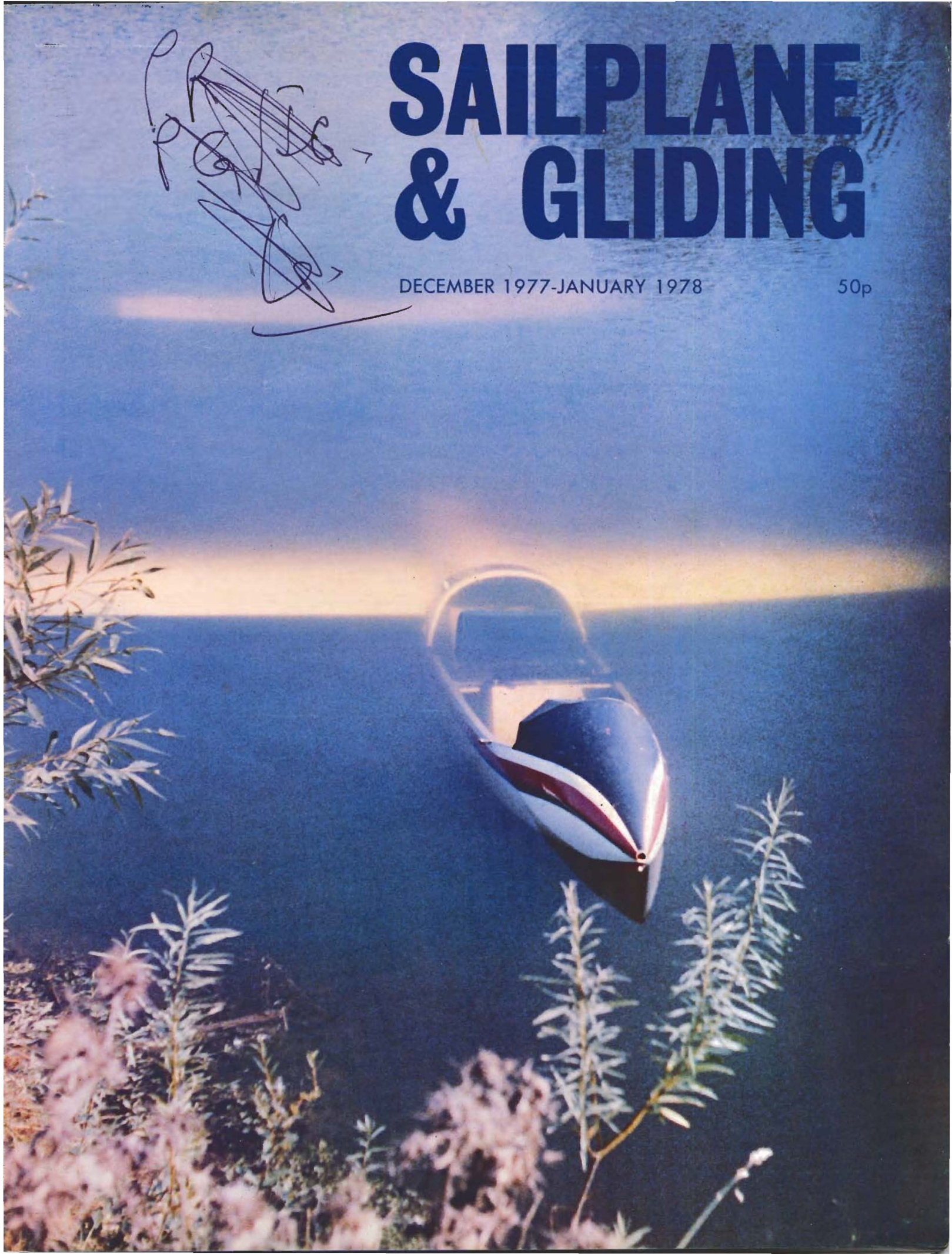
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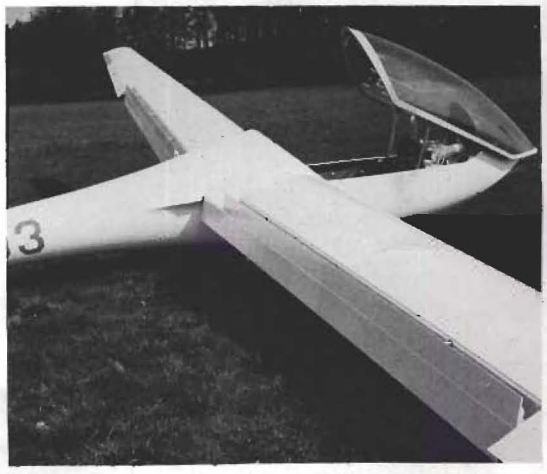
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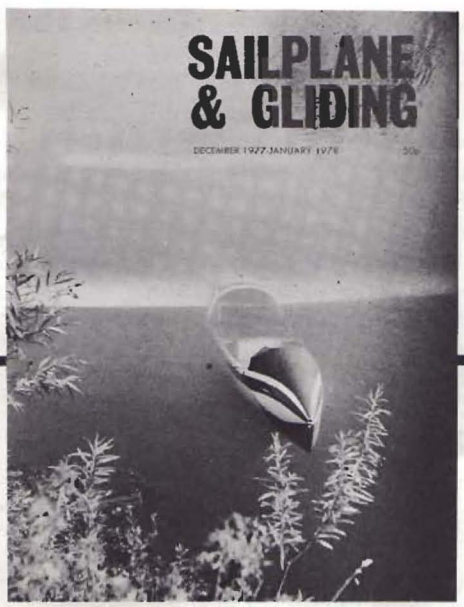
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Cover: Aqua-gliding! Joe Podolski took this dramatic photograph of an IS-28B2 which pancaked into a stagnant lake. See p264 for the full story and more pictures.



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COACHING DEVELOPMENT – cross-country training

J. D. SPOTTISWOOD (Chairman of the BGA Instructors' Committee)

1. The BGA's coaching scheme, which has been in existence since 1963, has hitherto directed most of its efforts toward instructor training, particularly the initial training of assistant instructors, though the past two years has seen some shift of emphasis with the introduction of task weeks and a course for new CFIs.

2. Despite these minor changes there has been a growing feeling within the Instructors' Committee that some new approach was needed if the standard of instruction within BGA clubs was to keep pace with the development of modern sailplanes. Too many launches are needed to reach Bronze and Silver C standard; there were still too many instructors with very limited cross-country experience and very few, indeed, who are competent to *teach* pilots to fly fast enough to get around a 300km triangle. To examine these problems I therefore invited a nucleus of the Instructors' Committee to form a study group and to examine the likely introductional and coaching needs of the BGA for the next five years. The group consisted of myself, V. C. Carr, J. S. Williamson, C. C. Rollings, W. G. Scull and B. J. Spreckley.

3. The group has not yet completed its findings or formally reported to the BGA Executive Committee, but it is already clear that there is very little formal advanced training carried out by clubs in this country and we feel that the Instructors' Committee and the National Coaches need to devote far more attention to this form of training. This could be done in two ways; firstly by continuing with the recently introduced and highly successful task week concept where selected instructors and Silver C standard pilots take part in daily task flying having received instruction in weather interpretation, task setting and preparation for flight. The task is flown independently by some pilots and by others using John Jeffries' "follow my leader" technique.

Great benefit from advanced courses

We also believe that great benefit would accrue from running advanced courses – principally for instructors but also including some solo pilots. For these courses to be effective we would need to have a high-performance two-seat glider and plans are afoot to acquire one. In an aircraft of this type we would hope to demonstrate thermal cross-country speed flying techniques, navigation and instrument flying. In the winter it could be used for wave flying and wave cross-country.

4. This extra training could not, of course, be carried out without penalty. Though we would plan to enlist the aid of our best cross-country pilots for the advanced courses and as task week instructors, inevitably the National Coaches would also be closely involved with a consequent reduction in the time available to them for basic instructor training. We plan to minimise this difficulty by encouraging CFIs and senior club instructors, to spend more time in the air and on the ground with potential instructors, thus ensuring a higher initial standard on entry to the Assistant Instructor Course. There would, nevertheless, need to be some reduction, perhaps as much as 20%, in the number of places available on the Assistant Instructor Courses. In this event priority for places would clearly have to go to the clubs with a more unfavourable ratio of instructors/members. Clubs would also have to look very carefully at the reasons for the very high wastage of instructors – in the order of about 12–15% per year at the present time.

5. John Jeffries and the London Gliding Club are the first to have successfully tackled the advanced training problem. John has been running a series of courses throughout the past two summers with considerable success. He was kind enough to brief the Instructors' Committee on the format of his courses and produced notes for our benefit. It may be that other clubs and CFIs might wish to follow John's example and it is for this reason and to stimulate discussion in advanced training, that his notes follow this very short article.

6. I hope you will react to our assessment of the need for advanced training, either through the medium of this magazine, or by writing direct to me care of the BGA.



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CROSS-COUNTRY SOARING COURSES

J.R. JEFFRIES

OBJECTIVE

1. The purpose of these notes is to:
   a. Indicate failings in earlier methods of trying to teach cross-country soaring.
   b. Explain the method under which soaring courses are currently run.
   c. Highlight some problems and pitfalls encountered in running soaring courses under methods in b.

It should be clearly borne in mind when reading this that the current method of conducting soaring courses at Dunstable is not necessarily the best or only way of achieving the ultimate objective. It is, however, the way it is done and doubtless the passage of time and further experience will refine the methods and expose further pitfalls.

INSTRUCTIONAL METHODS WHICH HAVE NOT WORKED SATISFACTORILY

2. Initially the most logical method of teaching cross-country soaring might be thought to be in a two-seater. This has been tried in both high-performance (Calif) and medium-performance (K-13) machines. Neither way has proved to be more than partially successful for the following adverse reasons.

3. On two-seaters the instructor pupil ratio is 1:1. This is expensive. Because of its uncertain nature, the use of a training two-seater for cross-country virtually excludes in advance its use for any other purpose. The cost to the pupil of any worthwhile instruction is likely to be prohibitively high (*eg* 200km triangle in poor conditions in K-13, weekend August 1976, Dunstable, cost to pupil £32). Where two-seaters are used with:

   a. **Pupil Flying, Instructor Instructing.**

   (1) Thermal soaring and/or flying ineptitude of pupil makes next thermal selection and general soaring tactics very difficult and frustrating.

   (2) Ineptitude as in (1) frequently results in getting out of phase with good thermals, thus reducing instructional value.

   (3) Pupil concentration on and partial disorientation during the thermalling makes meaningful pointing out of cloud structures, growth etc very difficult.

   (4) Pupils tend to rely on instruction to verbally assist in centring techniques and thus lose "feel" value from thermalling.

   (5) Pupils tend to rely on instruction for soaring information, technical decisions and general overall responsibility for success or failure of soaring venture, thus diminishing assessment, judgment and decision-making value of the flight to them in these areas.

   (6) Pupils tend to concentrate too much on pure handling and centring problems and have inadequate spare mental capacity for raising queries on cloud selection, etc. Interestingly on this method even vociferous and articulate pupils initiate very few queries without verbal prodding.

   b. **Instructor doing all flying and instruction. Pupil takes mainly passive rôle.**

   (1) The pupil feels cheated of the practice flying and, initially at least, grudges his money being spent apparently to the instructor's benefit.

   (2) Because of this his rate of absorption of instructional information is partially blocked, especially as flight time becomes more protracted.

   (3) Following from (2) boredom can set in after a period of a couple of hours or so, especially in scratchy conditions, with a near zero conscious learning rate.

   (4) Because of the *apparent* ease with which the instructor centres, climbs, finds lift etc, much of the nuances of soaring touch are lost on the pupil even with a good instructional commentary.

   (5) Airsickness to a greater or lesser degree is common and destroys learning and enjoyment.

   (6) Physical discomfort has the same effect as (5) and is much more noticeable when the pupil's rôle is passive.

   c. It would certainly be wrong and unfortunate if the impression were given that the value of soaring instruction in two-seaters was all negative. Some of the more important advantages are:

   (1) Discussion of various points is possible.

   (2) Navigation can be positively taught – and navigational ability checked.

   (3) Glider blind flying can only be taught satisfactorily by this method.

   (4) Field selection and assessment can be constantly monitored and taught.

   (5) Unessential but desirable pre-solo manoeuvres can be taught, *eg* side-slipping, "porpoising" etc.

INSTRUCTIONAL METHOD WHICH HAS WORKED SATISFACTORILY

4. Whilst obviously not perfect the following method of teaching cross-country soaring works reasonably well, produces results in terms of improved pilot soaring ability and is the method currently adopted at the London GC.

a. **Equipment.** A "Lead" glider. This is normally a two-seater flown by an instructor.

b. **Follow Gliders ("Followers").** These are single-seaters of a comparable performance to that of the two-seater. In the case of inexperienced pilots (pre-Silver C) two "followers" is optimum. With experienced pilots three "followers" are acceptable but this is the maximum.

c. **Basic Flying Method.** The lead glider with instructor flying and pupil being taught leads the single-seaters with pupils therein. Close thermalling and line-astern gliding is adopted.

5. This system gets over many of the disadvantages of the two-seater only system, the main advantages and disadvantages being as follows:

a. **Advantages.**

(1) Instructor to pupil ratio is improved from 1:3 to 1:4.

(2) A pupil has the instructional advantages of one or more flights in a two-seater but because he knows it will be his turn tomorrow, in a single-seater, he accepts and benefits from the experience more readily.

(3) Pupils do not feel cheated of practical flying.

(4) Pupils have plenty of basic handling experience (sharpened in accuracy by "formation" flying).

(5) Pupils have a surprising amount of decision taking at some stage of flight – ultimate decisions or the prospect thereof (*eg* landing out) are the pupil's.

(6) Interestingly the recognition of soaring targets (*eg* particular clouds) more easily recognised, is frequently faster and the absorption rate of such information apparently better than in two-seaters.

(7) Pupils, particularly inexpert or inexperienced ones, feel they are largely responsible for the success or failure of the flights and quickly gain confidence.

(8) The practical demonstration of the performance capability of their gliders again quickly gives confidence to a pupil (as well as surprise).

(9) Perhaps most important of all, the combined capability of the pupil and his glider to achieve worthwhile flights (long distance flights are particularly good for this), transforms a pupil's soaring horizons.

b. **Disadvantages.**

(1) Regulated by the flying ability of the poorest pupil.

(2) No "in flight" soaring explanation.

(3) Successful flights can breed over-confidence in pupils who over-estimate their true ability – particularly pupils in the older age brackets.

(4) Successful flights resulting in "formation" landings absolve the pupil from making crucial decisions when field landings take place.

NOTES AND COMMENTS ON SOARING COURSE AS CURRENTLY RUN

6. These notes, whilst by no means exhaustive, are on points which should be borne in mind if running courses of this type and are based on experience of the London GC's soaring courses.

7. **Objective.** Important as soaring theory may be, there is no substitute for practical experience of the art in all its aspects. This particularly applies to less experienced pupils whose primary objective is to be able to complete tasks *per se* rather than to complete them at speed.

8. So the primary practical objectives on the soaring courses is to get in the maximum possible amount of soaring time of a cross-country nature regardless of how poor the conditions may be that present themselves.

9. To achieve this objective, a constant state of immediate flying readiness is maintained until either a flight has started or any possibility of soaring is eliminated. This means that hope should not be abandoned on the grounds of, for example, lateness. Many successful cross-country flights in excess of 50km have taken place at 18.00hrs.

10. When it is not possible to soar but is possible to fly, the opportunity is taken to fly final glides to other sites, glide outs from a tow, hill soaring on unfamiliar hills, dual tows, etc. Anything, in fact, which will be of positive practical benefit to cross-country flying.

11. When the above "soaring at all (reasonable) costs" attitude is taken, it is amazing how very few days are not cross-countryable on the course system currently adopted, even with quite inexperienced and often fairly inept pupils.

Can't have a "nine to five" attitude

12. **The Instructor.** It is *essential* that the instructor is a really *good soaring pilot* and it is equally important that this fact is recognised by his pupils if the necessary rapport is to be established and if he is to instil confidence and gain the necessary respect (soaring-wise). Because of the inherent uncertainty of this type of instruction and the necessity for an imaginative and flexible approach to it, the instructor must be dedicated to achieving successful results and cannot have a "nine to five" attitude. For this type of work, soaring rather than instructional ability is the most important.

13. **The Pupils.**

a. As cross-country work is involved, pupils must be above Bronze C standard and in practice around 20hrs solo flying seems to be an absolute minimum requirement.

b. It is essential for the pupils to be grouped into courses by ability levels. Wide disparity of ability will result in courses being a failure.

c. This means that the instructor rather than the pupil has to fix the course dates and pick the pupils on each and pre-suppose a fairly close pre-course knowledge of the pupil by the instructor.

d. Courses should be divided into pre- and post-Silver C as the psychological approach, as well as standards of pilots in each case, tend to be quite different.

e. Pre-Silver C courses are best run in early and late summer for reasons of crops and because pupils do not need (and frequently cannot cope with) the stress involved in long flights.

f. Post-Silver C courses are best run midsummer to better utilise the longer soaring day. Also the crop scene is less worrying to more experienced pilots.

g. Pupils from clubs not the host club should be treated with extreme caution and unless very well known they should be asked to use their own solo glider. Standards still vary widely, club to club, but far worse is the lack of background knowledge of the particular pupil. They

should be required to produce a letter of approval to go on such a course from their own CFI.

14. **Aircraft and Equipment.**

a. It is highly desirable that gliders are reasonably evenly matched. As nearly all two-seaters available in the UK are in the 1:26 to 1:34 bracket it follows that solo gliders will range from about K–8 standard to K–6E standard. With glass gliders it is better to use a single-seater glass "lead" aircraft.

b. Where a significant disparity of performance exists, it is better that the lead aircraft is the lower.

c. Instrumentation need not be elaborate but in addition to a normal basic panel a good accurate glider compass (preferably Cook type) is highly desirable.

d. Blind flying instruments are not necessary.

e. Parachutes are essential. Much flying, especially in thermals, is close and the relative inexperience of pilots makes this more hazardous than in, say, comps.

f. Barographs are desirable for flight analysis and for purely pupil satisfaction.

g. Radio is almost essential. Although it can be done without, its occasional use saves untold irritation, materially influences success and gives pupils confidence in the more critical stages of tasks.

15. **Tugs and Trailers.** The initial in flight rendezvous is a difficult phase. If more than one tug is available much time wasting and frustration before setting off will be saved. Aerotow retrieves should be used whenever possible as a week of road retrieving is exhausting and tends to inhibit tasks set. For aerotow retrieves a tug with at least reasonable field take-off performance is needed. As much time and money can be saved with dual low retrieves, a tug capable of this is well worth while.

16. **Pre-Course Preparation.** The following represents the ideal. Given even mediocre weather, there is very little time available for lecturing during a course. Even when there is, before or after flights, pupils' rate of assimilation is very poor, either because of pre-flight stress, excitement and anticipation or because of post-flight fatigue. (The latter also applies to the instructor.) For these reasons, lectures on the theory of soaring and cross-country flying should ideally be given in whole or in part before the course week (preferably evenings when it is non-soarable!).

17. A full course of lectures covers:

a. Psychological attitudes to soaring.

b. Pre-flight organisation and preparation. This is issued as a broadsheet before the course.

c. Met forecasts and interpretation.

d. Post-flight procedure. (With particular emphasis to the course.)

e. Polars. Speeds to fly. Modification to theory.

f. Method of selecting tasks to suit conditions.

g. Soaring sources: Hill lift. Thermal (including cold fronts). Wave. Combination of sources.

h. Navigation and airspace.

i. Radio procedure and TP photography.

j. Blind flying.

k. Objectives of soaring course, procedure and discipline.

l. Soaring. Open discussion.

It is rare in practice for all these subjects to be covered on a course since adequate lecture and discussion time is of the order of 18 to 20hrs.

18. There is great merit in going for large tasks where there is even a reasonable chance of success. Such tasks have tremendous morale boosting value as well as technical value. However, fatigue and stress symptoms should be carefully monitored.

19. **Disciplined and In Flight Procedure.** Because of the relative inexperience of pupil pilots, the fairly close proximity to one another in flight and the fact that such close proximity flying may be an entirely new experience to them, there is a greater potential hazard than in normal club operations. For this reason really strict discipline must be maintained in all aspects and very careful unambiguous procedural briefings given.

a. **Launching Order.** The lead aircraft always goes first and usually casts off at the earliest opportunity in a thermal. The followers are launched as rapidly as possible, preferably in the same thermal as the leader. Priority of soaring course launches should be established

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and course launches take place consecutively. The last follower launched takes a high launch to the level of the other gliders of 3000ft, whichever is the lower. Followers are instructed to concentrate on their own centring, to get as high as possible (clear air) and not to take the initiative of finding the other gliders unless instructed to do so.

b. **Rendezvous.** The lead aircraft watches launching procedures of followers. If the first follower does not release in the same thermal as the leader, the leader joins the follower's thermal if the follower appears to be fully established in it. When a safe soaring height is achieved by the leader and the first follower, both join the second follower if he is in a different thermal. If the second follower is in the same thermal, the leader and first follower wait at cloudbase (brakes open as necessary) or at the inversion until the second follower either catches up or ceases to climb. In the latter case, both the leader and first follower descend to the level of the second follower (with airbrake) and all then press off on task route.

No apology is made for expanding the explanation of Launching Order and Rendezvous above as this is an extremely critical stage of the flight. If not done properly, followers lose leaders, relights result, an enormous amount of time is lost and frustration can reach unacceptable levels. The use of dual tows and/or more than one tug for launching largely removes the problems associated with starts.

c. **Thermalling - High Mode.** When thermalling at a satisfactorily high level, followers use the same centre as the leader and, assuming a reasonable pupil competence match, height differences are not usually great.

d. **Thermalling - Low Mode.** When thermals or general areas of lift are contacted low down (below 1500ft) each glider searches independently for a core within that general area. Once it is obvious that one machine is doing better than the others, then all centre about that core.

e. **Leaving Thermals.** When the leader wishes to leave a thermal, if the followers are at the same level (within approximately 200ft vertically) he rocks his wings during the last thermalling turn (if no radio is used) and heads off purposefully. If radio is used, a terse comment without full radio procedure is given (*eg* pressing off). Close proximity, voice attenuation and agreed procedure are sufficient to establish source of message. If there is a significant difference in height in the thermal (more than 200ft) between the leader (assuming him to be on top) and the lowest follower, the leader spirals down with airbrake to the height of the lowest follower and sets off on a course at a slightly lower height than that of the follower. If the leader is the lowest glider he sets off with visual or radio warning at any time. Care should be taken by the leader on leaving the thermals to ensure that he is so placed that he can be seen by at least two followers (if there are more than two) at the time he straightens out. Failure to do so may result in followers (frequently disorientated relative to intended track) losing the leader and setting off in a diametrically opposed heading.

f. **Final Glides.**

(1) **To an unknown field landing.** Pupils are instructed to continue following the leader even at low levels provided the leader is in a more or less straight glide. Thus in the final glide to a field landing considerable responsibility is placed on the leader to find a suitable field, with alternatives, in sufficient time to allow the followers to make a safe, controlled approach without the undue build up of stress.

(2) **To a goal.** For the type of cross-country soaring taught on courses there is little point in deliberately contrived marginal final glides and since the leader cannot see the followers on such a glide, these can be positively dangerous should followers drop below the glide path. It is a sufficient lesson to fly the glide path with a constant height margin (say 1000ft).

Field selection made at a reasonable height

g. **Landing out.** For convenience all fields selected for landings are potentially aerotowable. This means specific field selection must be made at a reasonable height. The stress level caused by an anticipated landing by pupils should always be borne in mind. In order to allow a settling down period for pupils landing, it has been found best to fly the last 1000ft of the glide at about Min sink notwithstanding that this is technically insufficient.

h. **Thermalling Procedure.**

(1) **Circling.** From glides the lead aircraft is always the first to enter a thermal. The mode of entry is normal, usually a pull up and climbing turn. To avoid excessive vertical changes of direction thermals are normally entered at Max glide (MacCready ring setting). For safety reasons positioning relative to the core is arranged as far as possible so that initial turns are a constant direction (LH). This is changed approximately half way through the flight to RH but thereafter kept constant. Relative positioning is arranged so that each glider pilot can see some part of all other pilots' heads during circling. The lead aircraft centres up on the lift. Followers use the same centre. Turning inside other gliders or recentring is not permitted except by the leader. At cloudbase gliders waiting for other gliders fly at a constant speed (50km) keeping properly clear of cloud with airbrake. Normally all gliders get to more or less the same level of the lowest follower whilst in the thermal before setting off.

(2) **Straight Line Flying.** When flying in lines of lift a strict line astern position behind the leader is adopted with reasonable separation (200yds or more). Pull ups in lift well below cloudbase are done more or less technically correctly but rather less sharply. Near cloudbase pull ups are not executed to avoid pupils inadvertently going into cloud. The reverse of technically correct procedure is found to be safest, *ie* slowing down in weaker lift and speeding up in stronger. If catching up with the leader (within 100yds) a follower does a left hand circle and then continues on track.

DIFFICULTIES, HAZARDS AND FAILURES

20.a. **Stragglers.** Whilst ever effort should be made to assess and know pupils' thermalling capability before the course, in practice this is sometimes not possible, or wrong assessment is made. This may result in a soaring

course pupil getting outclimbed in thermals. The pupils' thermalling fault can usually be observed quite easily from above and is almost always one of the following:

(1) Underbanking.
(2) Under-ruddering.
(3) Not applying sufficient back pressure (relative to straight and level) in the turn.

Pilots left behind should be rescued

The fault is usually quite consistent and can be picked up at the first debriefing. However, within limits, pupils who get left behind in thermals should be rescued. (The reasons are not always basic flying faults.) The technique is for the leader to do a tight turn down the thermal with full airbrake to finish up on the opposite side of the circle and slightly lower than the follower. The leader then settles down and recentres the follower following. It is inadvisable to allow the vertical separation between the leader and the lowest follower to get more than 2000ft, as it may be found that the follower has dropped below the "tail" of the thermal and the option to seek and find another must be left open. It will often be found in rescuing stragglers that the leader gets out of phase with thermal activity. Under these circumstances it is best to continue to climb in untypical weak lift or zero sink until other followers drop to the same level, rather than try to continue on track with a major height differential between the leader and the higher follower. An individual follower who persistently gets left behind should be given instructions either to land if a conspicuous suitable place is in range of him, or given a positive easily identifiable fix and instructed to return towards base on his own. Unless he is sure of an attainable alternative source of lift, a leader should not try to rescue a straggler from a low level, below say about 1200ft, but instead instruct him to land.

b. **Rendezvousing.** Much of the success or failure of soaring flights depends on this critical operation, so every effort in terms of briefing, launching arrangements and towing equipment should be employed to ensure success. Failure of this operation will result in considerable loss of time and may result in a total failure to start at all, especially in poor conditions. If because of relights to followers, it looks as if the start will be unduly delayed (say by more than 1½hrs) the re-lighting follower should be abandoned and the flight continued without him. This contingency should be covered at briefing.

c. **Cloudbase.** Getting involved with poor visibility or poor light at cloudbase is the major cause of permanent loss of visual contact. Therefore, great care should be exercised to avoid getting into or too near the condensation level.

d. **Visual Contact.** Radio is no substitute for visual contact. Once the latter is lost failure is liable to result; particularly when leaving thermals the leader should be quite sure that he is fully visible to the nearest follower.

e. **Experimenters.** The objective of these courses is to show how to do successful cross-country flying. But some pilots on them (usually in the middle-age bracket) tend to make diversions and decisions unilaterally in an attempt to display superior skill. They should be ruthlessly abandoned. They inevitably fail and can destroy the whole soaring exercise very quickly.

f. **Stubble fires.** Because of the very poor visibility in many of these, especially under overcast or poor light, great care should be taken in them. For inexperienced pilots the violence and strength of the lift is a traumatic experience. As it is easier looking down than up the smoke column, it has been found best for the lead glider to speed up over the last mile toward the fire, thus ensuring he is well established and well up before the first follower reaches it.

21. **Navigation.** The concentration required of followers and the need for them to keep constant visual contact with the leader and each other makes it very difficult for followers to navigate in the true sense of the word. The problem is mitigated by:

a. A very thorough pre-flight navigational briefing. This consists of a systematic word picture of the route, describing the most easily identifiable and conspicuous landmarks and a description of the general visual appearance of key features (*eg* lakes and reservoirs show up well looking into sun, badly looking downsun, etc).

b. A detailed description of key navigational features on the boundaries of any critical airspace boundaries close to task tracks.

c. A careful scrutiny of the way in which followers have marked up their maps, calculated headings, etc.

d. An occasional "in flight" navigational fix from the leader of a key and easily recognisable feature previously described at briefing.

22. **Retrieving.**

a. **By Aerotow.** Whenever possible aerotow retrieves are used as this saves time, trouble and above all, reduces cumulative fatigue levels. Where smooth surfaces and fields of adequate size are landed in, retrieving is by dual tow. It has been found quite adequate for a thorough briefing to be given to the high tow (short rope) pilot even if he has not previously experienced a dual tow. But the rear pilot (long rope) definitely requires one or two dual tows in the low tow position before being allowed to tackle it solo. The instructor (if lead glider) always supervises the first dual tow out if there are two. Otherwise the instructor always goes (rear position) on the dual tow leaving the remaining solo tow to a pupil. Where dual tows are not possible, individual tows are done to the nearest suitable airfield and dual tows undertaken from there unless the total retrieve distance is less than about 20 miles.

b. **Road Retrieves.** The necessity for these is surprisingly small but for fatigue reasons the instructor (unless requiring one himself) never gets involved. Responsibility for retrieves is left with pupils on courses to sort out between themselves. So far every pupil has returned to the site by air, but this eventuality clearly wants covering. Serviceable trailers and a club retrieve vehicle are available on site.

23. **Costs.** The discussion of costs is somewhat academic as the circumstances between one course and another and one club and another are obviously different. Suffice it to say that the soaring courses held at Dunstable do not pay for

themselves taken in isolation and it is difficult to see how such courses could be directly profitable with due regard to the limits imposed by what the market will bear. The indirect benefits and hidden savings, however, are thought to justify the subsidy necessary to support each course. These benefits can be briefly summarised as:

a. Increased utilisation of equipment on course, in particular equipment which would otherwise be idle.

b. Improvement in soaring standards resulting in better utilisation by members off courses (post-course).

c. Increased member interest and enthusiasm for gliding resulting in less post-solo wastage.

d. A general re-awakening of interest, activity and enjoyment engendered by soaring courses resulting in increased general member participation in their club.

e. Improved cross-country standards with, hopefully, lower accident levels.

24. **Post Course Supervision.** Whilst on balance the advantages to be gained from cross-country soaring courses outweigh the disadvantages, the following post-solo problems have occurred and want watching. Interestingly most of these problems have occurred in pilots who have taken up the sport somewhat late in life (mainly in the over 40 age bracket):

a. Over-confidence resulting in lack of appreciation of a pupil's own unaided capability as compared with his performance on course.

b. Over-ambition. A desire to try solo tasks unsuited to pilot ability or weather conditions. Failures result in disappointment and disillusionment.

c. **Navigational ineptitude.** This is rather difficult to pick up on this type of course and has resulted in quite good soaring pilots getting lost on solo cross-country flights.

d. A press-on attitude untempered by prudence, experience or in some cases, adequate pilot ability.

25. Whilst the above described and noted cross-country courses have limitations and have displayed pitfalls and inadequacies, they are undoubtedly extremely popular with pilots below competitive standard. The detailed reasons for this are less important than the fact of it. It has been found at Dunstable that to virtually all pilots, many of previously indifferent standards, the courses have completely transformed their attitude to the sport and instantly altered their horizons and aspirations.

26. Perhaps most important of all, these courses seem to have restored the element of excitement, enjoyment and fun to many underconfident, previously largely unassisted post-solo pilots who undoubtedly felt that such emotions were confined to competition pilots and pundits.

NO IT'S NOT *QUITE* A CONVENTIONAL GLIDER!



Photo: Kurt Lampart.

There are some interesting developments in the hang gliding world. This latest glass-fibre design, which looks a million miles away from the highly coloured kites derived from Dr Francis Rogallo's concept, even has a cockpit and canopy. It is the Aviafiber Canard-2FL and comes from Switzerland where it was test flown in September. But it doesn't sound as though the design is intended for only the hang gliding enthusiasts. While it meets the Swiss government's regulations for hang gliders, provided it is limited to foot launching, there are plans to gain certification for other take-off methods next summer with mention of a motorised version. Could this design become the link between the two sports? It has external airfoil-type ailerons for bank and yaw control, the speed is governed by the pilot sliding back and forth on a 32in track-guided board and there is a retractable front skid for landing. The main wing is in four sections with two centresections and two split airfoil outer sections.

Technical data:		Max wingloading (kg/m^2)	12.5	Pay load (kg)	120
Span (m)	13.5	Aspect ratio, main wing	20	Wing section, Wortmann FX63-137	
Wing area (m^2)	13	Empty weight (kg)	43	Best L/D at 57km/h	31

INSTRUCTORS' TASK WEEK

BRIAN SPRECKLEY, National Coach

Instructors with experience ranging from Gold C and several thousand kilometres to Bronze C and no kilometres, met at Lasham this summer for the first task week held for instructors. Despite the enormous disparity of experience, the aims of all the pilots appeared to be the same; to learn more about cross-country flying and soaring and to fly cross-country as much as possible.

But why hold a task week specifically for instructors?

If you fly at one of the larger gliding clubs you may not be aware of the problems facing instructors in some of the smaller clubs. Many have reached a level within their own club which it is difficult to rise above, due in part to the lack of any fellow pilots significantly better who can pass on experiences and advice to assist the progress of those below. This of course runs right through the club structure and any progress after solo becomes slow and the majority will never achieve their full potential as soaring pilots. This results in a high wastage rate around Bronze C, creating in turn a pressure on the instructors to train more and more people up to this level, thus having less time to devote to their own solo flying. The situation is well known to many instructors as the *"ab-initio* treadmill".

A chance to improve away from club pressures

For the instructors from such clubs (of which there are many) the task week offers a chance to improve, to learn and to try out the various techniques away from the pressures of his own club, like the apparent disgrace of landing out ten miles down the road.

The instructors from the large clubs face a different problem. Here there may be lots of pundits, many of whom are not instructors, and the instructors wishing to improve finds himself in a difficult situation. He cannot possibly compete with these pundits and is inhibited in his attempts to fly cross-country. His achievements do not seem significant alongside theirs and as a result he flies less and less. The longer he has been instructing without flying cross-country the greater the problem.

For these and other instructors who are determined to become good cross-country pilots, the task week offered them a chance to fly with better pilots, to learn and to discuss the problems facing them in their clubs in raising the standard of soaring in particular and the level of experience in general.

The intention of the task week was to assist individual improvement in cross-country flying techniques, to study some of the ways of teaching the techniques to inexperienced club pilots and to show each instructor how to run a successful task week within his own club.

The talks given by John Williamson, Chris Rollings and John Ellis covering topics such as inter-thermal technique, centring, final gliding and airspace restrictions were complemented by group projects on task setting, turning point selection, Met interpretation and other subjects.

The 23 gliders were split into three groups, each including a two-seater flown by a very experienced pilot. Most instructors had the opportunity to fly cross-country with one of the pundits in a two-seater. On one day John Jeffries successfully demonstrated his method of training by taking the K-13 round a 160km triangle followed by a K-6CR and a Pirat.

Each morning three different instuctors were responsible for the Met interpretation and task setting. This gave each of them some experience of these tasks by the end of the week.

Despite low cloudbases and strong winds we achieved a total of 1870km. For 16 of the instructors it was the first time they had completed a close circuit flight. Peter Gresham from Ringmer surprised himself by flying 49kms into a 20kt wind with a 2500ft cloudbase - not a bad achievement for someone without a Silver distance. Chris Ellis from the Mynd in his Oly 460 put up the most consistent performance of the week, proving you don't need a glass glider to complete tasks.

We found that the Blanik and K-13 performance are very limited for teaching cross-country flying unless there is a high cloudbase.

Our thanks to John Sangster, Mike Carlton and Peter Boneham for the loan of their two-seaters. Thanks also to everyone who helped make our first task week a success, particularly Lasham for putting up with the lengthened launch queue and for providing superb facilities. Next year there will be two - one at Lasham and one at Dunstable, so book now - last year's people will probably come again.

CLOUD SALE!

"We'd like six cu over the club site at 11am today and three lennies over the valley tomorrow please."



The photograph was sent in by Bernard Smyth, Bristol & Gloucestershire GC, who explains that the Bristol firm distribute water heaters named after various clouds.

ONE MAN'S WEEK

CRISPIN MASTERMAN gives his impressions of an instructors' course

I suppose that all of us at some stage in our gliding careers consider whether we want to become instructors, at the best from altruistic desires to benefit the sport, at the worst from ignoble motives of revenge. For me, however, it came as a surprise when I was presented with the opportunity, having given the matter very little thought. I had a vague idea that instructors were made, not born, but it all seemed to have happened before I took up gliding or by some mysterious process about which I knew virtually nothing. I also assumed that I had too little experience and that to even apply with less than one Diamond was to risk derision and refusal. Should you be as misinformed as I was, I hope that this brief account of one man's week on the BGA course will help you to make the decision if or when the choice comes your way.

Passenger carrying experience on club gliders a help

The procedure is simple enough. You need your CFI's recommendation that you are suitable material (but don't ask me how you go about getting that) after which you apply to join one of the BGA's advertised seven day courses which tour the larger clubs throughout the country during the season. The courses run from Saturday to Friday, cost £30 plus flying charges and, of course, are conducted by the Senior National Coach or his deputy. If you complete the course satisfactorily you can start instructing at your own club, subject to your CFI's acceptance check, but are expected to return for a weekend course after two to four months of actual instructing to discuss some further matters that are best left until you have some practical experience under your seatbelt. The qualifications for the course are now, in practice, higher than the official minima of 35 hours and a Bronze C and you are expected to have a Silver C and at least 75 hours PI, preferably with experience of several types and several sites It is particularly helpful if you have some prior experience of passenger carrying on your own club gliders.

Course No. Umpteen gathered at Booker on July 30, 1977, at the start of the week of unusually good weather. There were seven of us, a larger number than usual. Of the seven, only one had less than 100 hours on gliders but he (and three others) had PPLs. Lots had been drawn at high command and the loser, detailed to teach us to teach, was Brian Spreckley. We started off as we meant to go on – with a talk. I can tell you that the course involved far more talking than flying, but then that's instructing isn't it? The pattern of the first day was a talk about our objectives for the week which were threefold: to improve our flying, to learn the basics of instructing and to imbue us with greater airmanship. We went on to an introduction to the Falke before a short flight to look at the local landmarks and acclimatise to the aircraft.

After lunch we had a de-briefing on what we had done and a lengthy briefing on checks and effects of controls before going out for a second flight to try those out. We were, I think, already learning to fly more accurately and to think more about what we were doing as well as learning to deliver the patter in an economical and easily digested form. Neither of my flights that day exceeded 16 minutes, but it was amazing how much could be concentrated in such a short time. Suddenly, instead of just acting instinctively I was having to think about what I was doing and realising that I would have to fly more precisely than before to provide convincing demonstrations to a pupil.

The second day started with a de-briefing on the previous afternoon's exploits and continued with a briefing on demonstrating medium turns and the effect of aileron drag. In the air we alternated between being the pupil seeing how to do it and the instructor showing how to do it, although telling Brian to "follow me through on the controls" seemed a shade artificial at first. In the afternoon we discussed trimming and then flew a short exercise. If that sounds very little to fill in the time between getting the Falke out before 9am and unfolding its wings and finishing the day at 7pm or later, you could be right, except that the briefings were of necessity very detailed and left time for discussion. The time when we were not flying individually was usefully spent viewing the slide/tape lectures provided by the BGA (if one was conscientious) or pacing up and down committing the next exercise to memory (if one was nervous).

The third day was given over to stalling, not just the recognition of a stall and the recovery action, but learning to demonstrate the effects of elevator and rudder at the stall in ways most conducive to reminding pupils to avoid potential disasters in the circuit. This was also Monday (and therefore, by definition, soarable) and there were club aircraft lying unused, so several of us took the opportunity of trying out new types, the favourite being the Astir. The following day saw the Falke much used (or bruised) as we followed a detailed briefing on circuit planning by a half hour each of circuits. Not only did we talk ourselves round our own circuits but we talked one another round as well from the ground; what was actually said as one of our number disappeared behind some trees on base leg would hardly be printable. In the afternoon Rex Pilcher gave us an impromptu but very useful talk on airspace problems and we finished up with a briefing on approach planning. Again, some of us had a chance to fly the club gliders, although conditions were weak.

Thursday was spent on spinning and aerotowing, using the K-13 for these purposes and flying from the back seat (an eventful 25 minutes) and we also talked about launch failures. On Friday, since we were ahead of schedule due to

the good weather, Chris Rollings was asked to brief us on teaching thermal soaring and the subsequent discussion took us off, not unnaturally, into speed flying. Verdun Luck later discussed field landings, but not until we had flown our final trip which was a fault-finding exercise in which we had to identify and correct our simulated pupil's faults. Most of us had the experience of having to take over the controls from Brian, in the guise of a pre-solo pilot, as he approached his landing at a variety of spectacular angles.

Friday was again spent talking, analysing some aerodynamic problems we had been given to consider as a group, learning about aircraft structures as a guide to thorough DIs and discussing how to brief pupils to land an aircraft properly. Perhaps most productive of all was a discussion about the rôle of the instructor in the gliding movement as a whole to dispel, if it were still necessary, any lingering belief that an instructor is just there to teach the "nuts and bolts" of flying. And there the course ended. All of us agreed we had learned a lot, all enjoyed it and all, I think, found our gliding horizons subtly extended. I received my baptism that same afternoon, taking someone up in a K-13 for his first flight and making a convert. I could not resist, when he happened to ask me how long I'd been instructing, looking at my watch and replying "About 25 minutes."



Ten trainee glider boys, launching off the line
One got his climb too steep, then there were nine

Nine pundit glider boys racing through the gate
One over pulled his **g** then there were eight

Eight happy glider boys flying close to heaven
One lost his oxygen then there were seven

Seven stunting glider boys, looping just for kicks
One left it far too late and then there were six

Six weary glider boys, struggling to arrive
One flew in far too slow and then there were five

Five eager glider boys, climbing in the core
One forgot his rigging pins . . . and then there were four

Four keen eyed glider boys, CB Sit CB . . .
One forgot his brakes were out . . . and then there were three

Three clever glider boys, trying something new
One got it "not quite right" . . . and then there were two

Two lonely glider boys, flying in the sun
NEITHER kept a sharp look out . . . and then there were none!

With apologies . . . DOUG CARTER

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The DG-200



The DG-200 (From details supplied by Glaser-Dirks)

With the DG-200 the Glaser-Dirks family of three 15m glass-fibre gliders is now complete. The original aim was to produce a 15m glider nearly as good as the Kestrel 17. The results so far obtained show that the DG-200 can climb faster than the DG-100 and as fast as the Kestrel 17. The best glide angle is the same as that of the Kestrel but as the speed increases to between 70 and 100kts the Kestrel has a small advantage. However, above 108kts the DG-200 begins to get better than the Kestrel.

To obtain realistic results during the flight tests, all three gliders were loaded to a cockpit load of 200lbs, no water ballast was carried. When the Kestrel and the DG-200 were ballasted to maximum the latter was so much better at the high speed end that simple comparison tests were not possible. With full ballast the DG-200 can be thermalled at 45° bank at 49kts, and be only slightly worse in the climb than a Standard Class glider without ballast.

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Part of the design specification was that the DG-200 should have the same handling characteristics so admired in the DG-100. This has been achieved with an increase in roll rate to three seconds for a 45° bank reversal. The full deflection of ailerons with the flaps set at +8° can be balanced by the rudder so that no noticeable slip is incurred even at this very fast rate of roll. The ailerons are still effective even at +8° with the wing fully stalled and the stall itself is quite innocuous. To spin the glider the C of G has to be aft and the glider forced to do the manoeuvre. Because of the long fuselage and large rudder, recovery is effected in a ¼ turn.

The DG-200 retains the parallelogram control column linkage to give high speed flight free from pilot induced oscillations. When landing the flaps can be selected to +12° and the increased size Schempp-Hirth brakes control the approach to surprisingly steep angles. An approach speed of 54kts with no ballast gives an approach angle of 1 in 3·6. It is possible to fly the glider onto the ground and use the powerful wheel brake to further shorten the landing run.

The DG-200 is easy and safe to handle and is suitable for pilots without previous glass-fibre experience though it would be unlikely they could realise its full potential. The Wortmann flapped section FX67-K170 is not thinned at the tips, thus contributing to the safe handling. The flaps move approx ⅓ of the angular movement of the ailerons and boost their effect by about 40%, this allows the chord of the ailerons to be small as designed by Wortmann and still not lose their effectiveness. Additionally, with full ballast the wings can weigh over 500lbs and require powerful ailerons to effect control. The ailerons move with the speed flap setting to give optimum profile at all speeds.

Operation of the flaps is easy and the lever is in an easily accessible position. Trim is by a spring trimmer. The fuselage and tailplane are, except for a flap lever on the DG-200, similar to that of the DG-100. The canopy is now hinged with an adjustable headrest. The controls run in Teflon sleeves and no external hinges or push-pull rods are used. The flap connection is automatic and ball connectors are used for the other controls.

Construction is conventional and light enough to rig etc, *ie* the wing weighs only ten stone and wives can handle the wing tips without difficulty.

* * *

Technical data DG-200			
Span (m)	15	AUW (kg)	450
Wing area (m^2)	10	Water ballast (kg)	110
Aspect ratio	22.5	Best glide at 110km/h	1:42.5
Wing loading (kg/m^2)	31-45	Min sink at 72km/h (m/sec)	0.56
Empty weight (kg)	235	Max speed (km/h)	270
		Stall speed (km/h)	62

THE RULE MAKERS

DAVE WATT

Dave, a member of the Airways Flying Club at Booker, has about 1000hrs on gliders with similar experience on tugs and motor gliders. He has a Std Libelle, with an ASW-20 due soon, is a competition pilot, has an instructor's rating on motor gliders and is a fully rated gliding instructor.

Congratulations to Geoffrey Haworth on his long overdue and well written article "Instructors - A Worm's Eye View" (S&G February 1977, p9). It was this essential piece of reading matter for all instructors which prompted me to write this article. If he can have a go at instructors when he isn't one, I feel justified in having a go at CFIs, their deputies and the like.

In the past few years (since I started gliding) I have become more and more annoyed at the extent to which gliding, in anything other than an "ultra-conventional" manner, is restricted. Although we may be a long way from it, I can see the day at some clubs when there won't be anything you can do with a glider which won't be either prohibited or compulsory.

This rather jaundiced view is directly attributable to that stolid band of self-appointed fuddy-duddies - The Rule Makers. You name it and they have made a rule to stop you doing it - no circling below 800ft; no aerobatics below 1500ft; no towing gliders (not even your own) without someone on the nose; circuits shall be flown in this manner; final turns shall be completed by that height . . . etc.

All jolly good stuff, making gliding clubs safe and better? I wonder if the following examples will change a few people's minds?

Accurate and controlled, not dangerous

One evening last year a private-owner finished a cross-country flight in the normal manner. He then pulled up into a steep climb, did a tight turn over the bus, dived past the trailers at ground level and flew round the base leg and finals, never above 100ft. No one watching could have said his flying was anything other than accurate and controlled. It wasn't dangerous, it didn't inconvenience anyone and to the majority of those present it was a fine display of skilled flying.

Unfortunately at so many clubs such flying would have been dismissed (and probably prohibited) as flashy and flamboyant - which it certainly was: but what is wrong with flying in this manner? It requires a high level of confidence, it attracts criticism, but above all it is good fun (that's why we glide - remember?). I am personally all for it provided it is done in a safe and competent manner.

The most common reason given for restricting such flying is: "It may be all right for you but we must prohibit it in case someone less experienced tries it and has an accident."

That is, without doubt, the kind of mentality I find the most nauseating and one which is rife at so many clubs. Was Olga Korbut (the Russian gymnast) prevented from watching complex and potentially dangerous feats on the parallel bars when she first started training? Are ski-jumpers prevented from practising their sport for fear of causing thousands of aspiring Alpine children from cascading over mountain cliffs like lemmings? So what makes gliding different?

I believe it is perfectly valid to say: "That is all right for him but not for you . . . at least not until you have reached that standard."

Have you ever watched a number of gliders finishing a task at the Regionals and noticed the poor general standard of organising a circuit after a low fast finish? This is certainly not due to the pilots being inept, but more likely because they have been prevented from becoming proficient at finishing by club rules which dismiss this vital part of competition flying as "beat ups". At best you can meet the absurd situation where only pilots who have done proper finishes are allowed to practise them.

Recently I was amazed to hear that an experienced Nationals' pilot was grounded for circling at very low level in the circuit. Now while I'm prepared to admit that that was probably not the whole story, it is a fact that the indiscriminate application of such rules as "no circling below 800ft" to people for whom these rules were clearly not designed to help, is an ever present threat to "aggro-free" gliding. Circling at low level in a circuit is not in itself dangerous. Agreed, given certain circumstances such as other circuit traffic, etc, it can be, but how is one expected to become proficient at climbing away from low level if unable to practice? By reading books or by pretending that one is at 400ft?

When you announce to a whole club "no circling below 800ft" are you really expressing a gesture of no confidence or are you condemning your best competition pilots with an unlikely inability to soar below 800ft? Or is it that you want a loop hole through which to escape in the event of mishap or accident?

Handy things these rules. If you invent a few you will have no trouble in justifying yourself . . . "It wasn't my fault, he was breaking a rule." They save you having to bear that nasty burden called responsibility and having to say: "I trained this pilot and supervised his flying and somewhere I went wrong." Mind you these rules can also get in the way, can't they? Such as when you decide to finish off the day's flying with some low level aerobatics, a beat-up and a landing at the hangar mouth?

Take the other side of the coin. There are characters in every club who I wouldn't want to see circling as low as 800ft. What do you do about that? Do you make a different

rule for them? If so why not make a different rule for very competent pilots? Say 500–400 or 300ft . . . hardly seems worth it really, why not do something about getting them to assess their own ability and exercise sensible airmanship? If you think your club members are incapable of exercising airmanship, then I suggest you do make a rule (it's one of the few which actually works), namely: "No Flying".

I visited a ridge site recently, and, one morning when the wind was right, I thought I would try the ridge. Now hill soaring at Min sink is to me OK for the first 15 minutes. It's OK for trying to contact wave, it's OK for training and durations, etc. However, flying along the top of the hill low and fast, with a chandelle at the end of each beat, is different, it is exhilerating and highly enjoyable. So when a well established member of this club indicated that there was a local rule that said "no flying below 200ft of the top of the hill" I have to confess that I wasn't too subtle about what I thought of the rule.

"You may think it's silly," he said, "but I can tell you we have had accidents on that ridge."

A strange notion rules prevent accidents

There it is again, this strange notion (quite unsupported by statistics) that by making rules you will prevent accidents. If this were the case, the clubs with the most rules would have the best safety records – I believe there is evidence to the contrary. (Actually that particular story had a happy ending: when I spoke to the CFI, who I should have contacted first, his answer was like a breath of fresh air. "Fly" he said "within the terms of good airmanship . . . that's all." I hope I didn't let him down.)

Another rule is tugs shall make left hand circuits, gliders right hand circuits. This sort of arrangement is commonly used at clubs and as a recommendation makes good sense. But if it is made a rule and people get torn off a strip whenever they break it, what happens when a glider pilot gets caught out and finds himself at 400ft on the tug side? He attempts to cross back onto his side (for fear of breaking the rule) and in doing so, runs out of height, ideas and all but crashes his glider when a circuit on the tug's side would have been uneventful. Unlikely? It actually happened and who was at fault? The glider pilot for fearing to break the rule or the rule maker?

The message, to my simple way of thinking, is clear; if you have a rule for everything, don't expect people to exercise too much in the way of airmanship. Or, put differently, if you can encourage people to think out each different situation and exercise sensible airmanship, you can do without most, if not all, the rules.

I have a simple test I apply when visiting another club. I ask myself "If the world's best aerobatic glider pilot came (unannounced) and gave a display before landing, would the attitude be "what a superb display, let's go and see who it is" or "just wait until I get to that bloke, I'm going to ground him for breaking club rules!"

The character who amuses me most is the one who comes running up to stop you doing something because it's dangerous. "Dangerous to whom?" I ask. "To you, of course," he indignantly replies. Just who are the selfless bastions of the law to take it upon themselves to stop you from harming yourself or your own glider? Probably less qualified than you to judge what is or isn't dangerous. Why shouldn't a private-owner operate his glider in any manner he sees fit, provided he doesn't endanger anyone else?

At some places you can't even tow your own glider without someone walking in front of the wing. No, I really can't understand them. After all if it's the bad example they are pushing, what better opportunity to emphasise the perils of not having someone on the nose by being able to point out to all assembled *ab-initios* a private glider that has just run into the back of a private car?

I would be interested in other people's opinions as to the manner in which rules are applied or, indeed, the value of them in the first place. Am I a "one-off" or are there others who are fed up with the strutting little men who obviously feel they are failing in their job if they don't place some form of restriction on you, or give you a rocket for breaking some grotesque little rule whenever you land in their territory?

(One club actually wanted to give the world record holder of the 750km triangle a cross-country check: is it any wonder that his wonderful show of flexibility caused him not to bother with them and he hasn't been back since?)

So please, live and let live with the minimum of interference and when you next see someone enjoying himself, don't take it as a personal attack on your authority. Just ask yourself if he is really doing any harm and if the answer is no, **then leave him alone.**



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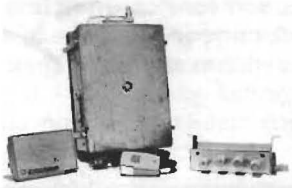
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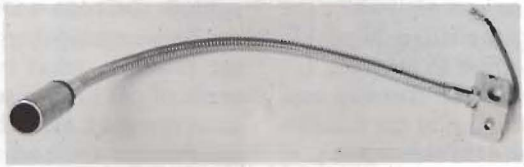
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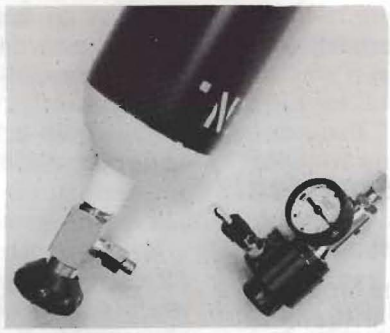
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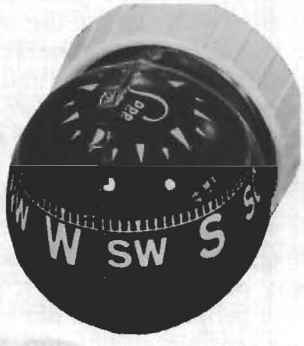
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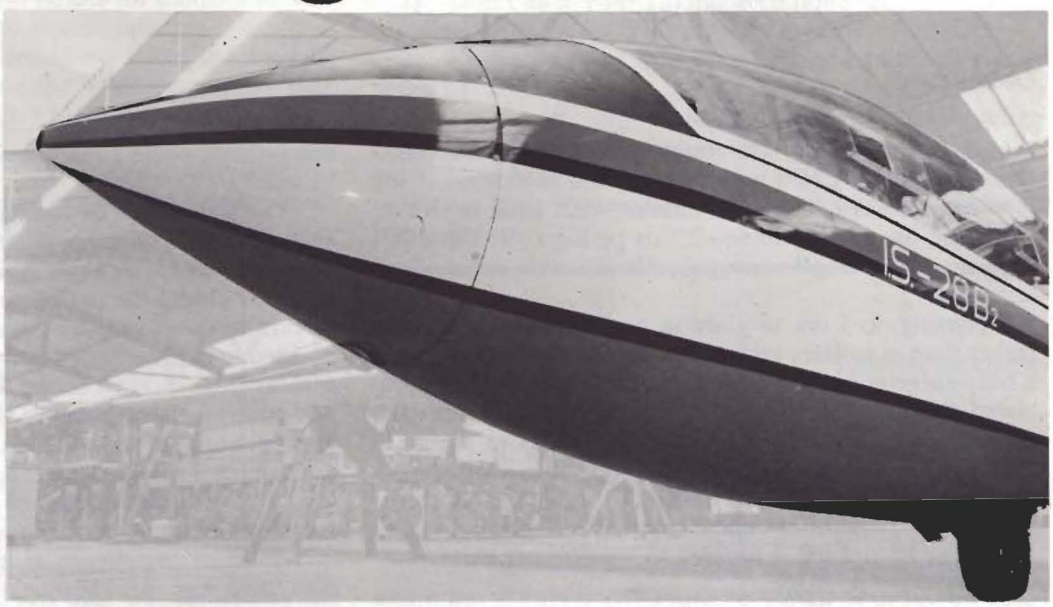
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IT SHOULD NEVER HAVE HAPPENED

RANDLE LUNT

I read Rhoda's story (It could have been worse, S&G December 1976, p247) with interest and wondered if my tale would be of educational interest—but what to call it? "It could have been worse—2" or perhaps "It shouldn't happen to a dog" or just "It should never have happened".

Preferring, as I do, to glide in companiable enjoyment rather than in solitary selfishness, and being also aged and a busy surgeon apt to be needed quickly at times, I appreciated the extra security of flying with one of the club instructors as a rule. As a result I have more than 550 flights in my logbook but only some 20 solos. However, in the last five there were two of over 50 minutes and one of 70 minutes, so with retirement reached and the first day of club week before me, I decided to "polish off Bronze C" and review the situation.

It was a wonderful day, a flight of well over the hour was a distinct possibility and as no one was likely to want to fly my Bocian afterwards I proposed to "hangar-fly" it. This fairly simple manoeuvre at our "field" involves a fairly long roll downhill on the main runway with, until recently, a run out onto rough grass in the odd event of overshoot. However, the new owner has placed a very sturdy barbed wire stock-proof fence at right angles to the runway and overshoot is clearly to be avoided. The duty instructor drew attention to this and I dismissed his fears—I had, after all, done this landing many times before and knew the aiming point well.

Like a feather or a dry autumn leaf

I took-off happily, left the tug at 1700ft in a nice thermal, was soon at 3500ft and moved away to avoid the airway. The Bocian is a very different bird when flown solo, you are reminded of a feather or a dry autumn leaf, but even solo she is best flown fastish between 40 and 50kt. I flew upwind to an area east of the field where several gliders were circling and entered what was apparently a huge mass of rising air. The lightly loaded Bocian seemed capable of out climbing some of the single-seaters although penetration was lacking.

My hour well past, I tried to come down but found it far from easy! Three-quarters open airbrakes and a spiral dive eventually found me at high key for touch down at the runway intersection—safe target for a "hangar flight". The wind had dropped altogether and I turned onto finals in complete confidence, half airbrakes and 50kt and landed a satisfactory roundout where desired. The wheel purred smoothly down the centre of the tarmac strip some four feet wide that is the "bull's eye" and I felt very pleased. If I had then fully opened my brakes according to normal practice I should have continued the normal landing but—ahem!—was I really going to get near enough to the hangar?

"The boys won't be too happy with a 300 yard retrieve, even downhill, with the winch blocked until they come". So now, oblivious of my self taught lessons of 30 minutes earlier, I closed the brakes to $^1/_8$ to lengthen the run. The Bocian took-off and we were three feet in the air when I decided to depress the nose for a new landing! There was a springy little thud from the wheel and we were six feet up and to keep flying I closed the brakes fully while I again approached the earth. This time there was a real bounce and we reached 12—15ft. The land still seemed to be rushing by at undiminished speed and the winch and wire fence were looking considerably nearer!

A spurt of impatience at my incompetence commented that "this was turning into a ____ funny landing" which had better be restarted—nose down and brakes out. Before I could stop myself my hand had obeyed and with quite incredible suddenness the Bocian dropped in a pancake—ker-ash! I was impressed by the way we continued to slide and snake along the runway, my efforts with the rudder and ailerons being quite useless, the wingtip dropped and we stopped at 90° to the line of the runway. I was more impressed still by the distinct sound of bone breaking and the sharp pain I felt from my back through to the front of my chest.

"You incredible nit" I said "you've broken your back" and sheepishly moved my toes which, thank goodness, responded nicely—"It could have been worse".

It was quite painful to raise the canopy, but I did so and gave the overhead self-hand shake used by the water skier to show that he is not unconscious after a fall—quite unnecessarily as it turned out as the boys at the launch point, very pleased with approach glide, were only acquainted with disaster by the bang and cloud of dust. I was out of sight down the long incline, whilst the winch and the fearsome fence were still some 200 yards away.

A car came rushing up from the launch point and the chaps bundled out. "Cor, look at that rudder!" "The tail skid's broken!" "The front skid too!" "Cor, you have bent this plane Randle"!—"Blast the plane, *I've* broken my bloody back."

I must say I was grateful for the efficiency with which everything was organised and for Andrew who stayed and talked easily whilst we awaited the ambulance which came with commendable speed. "Now Sir," said the cheerful ambulance man "hurt yourself have you?" "I've broken my back" I said. "Oh, I think you must let us decide that, Sir." he said indulgently and aggravation escaped me—"Well, I'm an accident surgeon and I don't."

Fortunately, getting out of the cockpit was easier than I had expected. I could lift up on the edges of the cockpit as if getting out of a bath and get my legs out without bending my back further, which is, of course, the great thing to avoid if a back injury is suspected. However, I was very

glad to lie flat on the stretcher and eventually to lie flat in hospital.

My thanks to my kind club mates who tactfully broke the news to my wife that I might be late for dinner and who cleared up and stowed away the Bocian later on.

PIO they called it. Not a condition I had indulged in before in the vertical plane and the worst time of the best year ever to find out. It shouldn't happen to a dog!

I was much consoled to watch the club technical officer experience the same difficulties as he landed after test flying the Bocian in identical conditions—but he was more patient and skilful and all went well.

The conclusions

My three points are, I suppose, almost too elementary to dare emphasise?

1) Don't alter your landing technique for a paltry few hundred yards on the retrieve. Let the retrievers suffer!

2) Keep the brakes fully open on landing until all flying speed has gone.

3) Never let the stick go forward again after roundout—unless you want to stuff the front skid into the ground as a brake.

We are both flying again now, but it should never have happened.

THE UNIVERSITY TARDIS

STEPHEN BRODRICK

Last year when several car-less members of the Cambridge University GC found their cross-country flying ambitions frustrated by the lack of road-retrieve facilities, it was not difficult to find support for the idea of a retrieving syndicate. Some bright spark suggested buying an old London taxi, and our enthusiasm for this idea was fanned by the manager of a local taxi firm who is also a member of the club. Eventually a ten year-old FX4 was run to earth in Clacton-on-Sea, and a hilarious expedition there left us with a taxi and its former owner with £200.

The taxi was immediately christened "The Tardis" (Taxi for Retrieving Distant Sailplanes) and has been kept in a garage near the clubhouse. By the middle of the soaring season it had some 15 owners, most of whom fly club aircraft, so there was no chance of 15 retrieves being required simultaneously. With enormous difficulty we persuaded an insurance company to give us cover—insurance companies do not like taxis or undergraduate drivers, let alone both together! Of course some mechanical work was inevitable, but even our nightmares on the night before the MOT Test came to nothing. However, the Law takes a lively interest in it. One day I was driving near the airfield when a police car overtook me with light flashing.

"Is this your vehicle, Sir?" the driver asked me.

"Well, sort of . . ." was the only reply that seemed appropriate. He was on the lookout for stolen taxis and thought he had found one until he heard what we used it for. Then his scepticism evaporated—he had been an instructor at another club until recently. We parted good friends with him promising to come and join the CUGC (and possibly the syndicate).

So far the retrieving partnership has worked remarkably well—no members have wanted retrieves simultaneously and it has always been easy to get someone to stand by for a possible retrieve. The spacious interior makes it good for long retrieves, and we plan to fit a radio soon. Of course its use is not limited to towing gliders; a seat has been installed in the front luggage compartment, making it possible for people to be carried to the airfield—it now seats eight! On one occasion someone was being dropped off at a railway station when several would-be passengers queuing in a taxi rank tried to get in, not believing that the Tardis had retired from taking fares. On numerous occasions it has been hailed, especially whenever it goes "home" to London, and once some Japanese tourists posed beside it for photographs. However, the spectacle of a London taxi towing a glider trailer did not amuse the NCO on duty at a certain RAF station. He refused to believe that a glider had even landed on the base, let alone that we had come to take it away!

The Tardis is also fairly economical, doing around 30 miles to a gallon of diesel fuel. Several readers may have seen it at Aboyne last September, making the round of Scottish castles and whisky distilleries on non-flying days. On one evening several of its owners piled in and drove to Aberdeen . . . to see "Confessions of a Taxi Driver."

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FACTS ABOUT FLAPS

RICHARD H. JOHNSON

Just how much is a modern 15m sailplane's sink rate polar affected by various flap settings? That was a good question. To obtain these flight test data it was necessary to measure complete polars for the PIK-20 sailplane with the flaps in each of five separate settings. The costs of the subsequent 13 high tows needed to obtain these data almost led to my expulsion from the sponsoring research group! The number of flight test data points needed to define polars for five separate flap settings is almost equal to that required to measure five separate sailplanes, because, indeed the sailplane's lift and drag characteristics can change significantly with flap setting changes.

Previous Dallas Gliding Association polars of flapped sailplanes were published as "optimum" flap settings, and were based principally on flight handbook recommended flap settings combined with limited non-optimum test measurements. If a pilot is to fully understand what he is doing in flight, he needs to know just how changes in flap setting will affect his sailplane's sink rate at various airspeeds (polars). It is appreciated that not everybody will be flying a PIK-20; however, much of the following PIK-20 results are believed to be almost equally applicable to any modern 15m sailplane, be it Nugget, Mosquito, Mini-Nimbus, Zuni, Vega or an ASW-20.

Before making sink rate measurements, it is necessary to know just how much the sailplane's airspeed system is lying; so a whole flight is dedicated to an airspeed calibration. These test data are shown in Fig 1 and they show the PIK-20B airspeed system to be essentially honest.

Next, the high tows are made in smooth air to measure the sailplane's sink rates when flying steadily at given airspeeds and flap settings. This takes very many tows and considerable time. Bob Gibbons ran these data through the computer to reduce all the sink rate data to standard atmosphere, sea level air density. Fig 2 to 6 show the final data points plotted for +8°, +4°, 0°, -4° and -8° flap settings.

The +8° flap data in Fig 2 indicates a maximum L/D of about 34 at 49kt, and a minimum sink of about 133ft/ min at 42kt. The sailplane's handbook does not state which flap setting is recommended for thermalling, but +8° is the one I have generally used in the past.

The +4° flap is shown in Fig 3. A maximum L/D of about 37 at 49kt, and a minimum sink of about 128ft/min at 45kt is indicated. This flap setting could reasonably be used in rough thermals.

Fig 4 shows the 0° flap setting data measurements. Here the maximum L/D reaches about 38 at 52kt, but the minimum sink increases slightly, to about 132ft/min at 49kt. Normally this neutral flap setting is used to achieve both maximum glide distances when flying in smooth air and minimum sink rates.

Next, the -4° flap setting data are shown in Fig 5, and here some surprises are indicated. The L/D max is still about 38 at 53kt, but for some unobvious reason the minimum sink decreases to about 122ft/min at 43kt. More than the initially planned test measurements were made to investigate this surprisingly good performance with the -4° flap setting. In addition, I devoted one full day of thermal soaring to the -4° setting and found that the PIK climbed surprisingly well with this abnormal setting. The nose rides a little high and the level flight stalling speed increases 3.5kt over that for +8° flap, but control is good and the sink rate appears to be somewhat less.

The -8° flap data are shown in Fig 6. Again some surprise as the L/D max continues to show about 38 to 53kt. The minimum sink does increase to about 135ft/min at 49kt, which is more as expected.

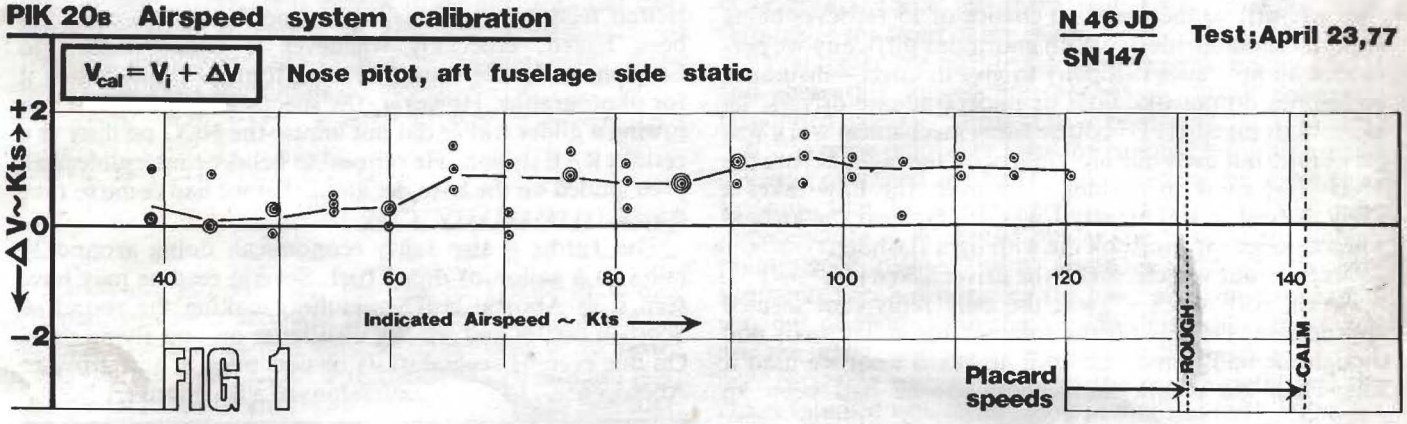


FIG 1

all pilots can read—but the BEST PILOTS read

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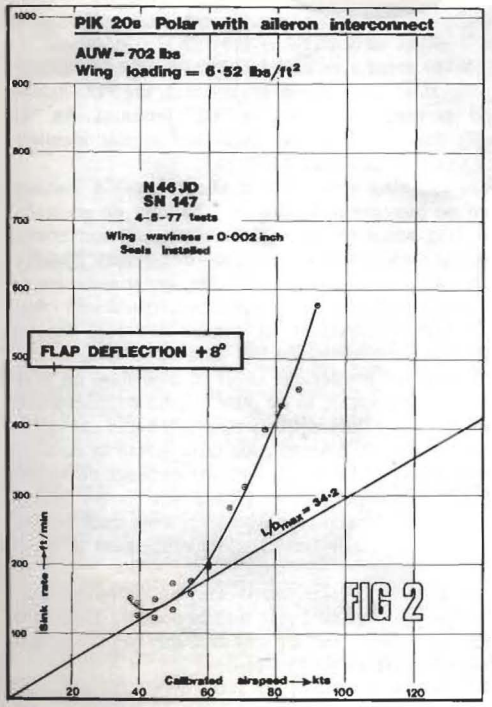


FIG 2

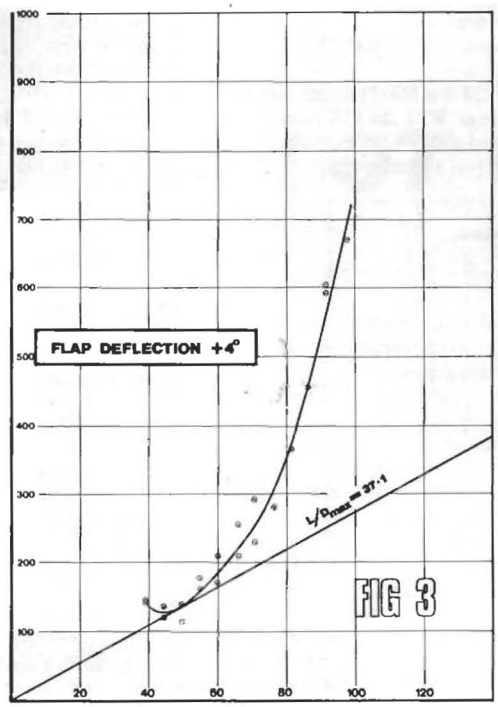


FIG 3

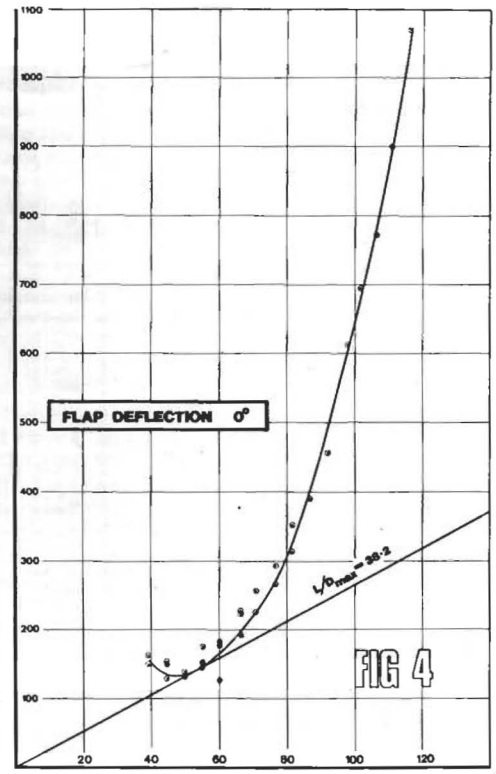


FIG 4

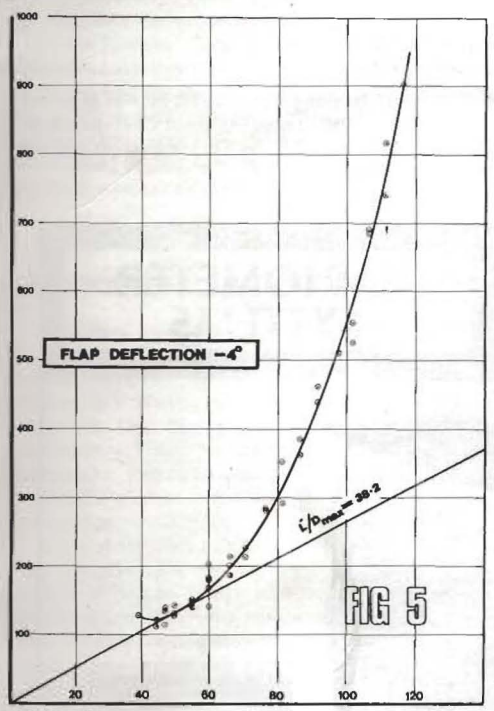


FIG 5

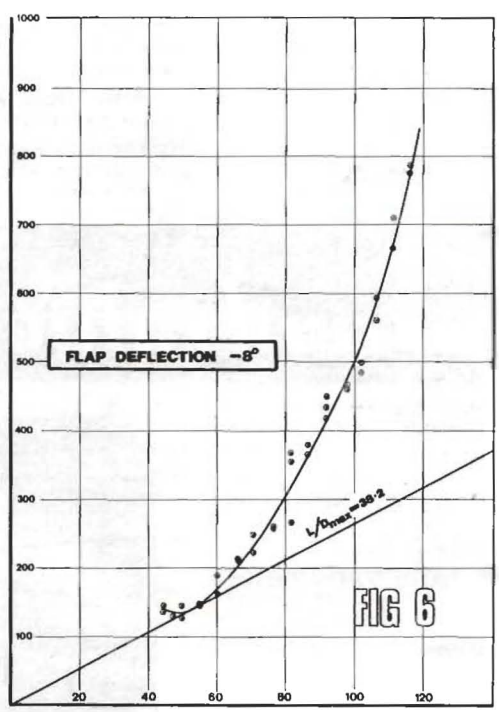


FIG 6

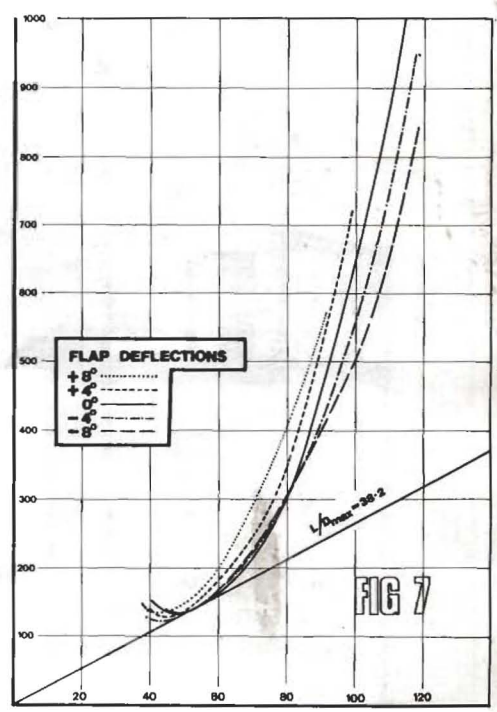


FIG 7

What do you now do with all these data points and curves? A clearer picture of the results can be obtained by plotting all the faired curves on one plot, leaving out the too numerous data points. This has been done in Fig 7, and here the optimum flap settings versus airspeed are more obvious. *This plot indicates the optimum flap setting to be -4° when flying anywhere between 39 and 85kt.* Above 85kt use -8°. Speeds above 85kt are seldom optimum when flying without waterballast, except for start gate runs.

Actually, the 0°, +4°, and +8° flap settings appear to have little value, except for lowering stall speed, which is beneficial in small thermals. The reason for the unexpectedly good performance at low airspeeds with the -4° flap setting is uncertain, but likely it is due to a beneficial reduction in flow separation somewhere on the wing or fuselage. If I could get a few more high tows . . .

In the USA we sensibly permit 15m flapped sailplanes to fly in the 15m Restricted Class (unflapped), provided the flaps are either locked or equipped with a suitable timer to prove that they were not used for more than five minutes during a contest flight (a take-off and landing). How does

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the performance of the locked flap sailplane compare to that of a modern unflapped sailplane, and would such a competition be fair? The answers are shown in the final Fig 8 comparison plot.

Here the recently measured ASW-19 polar (38:1 at 50kt*) is compared to those of the PIK-20B with 0° and -4° flap settings. With the PIK flaps set to 0°, the ASW-19 is clearly better below 50kt and above 82kt. Between these speeds the PIK has five to 10ft/min less sink, just a small advantage. With the PIK flaps set to -4°, the PIK and ASW-19 show very similar polars at all speeds, with perhaps a slight advantage to the PIK-20. It should be understood that the ASW-19 tested here was in factory delivered condition, with few seals and about .004" wing waviness; whereas, the PIK-20 was extensively sealed and its wings smoothed to .002" waviness. An "as delivered" PIK-20 with flaps fixed at -4° likely has almost identical performance to that of a factory delivered ASW-19.

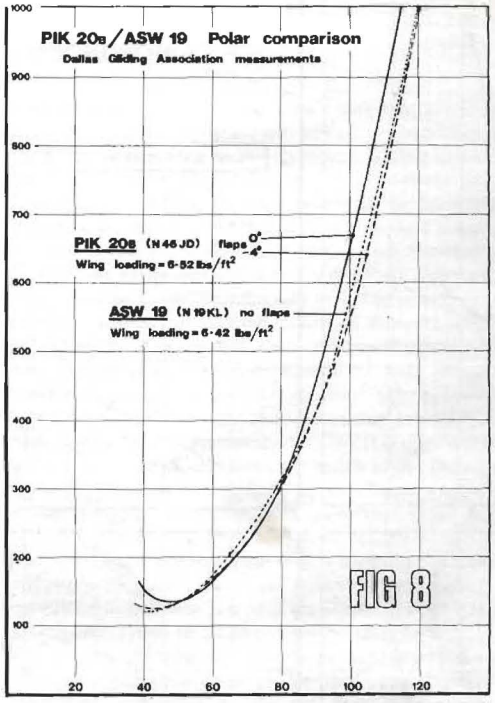


FIG 8

In summary, is there anything very magical about flaps? A lowered landing speed, yes, but no increase in L/D max. The flaps do generally increase both lift and drag when set to + deflections, and conversely, decrease both somewhat at high speeds when set to - deflections. *The only significant effects of the flaps, at least with PIK-20B, are a reduction in stalling speed with + flap and a reduction in drag at high airspeeds with - flap.*

For some reason the manufacturers of the current new 15m flapped sailplanes cannot bring themselves to claim less than 41 to 43 L/D max values, and they allude to some mysterious effect of their flaps on their sailplane's performances. This appears to be pure brochuremanship and unwarranted optimism, and it is highly unlikely that such high L/D values will be measured in valid testing. A claimed glide ratio should be equal to that which the claimer is willing to be towed out over an ocean on a calm clear early morning, and still expect to land back dry on the beach. Increases in glide ratio can easily be achieved with more wing span, but are very difficult to gain through further aerodynamic refinement of these limited span sailplanes.

With a break-through in airfoil design, or possibly an unconventional low drag flying wing design, yes, over 40:1 may well be possible. Until then we will keep on testing new designs, but we will probably run out of tow funds before we actually measure a 40:1 15m bird.

* *Johnson, R. H., "A Flight Test Evaluation of the ASW-19" Soaring Magazine, August 1977.*

Correction: George Burton would like to point out that he was in fourth position overall on the ninth day of the French National Championships (reported in the October issue of S&G, p207, by Dickie Feakes) and not tenth, having previously won two days outright.

THE Cambridge VARIOMETER SYSTEMS

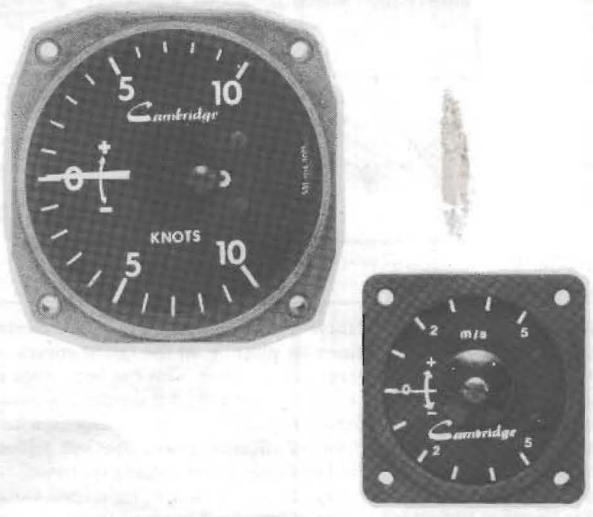
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AND A LOT OF ROPE

BOB RODWELL

Given enough rope you can always hang yourself – but given even more you can dramatically expand your gliding horizons and perhaps find more reason for staying alive. This is my firm conclusion having gone on an autumn walkabout with our old syndicate Oly, an asthmatic Triumph 2000 Mk 2 and 500m of lightweight Parafil. At least, it *was* 500m until vandalised down to 430m by a Co Londonderry hotelier who is demonstrably mad but that's another, rather Irish, story.

We were already firmly convinced that about eighty quids-worth of Parafil and fittings was the best gliding investment we've made to date and we'd already proved its usefulness on Benone Strand on Ulster's north coast where, for a handful of peppercorns, our club has been licensed by the Crown to operate for more than 40 years. But it was only on the Dublin GC's autumn wave safari to the Irish south-west that our reel of rope really came into its own and saved the day – or rather, half the week.

I'd gone down alone – all 280 single-handed Oly-dragging miles – to join the Dubliners at Farranfore for, hopefully, a repetition of last year's fleeting but splendid wave cascading off Macgillicuddy's Reeks. Unfortunately, gremlins went too and took up lodgings in the DGC's Rallye Minerva tug.

On the Tuesday morning we trailed out to Inch Beach, 18 miles away which is unlike drearily comformist beaches that run along the shore. Inch sticks out, end on, like a dumpy digit into the waters of Dingle Bay and blocks the seaward approaches to Castlemaine. Up with three gliders in quick succession behind the Triumph for a total of eight hours soaring up to 3500ft along the Slieve Mish mountains before low cloud and squalls from the south-west put an early end to the day. But the best was yet to come.

A rewarding but cramped prospecting trip

It followed another day's airfield-based flying with a temporarily cured tug and two days of torrential gales which put the gremlins – this time wearing wet-suits – back into the Rallye's mags again. On Friday evening, with north-westerlies and clear skies forecast for the next day, the OS maps came out. Dan Begley and I pored over the north coast of the very mountainous Dingle peninsula, picking out several likely looking stretches of coastline with mountains up to 3000ft behind. Next morning, six of us sardined ourselves into a minute Datsun for a rewarding if insufferably cramped prospecting trip.

It was at the third beach that we found our Shangri-la and there never was any other spot once we saw Fermoyle Strand, 40 miles out from the airfield. A lengthy stretch of wide, firm sand, backed by the convoluted Benoskee and Stradbally mountains. Between them and the beach was a little 450ft hill, immediately next to the strand, on which one could envisage soaring for a remarkably low low-point before starting any height climb. Three miles distant, beyond the end of the beach Brandon Mountain soared to 3123ft, running off right to Brandon Point, with nothing but the open Atlantic beyond. On the right, the surf line and Brandon Bay. The wind was blowing obliquely across the beach, onto parallel spurs running down from the main mountain ridge towards the shore.

A mad, muscle-screwing drive back to Farranfore to trail the aircraft out. It was my Triumph and my rope, Goddammit, so I took the first launch when we were ready, well into the afternoon. I made 1200ft on the tow, joined the slopes of Benoskee at 1100ft, soared up into a very steep sided, narrow valley between the spurs, turned over a subsidiary peak, flew the main ridge, turned into a tight, vertically-walled bowl which cupped a high, sinister, corrie lake – and beat the Hell out of it when I sampled the turbulence within.

In short order, I passed the summits of both Stradbally and Benoskee and was soon sitting comfortably at 3700ft, contemplating terrain more rugged than any I'd ever soared over before. Across the peninsula Inch Beach was poking like a minatory finger at Macgillicuddy's Reeks south of Dingle Bay; westwards, the mountains ran in chaotic rocky folds towards the wee Blasket Islands off the Dingle's tip and Ireland's most westward point. Nearing its northern end I looked straight along the 2000ft Conair Pass, with its three stepped lakes – a finer view of it than I'd ever had before.

At 3700ft it was evident that I was in smooth primary wave coming off Mt Brandon. There could be no other generator for between Brandon and the US coast there was nothing but Rockall, some seabed-hoovering Soviet fishing fleets and probably some Poseidon and Polaris submarines. I patted the prudently stashed oxygen bottle, fingered the mask, smiled contently in 2kt up – and waited for a Diamond to drop into my lap. Beneath me, the DGC's K-8 glinted in perfect planform as it turned to hug the lower slopes.

A wave slot remained stable above the beach and the north end of the pass as I climbed up into lennie-land, but as cloud gradually spread across the peninsular towards the northern shore a certain wariness about the possibilities of cumulus *granitus* impelled me to beat along the wave bar, crosswind and out to sea. I moved some miles out over Brandon Bay to look straight beyond Brandon Point, the only land between me and Wall Street, Rockall and Ellis Island.

Rapidly forming cloud caused me to break it off as I neared 6000ft in strengthening 1–2kt lift. I enjoyed some spins and a spiral dive to a beat-up along the empty beach to let someone else have a go.

We went back next day for a sublime, sunny day upon the beach but the wind remained about 5kt too light, permitting only some local scratching on the lower slopes. But even the non-soarability could not spoil the pleasure of the late, warm autumnal day, or the sense of freedom which only a great, wide and empty beach can bring. You don't understand depopulation until you go to the Irish west and even after Sunday lunch our activities never brought more than 30 people to the beach, miles long. From an 1100ft launch it was fun to fit in a short aerobatic routine followed by a downwind beat-up and a chandelle to land after about 100 seconds in the air.

Here in Ireland the Parafil + Car = Scope equation makes a lot of sense, for there are scores of ridge-backed beaches in the west which it should be worth trailing to. Achill Island, perhaps, where the hang gliding people are already entrenched and a stack of strands further north in Donegal. We're already talking about the possibilities of a spring wave safari on which it might be possible to leave rackety, mag-dropping tugs behind.

For my fellow Englishmen, I grant you, the scope could be more limited. English beaches have a distressing habit of being covered with Mums and Dads, with kids, buckets and spades – and bossy council officials. But further north? I recall some splendid deserted beaches with mountains behind in the west of Scotland and the Hebrides from my hiking, rucksack-camping, younger days.

But Hell, for the costs of trailing and shipping your glider to the Outer Hebrides, why not catch the Irish boat instead and try it where we're already getting some of the exploration done?

There are a lot of better things to do with a length of rope than to hang yourself.

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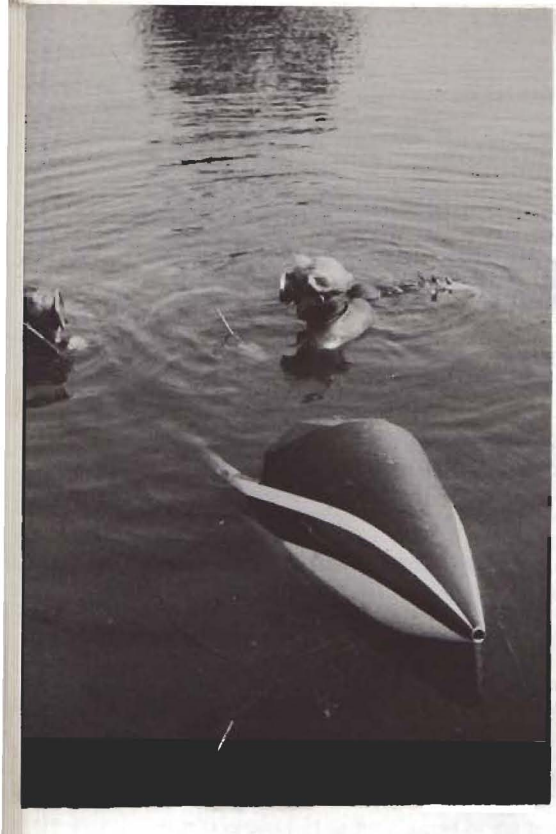
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ACCIDENT

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FIELD

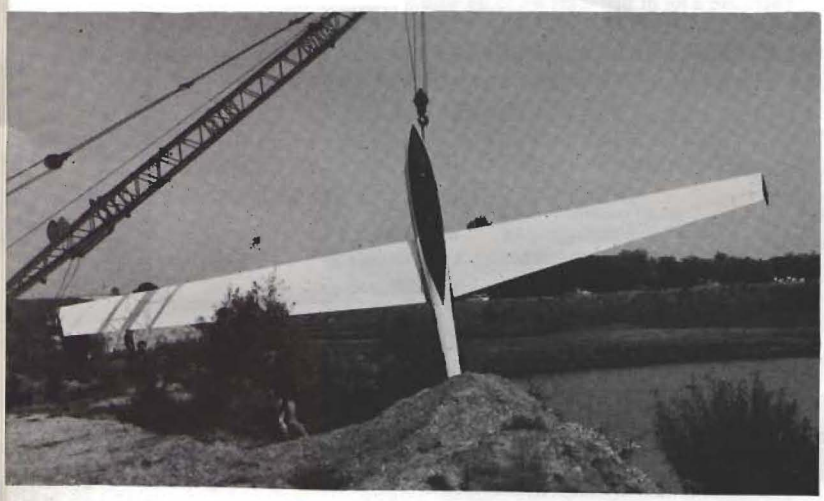
Meanwhile we continue the sequence started on the cover with the photographs taken by Joe Podolski, CFI of the Norfolk GC, of an intended field landing which went wrong. After the IS-28B2 had spent the night in the water-filled gravel pits, guarded by local police, it was hoisted out by a crane, hung up to drip-dry and was

The increase in field landing accidents may only be due to a considerable increase in cross-country flying. However the majority of reported accidents have a message in them for most pilots and all instructors; it is only by learning from the mistakes of others that we can, perhaps, avoid similar accidents.

The eventual accident in a field may come about in a variety of ways. One important division in categorising the accidents is between the deliberate and the inadvertent cross-country flight. The "inadvertent" cross-country flight is the consequence of poor airmanship in the local-soaring sense. Whilst a pilot not experienced enough to be allowed to fly across country is broadening his experience he will, unless restricted to the immediate local area (*ie* not significantly downwind of the airfield and otherwise with vast margins of height to reach the circuit), be exposed to some decision-making situations which are not always clear-cut.

The classic case is the one of drifting-downwind-in-weak-lift. If the decision to glide back to the airfield is made whilst there is height to spare all will be well provided the pilot flies at the right speed (a discussion of the right speeds to fly should be part of a briefing for local soaring or even basic training!) However, when it is suspected that height is marginal for a rejoining of the circuit at the base-leg corner, say, a local-soaring pilot is well advised to make an early decision to land out. Properly briefed he will not be oblivious to those fields which are most suitable. The risks are greatest for a pilot who vacillates – a "yes I can get back, no I can't" sort of chap. The decision to land in a field is usually taken too late and the contributory factors are, sequentially, poor selection, poor circuit planning and poor approach (speed) control. Even if the pilot does make an early decision to land out the consequences can be serious:

Pilot's statement	Comments
"Whilst on a local soaring flight when an outlanding was inevitable at 1000ft, a suitable field was chosen. Whilst on approach (I) decided to side-slip some height off; during side-slip inadvertently drifted towards tree on right of approach. "Action taken to avoid hitting tree resulted in the glider being stalled."	*So it wasn't a local soaring flight!* *The pilot was not, evidently, competent at side-slipping – should one need to in a Skylark 4?* *In fact the glider is thought to have spun.*



One interesting fact was that the pilot had 4000 launches but only 300hrs and the accident suggests that however many circuits a pilot may have had it doesn't improve his ability to approach into a field; indeed the airfield circuits build-in habits detrimental to field circuit planning, the pilot often tending to position his circuit relative to the field boundaries as if they were the airfield's boundaries.

The consequence of cramping the circuit in the way that the accident above suggests may mean that it is impossible to land in the chosen field and a suitable overshoot field becomes essential. I've never been a great supporter of the philosophy that when you choose a field it is a good idea to pick one with a good undershoot and overshoot, simply because of the implicit acceptance of the flying inaccuracies which might make either necessary; having said that consider this next accident.

T REVIEW

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LANDINGS





flying again six days later. However, Joe said the glider will have an extensive C of A in January as by then it will be possible to discover if there are signs of corrosion. The pilot escaped uninjured.

Pilot's statement	Comments
"The field chosen proved to be too small so I closed the brakes and made for the boundary fence, cleared it and found the next field too rough and not suitable for a safe landing. "By this time I was very low and just managed to clear the next fence when I was confronted by a lake and (had) no option but to try for ploughed field on the far bank. However I did not have sufficient speed or height and the glider pancaked onto the lake . . ."	*Estimated length 400yd, the wind incidentally was 10-15kt (and the landing had a 90° crosswind component).* *Here's where the overshoot field philosophy would have been relevant.* *This whole sorry sequence suggests that a pilot tends to accept the first field that he thinks is suitable and concentrates on it to such an extent (for fear of losing sight of it) that he is oblivious to all else.*

The CFI's comments on this accident suggest that the pilot's ambition was a bit ahead of his ability. The pilot's experience was not great; a Bronze C gained two months earlier (and not at his own club), ten months since first solo, PI experience of 38hrs and 81 launches.

A contentious question

The question of how much experience a pilot should have before flying cross-country is a contentious one and can only be answered when the individual's age, aptitude and confidence have been considered. This particular pilot had been advised against joining the syndicate and was keen to complete his Silver C.

Accident prevention.

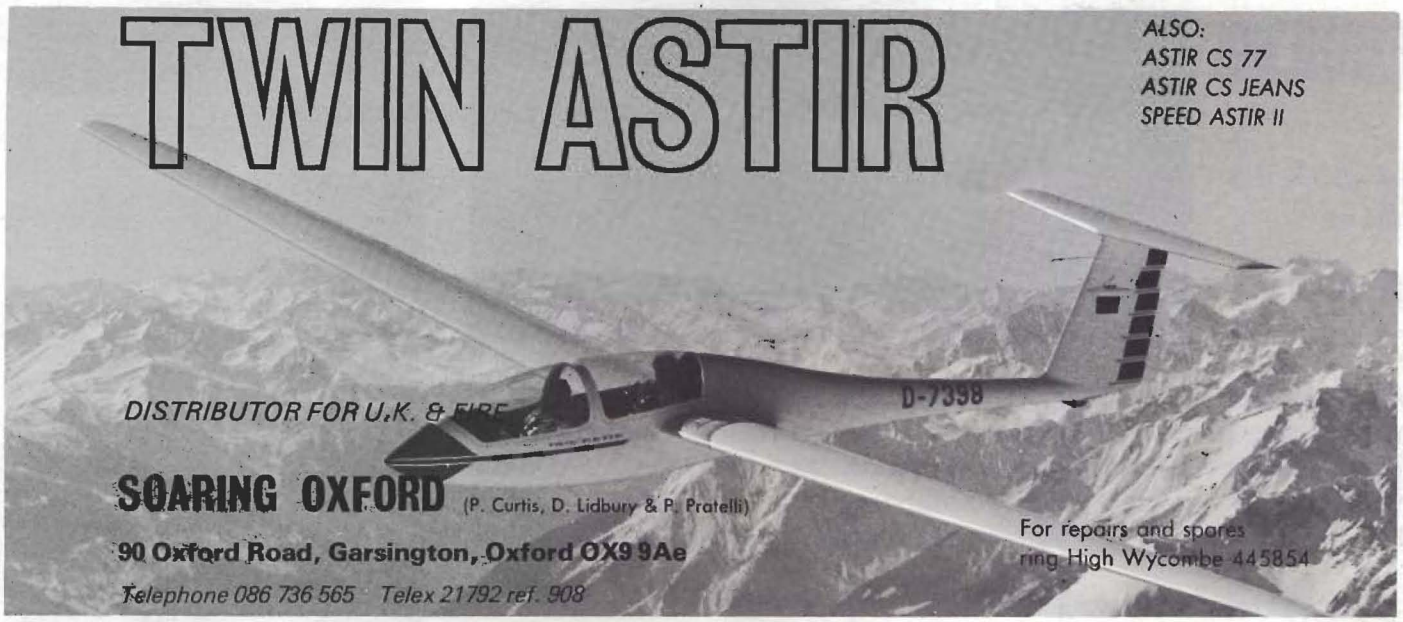
With a view to heightening awareness of risks and hopefully, by education, to reduce the number of accidents the field landing briefing card below has been prepared; copies of this in a convenient size (7½in x 5½in) will be made available through CFIs shortly.

FIELD LANDING BRIEFING CARD

1. **2000ft** – If landing appears probable – fly to suitable area – preferably flat and unobstructed – remember you'll cover far more ground if you fly down wind.
2. **By 1500ft** – Pick an area with two or three potentially suitable fields: Consider the surrounding terrain.
   a. Are there hills to create turbulence or surface wind problems?
   b. Are there HT cables, TV masts or other large obstacles?
   c. Does the ground slope visibly? If it does it's too steep!
   d. Stay orientated with wind direction experienced during the cross-country – relate to sun position.
3. **By 1000–1200ft** – Select your field considering the following:
   a. **Surface wind** – assess the wind by means of your drift or by smoke. Always aim to land in a direction which will give you a substantial headwind camponent.
   b. **Field length** – Remember the apparent size of any field is seen relative to the size of those surrounding it. Know the topography of the country over which you are flying. A good field for a modern glider would be 500–600yd long with relatively unobstructed boundaries.
   c. **Obstructions** – obstructions cut from the usable field length at least ten times the height at which you clear them. Trees and buildings will create turbulence.
   d. **Slope** – any visible downslope in the field is unacceptable. A similar upslope would be acceptable though a serviceable wheelbrake is desirable. Examine surrounding fields for slope indications.
   e. **Surface** – Look for fields in the following order of priority:
   (1) Stubble.
   (2) Grass – but beware of strip grazing indicating electric fences – any shading in grass surface almost certainly indicates the presence of fencing.
   (3) Short crop – the surface should appear more brown than green.
   (4) Other cropped fields may present a hazard on landing – remember half ripe crops may look like stubble – consider the season!
   f. **Stock** –sheep panic, run and sometimes jump up. Cows are curious – horses bolt. A solitary cow is probably a bull! Try and avoid fields with stock in them.
4. **By 800ft agl** – Position the glider well upwind and well to one side of your field – visualise the length of the downwind leg at your home airfield. Use preselected ground reference points to maintain orientation when positioning. Be conscious of the tendency to cramp your circuit and plan to avoid doing so.
5. **Base Leg Position** – Plan to be abeam of your touchdown by 4-500ft. Resist the common tendency to position the base leg too close – plan for a half airbrake approach. Select a safe approach speed. Excessive speed in a modern glider will usually result in overshooting the field. Allow an adequate margin of height over obstructions. Once you are certain you can safely clear them use full airbrake to achieve early touchdown. Aim for minimum touchdown speed on rough surfaces. Ground looping is common when landing in crop. Concentrate on keeping the wings level and retract flaps if necessary.

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DONCASTER GC REPRIEVED – But no security yet!

PETER YOUNG

Although the Secretary of State said "no" to Doncaster Council's application to build houses on the gliding site, Doncaster and District GC has not yet won any security of tenure there.

The Council announced their intention of developing the 300 acre Doncaster Airport site to include housing, commercial development, public open space, recreation and an hotel in the autumn of 1976. There had been no opportunity for public debate and the council's "airport sub-committee" had ignored or declined all appeals to consult with airport users first. In Spring, 1977, a Public Inquiry was held at which various objectors, including Doncaster GC, gave evidence. The Secretary of State had indicated that he would consider all aspects, but certain points seemed to be particularly relevant. They were:

a) The need for the proposed developments, particularly the commercial development.

b) The effect of development of this open land on adjoining areas of the town.

c) The degree of present use of the airport and the availability of alternative airport facilities.

d) The effect of the traffic generated by the proposed development on the local road network.

e) The relationship of this development to the construction of the Carr Link Road.

Fortunately our club Secretary, architect Joe Millward, was well equipped to tackle the specialist task of objecting on planning matters, although, as an objector, he found it difficult to obtain current statistics from which to reach conclusions and had to base much of his evidence on information from the Doncaster District and South Yorkshire Structure Plans, from which the proposed development did represent a departure in various respects.

Vital to show proposed developments were unnecessary

Whilst adverse mentions repeatedly referred to the valuable 300 acres airport site, in fact the 300 acres already included the Doncaster Rovers football ground, a golf clubhouse and 80 acres of newly-tipped ground and only 150 acres approximately was actually leased and usable for gliding and flying purposes. With this in mind the gliding and flying clubs at Doncaster would have had no objections to a proposal for development that retained gliding and flying and also included public open space, recreational facilities and an hotel, as the site would be ideal for such purposes. However the Council's proposal was to build 1300 houses on 130 acres and to allocate 21 acres for commercial use. It was therefore necessary to demonstrate in evidence that there was no need for the housing and commercial developments. On the commercial side this was not difficult and the Inspector's report afterwards stated that "the Council's hope that large-scale office projects will be attracted in the future to Doncaster and that meanwhile 21 acres should be ear-marked for this purpose, amounts to little more than wishful thinking".

It gradually became apparent that the case would probably rest upon the "gliding and flying versus housing" issue as we were prepared to concede that the other elements of the Council's application could be accommodated along with flying and gliding.

Following Joe's evidence and cross-examination, the Inspector's Report stated: "While appreciating that there is a housing need in the central area, I am not convinced that it is so great – or that the supply of potential building land is so short – as to outweigh the benefit resulting from a continuation of the present use of the airport."

Dealing with the airport's present use, it was the Assessor's opinion that – "Doncaster and District Gliding Club makes a very significant contribution to the sport of gliding in both a national and a regional context and is of particular importance in this area where few of the small number of existing gliding clubs have any security of tenure. The loss or dispersal of DDGC's resources would be a severe blow to gliding interests."

Obviously the facts, figures, statistics and evidence obtained and collated by Joe, together with that of Bill Scull who drove to Yorkshire and back in one day for the Inquiry, impressed the Inspector.

Most of the principal objectors, the gliding and flying clubs and their associated supporters both local and national, together with local naturalists, had tackled the job of "fighting" the Inquiry, somewhat believing it was already a lost cause and that the Council's scheme would be steam-rollered through. The Sheffield Telegraph had deplored "the high-handed and undemocratic way in which some local governors regard the feelings of the governed. This is not democracy. This is local government's version of totalitarianism."

With meagre funds and resources however, the objectors got together to "have a go" facing on all sides the pessimism and cynicism of everyone who assumed that the development was virtually a *fait accompli* and that we were wasting our time and efforts. Once the Inquiry had started, however, our confidence in the impartiality and perception of the Inspector and his advisor grew, but it was nevertheless a delightful surprise to learn in August that the Secretary of State had upheld the Inspector's recommendation that the Council's application be refused. One felt that David had beaten Goliath once more.

Unfortunately that is not the end of the story. For the Council own the airport site and the current lease expires in May, 1978. As the Council did not serve a termination notice last May, a further year on the same or similar terms can probably be assumed. But after that lie problems. Following the result of the Inquiry, reported as a complete surprise to everyone, a Council spokesman said: "We shall not let the matter rest!" The problem is complex because the Council leases the flying and gliding sites to the South Yorkshire Airports Company Ltd in which the gliding club has a third interest and from whom they hold a sub-lease. But the SYAC is primarily concerned with powered flying interests, although in fact the gliding club was formed in 1959 at Doncaster and the SYAC did not commence trading until the mid-sixties. Obviously the gliding club hopes for a new agreement either directly with the Council or through SYAC, but as matters and attitudes stand at the moment the likelihood of a long-term and reasonable lease is unlikely.

The gliding club would like to update its fleet and improve and renew the buildings and equipment it owns to become the second regional gliding centre indicated by the Sports Council, but the insecurity precludes such plans. Pocklington and Rufforth are keeping in touch with Doncaster, as these clubs also have problems.

Based on our experience, any club facing town planning problems should gather information in readiness for when the crunch comes.

Joe's evidence under the heading "Degree of Use" referred to Command Paper 6200, of August, 1975, "Sports and Recreations", paragraphs 13, 14, 37, 45 and 67 and to the Yorkshire and Humberside Sports Council Report and the South Yorkshire Structure Plan.

Having included a list of the occupations of club members Joe was then requested to identify each by age and sex also. His evidence also included a description of the club, together with its structure, methods of operations, etc, assets, equipment, instructors, inspectors and so on. Membership distribution was shown on a local area map and a history of the club together with local and national statistics showing its growth. The unfeasability of each and every alternative club and site for the Doncaster membership had to be demonstrated. Layout of the airfield and flying patterns were also shown and it was also necessary to list the requirements of any site possible for relocation, the basic minima being obtained from the BGA of course. Since throughout the Inquiry more detail was constantly requested, there was a great deal of homework to be done and anyone likely to be in the same boat one day is advised to start now recording and collating all such information.

During the Inquiry we also needed to appraise the evidence of the Council and the County Council in order to suggest questions for their cross-examination, by our side, so in addition to late-night homework, one had to stay wide-awake during the proceedings!

It is to be hoped that the Inspector's recommendation that there will be co-operation between the airfield users and the Council will be observed by all parties. The gliding club will certainly be ready to consult with the maximum goodwill.

BGA & general news

BRITISH TEAM SELECTED

The four pilots to represent Britain in the 1978 World Championships, to be held at Chateauroux Airfield, France, from July 8-23, are George Lee, Bernard Fitchett, Steve White and John Delafield with Dickie Feakes as Team Manager.

COMPETITION DIARY, 1978

National Championships and Euroglide. The 1978 Nationals will be held at Lasham, Hants, from May 20-29 and Euroglide will be at Nympsfield, Glos, from August 20-28. Each event will have three classes: Open, 15 Metre and Standard*. There will be no handicapped results. Older types of Open Class glider may be integrated into the 15 Metre or Standard Class below 109% and 103% speed index respectively, but they will not be eligible as Class Champions. Applications to enter the Nationals or Euroglide must be received by the BGA by January 31, 1978. Entry forms, which will include details of entry fees, are obtainable from the BGA.

Regionals. Dates and sites of Regional Competitions are as follows: May 6-14 (not yet allocated); June 3-11, Eastern Regionals, Buckminster GC, Saltby, Lincs; June 17-25, Scottish Regionals, Portmoak, Kinross; July 1-9 (not yet allocated); July 15-23 (reserve week, not yet allocated); July 22-30, Southern Regionals, Booker, Bucks and August 5-13, Northern Regionals, Sutton Bank, Yorks.

Competition Enterprise, which is unrated, is again being organised by the Devon & Somerset GC at North Hill from June 17-25.

Applications should be made direct to the host club.

* These are the correct terms for 1978.

DIPLOMA AND RECORDS

750km Diploma. To provide an extra spur to pilots who have gained their Diamond distance, the BGA has instituted a UK 750km Diploma along the lines of the FAI International 1000km Diploma. To qualify, flights must start in the UK and may be a straight distance, zig-zag, triangle or out-and-return, but must comply with the normal badge requirements in the FAI Sporting Code, Section 3.

Diplomas will be awarded for each valid flight and numbered in chronological sequence. The first Diploma is awarded retrospectively to C. Garton for his 801km out-and-return on July 22, 1976, the only eligible flight submitted to date.

New Records. The following multi-seater motor glider records have been homologated, all flown in a Scheibe Tandem Falke: UK 100km goal speed, 76.2km/h, P. T. Ross and K. W. Winfield, 22.8.76; UK 200km goal speed, 66.3km/h, P. T. Ross and P. Fletcher, 18.7.76, and British National and UK 100km triangle speed, 35.6km/h, P. T. Ross and G. H. Daniels, 27.6.77.

Re-establishment of Height Records. With the withdrawal of M. Field's British National and UK gain of height and absolute altitude records claimed in 1972, the records in these categories revert to: British National absolute altitude, H. C. N. Goodhart, 11500m (37000ft), 12.5.1955; British National and UK gain of height, G. J. Rondel, 8870m (29100ft), 18.6.60 and UK absolute altitude, G. J. Rondel, 9300m (30580ft), 18.6.60.

However, the BGA Competitions Committee is prepared to waive until December 31, 1977, the normal 14 day rule for record claims and to consider retrospective claims for these records for the period since May 1972.

Gordon Camp
Chairman, BGA Competitions Committee

GOLD MEDAL FOR GEORGE

George Lee, in recognition of winning the World Championships, is to be presented with the Royal Aero Club's Gold Medal for 1976 by the Club's President, HRH The Prince of Wales, at their annual prizegiving at the Royal Automobile Club on November 30. This is the Club's prime award.

Our congratulations also to two other glider pilots, John Large, Hon Treasurer of the BGA for nearly 11 years until resigning this March, and Roger Barrett, BGA Chairman, who both receive the FAI Paul Tissandier Diploma, although Roger was nominated by the British Balloon and Airship Club for his outstanding contribution to British ballooning. He was particularly successful as their Editor, changing their newsletter into *Aerostat*, a bi-monthly magazine and was an energetic and efficient administrator, being their Chairman for three years.

John, respected for his wise counsel and good judgement, coped ably with all the financial irritations introduced by the Government in this period and played a large part in solving the many staff and financial problems which arose when the BGA office moved to Leicester.

Incidentally, Roger has followed Chris Simpson's lead in completing the Diamond badge while being Chairman of the BGA. Chris was the first Chairman to have achieved this distinction.

BGA WEEKEND 1978

Plans are forging ahead for the 1978 BGA Weekend which will be held at Keble College, Oxford, from March 18-19. Full details will be announced in the next issue.

PROVISIONAL BGA SPEED INDEXES FOR 1978

An explanation of the method of calculating the speed indexes was given in S&G, December 1974, pp226-271. The indexes for new gliders are calculated from the best information available and may be adjusted after experience and comparisons with well proven gliders.

This list is provisional – the definitive list for 1978 will be published in the BGA Contest Handbook.

Speed Indexes	Gliders (*include Ballast)
120	Kestrel 22m*
118	Nimbus 20m*, Kestrel 20m*, ASW-17*, Jantar 2*.
116	Kestrel 19m*, Jantar 1*, ASW-12.
114	Motor Nimbus.
112	Calif A-21.
110	Kestrel 17m.
108	Diamant 18m, BS-1.
106	Mosquito*, PIK 20*, Nimbus 15m*, DG-200*, Vega*, LS-3.
104	Motor PIK, Janus, Cirrus 18.8m.
102	Cirrus 17.7m, Phoebus 17m, Std Jantar*, ASW-19*, PIK 20c*.
100	Std Cirrus*, ASW-15*, LS-1*, Cirrus 75*, SHK, DG-100*, Diamant 16.5, HP-14, Astir CS*, Hornet*.
98	Std Libelle*.
96	Phoebus 15m*, Cobra, Motor Cirrus, KH-1.
94	Dart 17, Foka 5, IS-29D, Club Libelle.
92	Pilatus B-4, Torva.
90	K-6E, Foka 4, Vasama, SD 3/15.
88	Dart 15, Olympia 419, SF-27M.
86	Skylark 4, K-18, IS-28B.
84	Skylark 3, K-6CR, Olympia 403, Std Austria.
82	Pirat, Olympia 463, Fauvette, BG-135.
80	M-100s, K-14.
78	Skylark 2, SF-26, K-8, Jaskolka, L-Spatz.
76	Sky, Weihe, Eagle, Blanik, K-13.
74	Mucha Std, Bocian, Bergfalke.
72	K-7, K-2, SFS-31 Milan.
70	Olympia 2, Meise.
68	Tandem Falke, ASK-16, RF-5.
66	Mu-13, Kranich.
52	Falke.

Notes on the list

1. **Ballast.** Gliders marked * indicate that the glider has the ability to carry jettisonable ballast. If gliders so marked cannot carry ballast the speed index should be reduced by two. Gliders without an asterisk should have the index increased by two if they are able to carry jettisonable ballast. Gliders modified to carry an unusual amount of extra ballast will have the index adjusted in accordance with the ballast formula given in S&G, December 1974.
2. **Span.** Extra span (from the normal machine) will increase the speed index by 2% per 1.5 metres of extra span or part thereof, until the Handicap Committee award a final figure.
3. **Other Modifications.** Any significant modification (from the normal machine) must be notified to the organisers at or before "booking-in" and will increase the speed index by 2% until the Handicap Committee award a final figure.
4. **Gliders not on the list, or any queries.** Apply to the Chairman of the Handicap Sub-committee, c/o the BGA office.

5. **Wind.** For race tasks when gliders complete, the handicaps are adjusted to take account of the wind. The formula used is based on an Equilateral Triangle flown in constant wind conditions.
6. **Complaints!** Comments on the list should be sent to the BGA for the attention of the Handicapping Committee. Changes will only be made on the basis of evidence from polar curves, tested points from calibrated glides or formation comparisons with known types. Figures are required for Min sink and a high speed point at 70–75kt.

Ian Strachan
Competitions Committee

BRITISH TEAM FUND RAISING

To add to the T-shirts and stickers already on sale in clubs to raise money to send the British Team to the World Champs, there is now an embroidered badge at £1. This is also being sold by clubs.

THE FUTURE OF SIGMA

Earlier this year, Operation Sigma Ltd invited proposals for the further development of the "Sigma" sailplane on the understanding that the machine would be given to the most suitable applicant.

Twelve applications were considered and it was decided the best proposal was that submitted by Prof David J. Marsden of the University of Alberta, who is currently spending a sabbatical year at the Cranfield Institute of Technology. He proposes to replace the present flaps by simple slotted flaps similar to those used on his "Gemini" two-seater sailplane. These will provide only slightly more drag at low speeds than was forecast for the original Sigma flaps. The engineering is simpler and they can also be used for approach control and partly as ailerons. He intends to start the modifications at Cranfield and to continue them at the University of Alberta.

David Marsden is a Prof of Mechanical Engineering at the University of Alberta. He has designed and built "Gemini", a two-seater sailplane with full-span slotted flaps. He is an active competition pilot and the holder of a number of Canadian National records including the 100 and 300km triangle speed records set with "Gemini". He has published several papers on variable-geometry sailplanes.

Operation Sigma Ltd
October 14, 1977

A QUESTION OF COURTESY

After a field landing this summer in Hampshire, Colin Brock of Hounslow wrote to the owner apologising for any inconvenience and was sent the following letter from the farmer:

"It was very kind of you to write and I much appreciate you having done so. Unfortunately we have not had a very good experience of airborne landings, having had a hot air balloon in the lambing pen during lambing, a glider in the standing corn which my farm staff had to carry out to the road with no expression of thanks from the pilot and only recently a young man from a Devon gliding club turned up, used my telephone without offering to pay for the call, was quite content to be run down to the main road and back again and departed without even a word of thanks or an apology for any inconvenience which he might have caused.

"Your timely letter has averted, temporarily at least, a landing charge on this farm of £10 towards the Parochial Church Council's funds. I in no way wish to discourage hot air ballooning or gliding but a little more courtesy and understanding by pilots would be greatly appreciated. If you could pass on this information to your Association, they might be able to do something about it."

As Colin adds: "Sooner or later we all come down in someone's field and it just takes one or two to get us all a bad name."

A CHRISTMAS TEASER

Dane Rowe of Busswil, Switzerland, has invented this word-search puzzle for us to solve. There are 40 words related to gliding hidden in the scramble of letters.

They are found horizontally, diagonally, from top to bottom and **vice versa**, but **never** round corners. When you give up, the answers are on page 275.

K T R A I L E R R E D I L G
N O L O S D L E I F R I A C
I W G L A S S F I B R E K R
S A G N I W I N D A B T N O
T O L I P S C E U R W H O S
N O I S U L C C O O A E T S
E L G N A E D I L G T R M C
M T A B N I G P C R E M D O
U L R N M L L L M A R A N U
R P F A D I U E E M Y L O N
T H L X I B L L R R P D M T
S O A R I N G C A O O L A R
N T P W Z N E M D P N O I Y
I O S L A P S R I E A G D A
C A L L S I G N O H C N I W

GLIDER RADIOS - 25KHz SPACING

The demand for frequency allocations in the Aeronautical Band (118–136MHz) has increased steadily over the years. Originally there were 90 channels spaced at 200KHz. First 100KHz and then the present 50KHz spacing was introduced, allowing 360 channels. Even these have become intolerably crowded and now Europe and the UK are to adopt 25KHz spacing, creating a further 360 channels. The first of the new channels was allocated in January, 1977, for use in upper airspace airways. The CAA has now issued Information Circular 70/1977 which announces its plan for introduction of all the new channels by January, 1981. Not all the band will be converted at once and probably the sub-band in which we operate will be amongst the last to convert.

Effects of the Change

Transmitters

Squeezing more channels into a band of frequencies is not difficult. Some general user bands already have spacing at 12.5KHz. But squeezing up does mean that there is more chance of stray interference between channels and the specification of radios must be correspondingly more stringent. This is especially true of the transmitter. At present a frequency accuracy of 50 parts in a million is allowed. That



Doc Slater celebrated his 83rd birthday a few days ago and is still busy working for S&G. Hans Smit photographed him taking notes at the International Vintage Rally in Germany during July.

is, a nominal 130.4MHz signal could be 50 x 130.4 = 6520Hz above or below the nominal without causing offence. In future the standard will be 20pts per million (0.002%) for ground stations and 0.003% for gliders. Frequency accuracy depends on the quality and age of a quartz crystal and fortunately most types of crystal used in gliding should already meet the new criterion. It is possible that older crystals could have aged so as to be outside the frequency limits. This can only be checked with taboratory-type equipment. Sometimes an adjustment will be possible to bring a geriatric crystal back into line. Otherwise a crystal transplant would be needed.

Receivers

No specific new criteria will apply to glider receivers but, with the next channel only 25KHz away, it follows that receivers may need some attention too. It will be prudent to check the frequency at which reception is peaked. This is determined by a crystal as it is in the transmitter. The bandwidth should not be too wide. A decently wide bandwidth is necessary so that a receiver which has wandered one way from the nominal can still hear a transmitter which may have wandered the other way. Most glider radios in current use will still be satisfactory in the future environment but some older sets (*eg* Shorrock) may have an exclusively wide bandwidth. With such sets users may expect to be inconvenienced by unwanted transmissions in adjacent channels which could make the wanted transmissions unreadable.

Timescale As mentioned above full conversion to 25KHz spacing is due by 1981. The CAA timescale for glider channels is as follows:

Ground Stations. New ground stations, vehicle or static mounted, for which applications are made after January 1, 1978, must comply with the new criterion. Stations already registered must be

able to comply by January 1, 1980.

Aircraft Stations. New stations must comply at once. Those already registered must comply by January 1, 1981.

CAA has indicated that any station for which the registration is allowed to lapse will probably be required to comply with the new criterion on re-registration.

John Williamson
Chairman, BGA Radio Committee

BRUNT TROPHY

The Brunt Trophy is awarded annually for the best gain of height by a student member of a university gliding club. The flight must have been made during the period October 1, 1976 to September 30, 1977. Claims should be sent to Dr Anthony Stone, Emmanual College, Cambridge, to reach him by December 30, 1977.

TUG ACCIDENTS

At least six tugs have been substantially damaged (or written-off) during the last six months due to operational errors of judgement, including the operation of aircraft with inoperative brakes etc. Most will be out of action for several months if, in fact, repairers can be found.

Several will be written-off because they are under-insured. You can't have much of an accident these days for £2000! Fairey-Reed propellers cannot be repaired by any organisation in the UK at the present time. Alternative (wooden) propellers will have to be fitted, from Germany (Hoffman) and France (Evra) because there is no source of UK manufacturer and spares are becoming short and at exorbitant prices.

Engines. "Shock load" inspections will cost in excess of £1000 and any defects discovered (other than those attributed to the accident), will be outside insurance cover, *ie* out of the owner or club's own pocket.

There are no cheap tugs on the market. Typically secondhand PA18 Super Cubs are worth £10000 and a good Chipmunk £7500. There is a shortage of tugs in the clubs now and with the present accident rate there is going to be an *acute shortage.*

Conclusions. Everyone should take drastic steps to improve the quality of their tug operations in order to avoid avoidable accidents. Review your insurance cover and prepare contingency plans for the repair of your airframe, engine and propeller.

R. B. Stratton
BGA Chief Technical Officer.

BRIAN WEARE

Clapper Lane Honiton
Devon EX14 8QQ

PHONE: HONITON 2940

MAJOR or MINOR REPAIRS to all types of gliders, Motor Gliders, Canopies, for most Ex Stock Trailers.

PFA, BGA, CAA work undertaken.

S&G PRICE INCREASE

After holding the price of S&G for two years, we regret it will be increased to 65p per copy from the February-March 1978 issue. The annual subscription, which includes postage, will be £4.90.

COMPETITION NUMBERS

Will all owners of competition numbers please note that they are due for renewal on January 1, 1978, and the fee for a further year is £2.

PROF F. H. LUDLAM

The following are extracts from an appreciation by Prof R. S. Scorer. The obituary by Dr A. E. Slater was printed in the last issue, p222.

Last June Professor Frank Ludlam died at the age of 57 after nearly 20 years of progressive multiple sclerosis. Not until February did he give up being head of the Atmospheric Physics Department at Imperial College (which is what the former Meteorology Department had become).

Ludlam was a very good observer and knew well how in such a complicated thing as the environment we can see almost whatever our theories tell us to look for.

On leaving school shortly before the war he joined the Meteorological Office rather than seek a place at a university because there were no undergraduate courses which would help him to pursue his chosen interest in clouds. During the war he became an observer and then a forecaster with the RAF.

After the war his work on ice clouds gained him a Leverhulme research fellowship at Imperial College where he and I joined forces. With prompting from Frank Irving, aided by Lorne Welch, encouraged by Philip Wills, Frank Foster and Nick Goodhart we began to provide a sort of Met service at gliding meetings. Sir David Brunt, who was then President of the BGA and our head of department, thoroughly approved and Sir Graham Sutton patronisingly referred to us as "enthusiasts".

Although we sueceeded in persuading Dr Stagg that the Met Office should take on the forecasting responsibility and he arranged for "Wally" Wallington to provide what was needed, Frank Ludlam was always interested in everything reported by glider pilots because they had been inside the medium he wanted to understand. He always consoled himself when disagreeing, for example, with Paul MacCready who said that thermals were sausage shaped, *ie* elongated vertically, by noting that there were plenty of successful pilots who took a different view. Certainly his contribution to understanding how thermals and convection clouds work was greater than anyone else's and he was a world leader of thought on hail formation.

But his mind engaged itself in almost every aspect of meteorology and his influence expanded far beyond his written words because he had thought so widely and entered into so much fruitful discussion.

He was utterly unconventional – becoming a professor even though he had no bachelor's degree. Yet his success owes much to a source of strength that is almost platitudinous in its conventionality: he had a devoted wife whose courage, love, admiration and support enabled him to be for the rest of us what he was. Her efforts as much as his made it possible for him to carry on and complete his great book about clouds. We owe it to them both that it should see publication in due course and I am sure that anyone in British aviation meteorology will see the influence of gliding in it. Certainly those of us who work in the field are very aware of his enormous influence on our thinking. We remember him above all as a friend.

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No	Name	Club	1977
79	M. Randle	Oxford	28.8
80	R. Q. Barrett	London	16.6

DIAMOND DISTANCE

No	Name	Club	1977
1/145	M. Randle	Oxford	28.8

DIAMOND GOAL

No	Name	Club	1977
2/827	J. Whittle	London	15.7
2/828	B. W. Lucas	Coventry	22.7
2/829	W. R. Mayo	Avro	10.8
2/830	R. J. Richie	Kestrel	23.8
2/831	G. R. Whitfield	Surrey & Hants	10.8
2/832	J. D. Holland	Cotswold	10.8
2/833	R. J. Williams	Imperial College	10.8
2/834	Carol Whitworth	Fenlands	14.5
2/835	G. P. Hawkins	Oxford	28.8
2/836	H. Walker	Doncaster	23.8
2/837	A. Quilter	Thames Valley	10.8
2/838	F. F. G. Waller	Bicester	28.8
2/839	T. M. Braganza	Bicester	28.8
2/840	T. G. Wilson	Cotswold	3.9
2/841	J. E. Lowe	Thames Valley	3.9
2/842	F. Hemmings	Shropshire	3.9
2/843	J. P. Gorringe	Thames Valley	3.9
2/844	K. H. Lloyd	Cotswold	3.9
2/845	J. A. Fox	Chilterns	3.9
2/846	D. Hodsman	Bristol & Glos	30.7
2/847	J. M. Scott	Cambridge Univ	3.9
2/848	H. W. Bishop	Hambletons	3.9
2/849	M. J. Lawrey	Bicester	28.8
2/850	D. E. Barker	Bristol & Glos	3.9
2/851	B. D. Curtis	Bristol & Glos	3.9
2/852	G. D. Morris	Bristol & Glos	9.9

DIAMOND HEIGHT

No	Name	Club	1977
3/295	E. Stephenson	Hambletons	11.9
3/296	S. Sampson	Hambletons	11.9
3/297	P. A. Blacklin	Derby & Lancs	11.9
3/298	R. Q. Barrett	London	16.6
3/299	B. D. Jackson	Derby & Lancs	11.9
3/300	R. C. Stoddart	Yorkshire	11.9
3/301	G. B. Ventress	Yorkshire	11.9
3/302	D. Hatch	Derby & Lancs	11.9
3/303	R. A. Cole	Clevelands	11.9

GOLD C COMPLETE

No	Name	Club	1977
620	S. C. E. Spink	Yorkshire	31.5
621	M. Wood	Phoenix	28.5
622	P. J. Richie	Kestrel	23.8
623	F. F. G. Waller	Bicester	28.8
624	A. E. Jones	Shropshire	3.9
625	F. Hemmings	Shropshire	3.9
626	J. A. Fox	Chilterns	3.9
627	J. M. Scott	Cambridge Univ	3.9
628	H. W. Bishop	Hambletons	3.9
629	B. D. Curtis	Bristol & Glos	3.9
630	L. M. Peters	Bristol & Glos	10.8
631	R. Q. Barrett	London	16.6
632	D. Hatch	Derby & Lancs	11.9

GOLD C HEIGHT

Name	Club	1977
J. P. H. Gresham	East Sussex	3.8
A. Stocks	Derby & Lancs	11.9
J. Sharples	Doncaster	11.9
E. Stephenson	Hambletons	11.9
S. Sampson	Hambletons	11.9
A. P. Hatton	Yorkshire	18.9
R. Q. Barrett	London	16.6
P. E. Bates	Hambletons	11.9
L. J. Crampton	Surrey & Hants	1.10
G. B. Ventress	Yorkshire	11.9
D. Hatch	Derby & Lancs	11.9

GOLD C DISTANCE

	Club	1977
J. Whittle	London	15.7
S. C. E. Spink	Yorkshire	31.5
M. Wood	Phoenix	28.5
B. W. Lucas	Coventry	22.7
W. R. Mayo	Avro	10.8
P. J. Richie	Kestrel	23.8
J. D. Holland	Cotswold	10.8
R. J. Williams	Imperial College	10.8
Carol Whitworth	Fenlands	14.5
G. P. Hawkins	Oxford	28.8
H. Walker	Doncaster	23.8
A. Quilter	Thames Valley	10.8
F. F. G. Waller	Bicester	28.8
T. M. Braganza	Bicester	28.8
A. E. Jones	Shropshire	3.9
T. G. Wilson	Cotswold	3.9
J. E. Lowe	Thames Valley	3.9
F. Hemmings	Shropshire	3.9
J. P. Gorringe	Thames Valley	3.9
K. H. Lloyd	Cotswold	3.9
J. A. Fox	Chilterns	3.9
D. Hodsman	Bristol & Glos	30.7
J. M. Scott	Camhridge Univ	3.9
H. W. Bishop	Hambletons	3.9
M. J. Lawrey	Bicester	28.8
D. E. Barker	Bristol & Glos	3.9
B. D. Curtis	Bristol & Glos	3.9
L. M. Peters	Bristol & Glos	10.8
G. D. Morris	Bristol & Glos	9.9

SILVER C

No	Name	Club	1977
4833	J. K. Saunders	Bicester	30.7
4834	C. M. Bunn	Bannerdown	30.7
4835	A. Limb	Portsmouth	29.7
4836	R. A. Langford	Essex & Suffolk	29.7
4837	T. V. Armstrong	Yorkshire	3.8
4838	S. Savage	Lasham	6.7
4839	I. Benzie	Eagle	16.7
4840	S. Sampson	Hambletons	6.8
4841	J. Osborne	Coventry	30.7
4842	S. H. North	Kestrel	31.7
4843	A. A. Green	West Wales	3.8
4844	Katherine Woodthorpe	Buckminster	11.8
4845	M. J. Harris	Bicester	15.7
4846	G. P. Stingemore	Four Counties	15.7
4847	A. J. Bardgett	Borders	6.8
4848	J. F. R. Jones	Hambletons	6.8
4849	L. G. Callow	London	27.7
4850	P. D. Craven	Lakes	7.8
4851	C. J. Evans	Thames Valley	30.7
4852	Beverley Cook	SW Distriet	30.7
4853	K. D. Richardson	Derby & Lancs	11.8
4854	J. A. Griffiths	Surrey & Hants	12.8
4855	W. Severn	Derby & Lancs	10.8
4856	D. Hodsman	Bristol & Glos	14.7
4857	F. R. Bodiam	Essex & Suffolk	11.8
4858	P. Tancell	625 GS	30.7
4859	J. Fisher	SGU	11.8
4860	P. Mulhern	Kestrel	23.8
4861	D. H. Gardner	East Sussex	11.8
4862	J. Swallow	Essex	10.8
4863	T. Roland	Airways	1.8
4864	P. R. Domoney	Dorset	30.7
4865	H. F. Monks	Cotswold	30.7
4866	K. R. Mayer	Kent	25.8
4867	C. S. Whitwell	643 GS	22.8
4868	D. Tait	SGU	27.8
4869	A. Roberts	Buckminster	28.8
4870	J. P. H. Gresham	East Sussex	28.8
4871	M. J. Bailey	Essex & Suffolk	28.8
4872	M. P. Day	Norfolk	28.8
4873	D. R. Snowden	Trent Valley	28.8
4874	R. N. Wilson	Trent Valley	28.8
4875	C. A. E. Taylor	Surrey & Hants	28.8
4876	R. Grubb	Essex & Suffolk	28.8
4877	A. Clarke	Humber	23.8
4878	I. H. B. S. Hicks	Shropshire	23.8
4879	J. Bridgett	Doncaster	28.8
4880	T. P. Grant	Bath & Wilts	1.8
4881	C. R. Barnett	Essex & Suffolk	23.8
4882	J. L. T. Smith	Portsmouth	25.8
4883	W. A. L. Mitchell	Heron	28.8
4884	A. J. Beard	Cotswold	28.8
4885	D. E. Wales	SGU	21.8
4886	R. H. Gray	Surrey & Hants	28.8
4887	R. A. Burgess	Coventry	28.7
4888	K. R. Taylor	Humber	3.9
4889	A. Roberts	Derby & Lancs	28.8
4890	A. Calverd	Lasham	3.9
4891	J. Walker	South Yorks	3.9
4892	P. J. Holloway	Southdown	3.9
4893	B. W. Mack	Fenland	28.8
4894	J. Paull	Bannerdown	3.9
4895	R. V. Olender	Hambletons	3.9
4896	G. C. Johnsen	Surrey & Hants	3.9
4897	E. W. A. Smith	London	28.8
4898	C. H. Griffiths	Midland	28.8
4899	P. G. Wills	Shropshire	3.9
4900	M. R. C. Bean	Norfolk	3.9
4901	K. N. Smith	Two Rivers	27.8
4902	M. D. Allan	Midland	2.9
4903	W. A. Brierly	Midland	3.9
4904	A. T. MacDonald	Essex & Suffolk	3.9
4905	P. A. C. Wheatcroft	Anglia	3.9
4906	J. Tarrant	Norfolk	3.9
4907	E. Ripley	Blackpool	6.8
4908	T. R. Watchorn	Enstone	15.5
4909	J. Charlett-Green	East Midlands	28.8
4910	G. Hill	Buckminster	28.8
4911	A. W. West	Surrey & Hants	9.9
4912	M. R. Foux	Thames Valley	3.9
4913	J. R. Dutton	Stratford	28.8
4914	M. W. Crane	Hambletons	11.9
4915	A. P. Walsh	Norfolk	7.9
4916	A. Spellman	Newcastle	3.9
4917	P. Spencer	RSRE	9.9
4918	W. P. Schofield	Trent Valley	3.9
4919	J. S. Singleton	Doncaster	3.9
4920	B. Edmonson	Thames Valley	23.8
4921	A. Lightfoot	Hambletons	11.9
4922	G. J. Busby	Thames Valley	9.9
4923	C. Milner	Wolds	3.9
4924	S. G. Hunt	Airways	9.9
4925	M. Diamond	Airways	9.9
4926	P. England	Kent	3.7
4927	H. Britton	Doncaster	3.9
4928	I. Smith	Phoenix	10.7
4929	M. J. C. Haszakiewicz	Polish AFA	13.9
4930	R. Kibbitson	Wolds	3.9
4931	Clare Harris	Essex & Suffolk	4.9
4932	H. H. Johnston	Surrey & Hants	3.9
4933	N. S. M. Cox	Bristol & Glos	9.9
4934	I. Grimwade	Aquila	23.8
4935	J. St Clare-Butler	Cranfield	28.8
4936	M. R. Brown	Oxford	3.9
4937	P. Christmas	Doncaster	3.9
4938	J. L. Williams	Ouse	3.9

SPEEDWELL SAILPLANES

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MARPLE, CHESHIRE
Telephone: 061-427 2488

Wish all our friends in the gliding world A Very Merry Christmas and A Happy and Highly Soarable New Year

1978 NATIONALS/EUROGLIDE PROVISIONAL ENTRY LIST

This list is compiled from the results of all 1977 British competitions, plus Angers and Hahnweide, according to a procedure agreed by the BGA Competition and Badges (Flying) Committee. It is not necessarily in order of pilot's ability and will be used only to determine priority of entry in the 1978 Nationals and Euroglide Competitions if these should be over-subscribed. At the time of going to press detailed results were not available for Shobdon Regionals. Accordingly we have not been able to print names of pilots gaining their position from that competition. The list will be frozen on January 31, 1978. Meanwhile any pilot who believes his position to be grossly in error is asked to contact Tony Burton via the BGA.

A. J. Burton
BGA Competition and Badges Committee

1 STONE, A. J.
2 WILLS, J.
3 WHITE, S. A.
4 FITCHETT, B.
5 WELLS, M. D.
6 DELAFIELD, J.
7 ROLLINGS, C. C.
8 LEE, D. G.
9 ALDOUS, R. F.
10 HOOD, L. S.
11 WILLIAMSON, J. S.
12 SPRECKLEY, B. T.
13 SHEARD, P. G.
14 DAVIS, A. J.
15 BURTON, G. E.
16 GARTON, C.
17 SHEPHERD, E. R.
18 LYSAKOWSKI, E. R.
19 WATT, D.
20 CARTER, M.
21 CARDIFF, J.
22 HACKETT, N. G.
23 CRAWSHAW, G.
24 BROWN, H.
25 SPOTTISWOOD, J. D.
26 COLE, D.
27 JONES, R.
28 REDMAN, S. J.
29 JEFFRIES, J. R.
30 GLOSSOP, J. D. J.
31 GAUNT, N.
32 HANFREY, A. W.
33 WATSON, A. J.
34 MACFADYEN, T. E.
35 COWDEROY, R. I.
36 TANNER, L. E. N.
37 SHOBDON (1)
38 WALLER, C. J. N.
39 SHARMAN, R.
40 MURDOCH, I. H.
41 DIXON, R.
42 LUSTED, E.
43 GOUGH, A. W.
44 COOK, P. G.
45 RANDLE, M.
46 FOOT, R. A.
47 HOY, S. L.
48 CAMP, G. W. G.
49 TAYLOR, J. R.
50 GREAVES, C. M.
51 BURTON, A. J.
52 FORREST, R. C.
53 PILCHER, R. R.
54 MEIKLEJOHN, N.
55 ROWLAND, C. D.
56 LUCK, V.
57 HAY, A.
58 DOBSON, B.
59 COCKBURN, D.
60 SANDFORD, R. A.
61 TORODE, H. A.
62 PIGGOTT, A. D.
63 BIRD, M.
64 ORME, H.
65 GAUNT, T. R.
66 POZERSKIS, P.
67 MACLEAN, A. S.
68 CAMPBELL, D. R.
69 SHOBDON (2)
70 PHILLIPS, D. M.
71 WHEELER, J.
72 HART, J.
73 HEAMES, C.
74 PARRY, N.
75 ROBERTSON, D. J.
76 BRADBURY, T. A. M.
77 GIBBONS, J.
78 RANDLE, JANE
79 COLE, P. G.
80 ROBERTS, D. G.
81 WOODFORD, J.
82 STAFFORD-ALLEN, P. R.
83 PURDIE, P. G. H.
84 JOINT, T. A.
85 RANDALL, M.
86 LILBURN, D. W.
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96 TAYLOR, N.
97 SHOBDON (3)
98 WALLER, C. J.
99 LIDBURY, D. P. G.
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102 MILLER, A. S.
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165 SHOBDON (6)
166 PENNYCUICK, C. J.

OVERSEAS NEWS

Please send news and exchange copies of journals to the Overseas Editor: A. E. Slater, 7 Highworth Avenue, Cambridge, CB4 2BQ, England.

FIRST AEROTOW

This year saw the 50th anniversary of the first aeroplane tow of a glider. On March 1, 1927, it was made by Gottlob Espenlaub at Kassel airfield, towed by Gerhard Fieseler in a 100hp LVG aeroplane, according to *Flugsport*. But the first report in *Flight* was that on March 16 Espenlaub cast off from tow at 5000ft.

But reports of flights subsequent to the first are rather confusing, and Ari Ceelen of Eindhoven, editor of *Planeur*, has helped to sort them out. Raab, of the aircraft firm Raab Katzenstein, wanted to demonstrate the new technique at an air display at Easter, but on his first attempt to tow Espenlaub the glider's rudder broke at 4 or 5m height and the glider cast off. Raab, says Ceelen, "was furious". Later, on March 23, Raab flew the glider, towed by his partner Katzenstein, on "the first circuit of the airfield" at Kassel. Another contemporary account, I forget where, stated that Espenlaub got into trouble through trying to swerve nearer to a press photographer in an accompanying aeroplane. In late April, during a cycle tour, I reached Kassel airfield just in time to see Espenlaub's glider being dismantled. It was a biplane of rather short span.

A.E.S.

DANISH FINANCE

It is interesting to hear how clubs from abroad finance their gliding and Carl Ulrich has given details of the Silkeborg Club in Denmark.

After training, and this costs £100, including three solo flighs, the member pays a basic subscription of about £84 and aspires to join the ladder. With the permission of the instructors, the pilot starts on the bottom rung, being allowed to fly the K-8 for which he is charged about £17 a year. This entitles him to do all the flying he wants, depending on his luck in the draw.

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AEROTOW NOISE

An expert in acoustics and "insonorisation", Pierre Bonnet, writing in *Aviasport*, suggests some possible methods of reducing the noise nuisance to residents around gliding centres caused by repeated aerotows at low altitude, especially at weekends when they tend to be at home. He gives examples of how to diminish noise.

Increasing the number of propeller blades from two to four reduced noise from 69 to 63 decibels (db), but six blades increased the noise and eight blades gave 67db; however, another experiment gave a continuous reduction of decibels from two through four and six to eight blades. Increasing prop diameter or reducing rpm also gave reduced decibels. Halving the power decreased noise by 6db.

The most striking diagram shows the difference between a tractor and a pusher tug flying over at 150m: the tractor gave 83db overhead but only 54db at 900m before or after passing over; the pusher gave only 72db overhead, but still 68db at 900m away.

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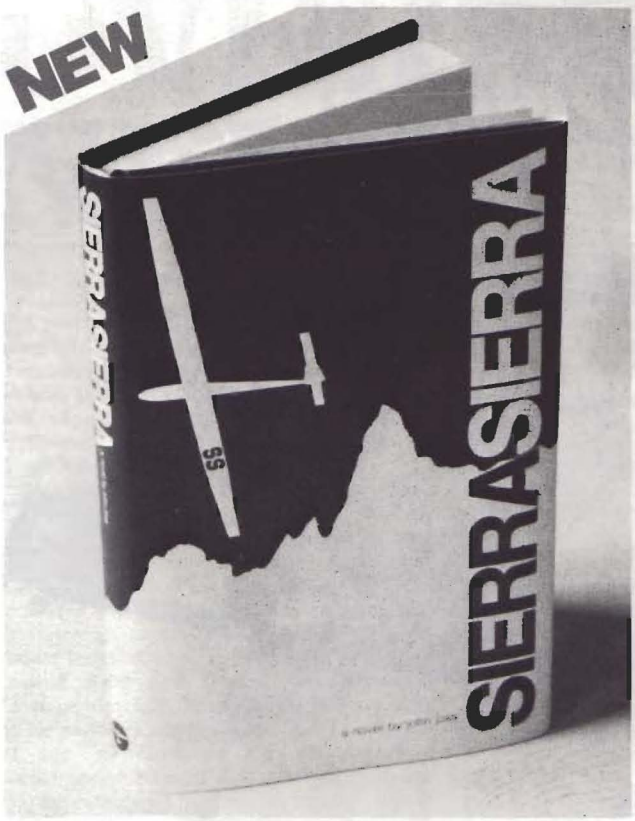
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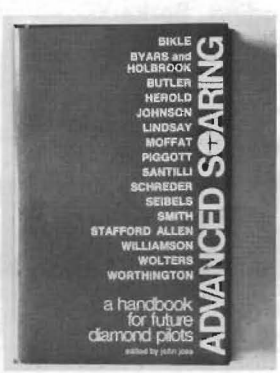
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Book Reviews

New Soaring Pilot (third edition, revised and enlarged) by Ann and Lorne Welch and Frank Irving. Published by John Murray at £7.50. Available from the BGA at £7.99 including p&p.

My 20-year-old copy of W & I's original version of **Soaring Pilot** is just starting to smell musty. In this early edition the Soaring Progress chapter ends with a mention of the new generation of low-drag sailplanes – exemplified by the Skylark 2 – and you won't find glass-fibre in the index.

Ann, Lorne and Frank have just begotten a grandson – after **Soaring Pilot** came **New Soaring Pilot** in 1968 and now they have re-issued the book in a revised and enlarged edition. NSP mark II includes up-to-date photographs and nearly 100 diagrams and tables. The Skylark 2 does get a mention but Mr Irving's Std Libelle is used as the basis for most of the calculations.

The huge advances in the art of soaring in the 20 years between these editions have been primarily due to better gliders, a better understanding of how to use all kinds of soaring conditions and not least to the pathfinders who showed us what was possible: Wills, Goodhart, Grosse, Moffat, Striedieck – and most recently Chris Garton – have all encouraged us to raise our sights.

NSP concentrates on the gliders. It tells the new soaring pilot all he needs to know and then some about glider design, flight testing and the theory of glider performance. These chapters by Frank Irving are, to someone who left School Cert mathematics behind in the 1950s, formidable. Is the English language really not up to the job of explaining the concepts the author has in mind? Frank's very high standards are possibly more suited to Imperial College than to most gliding clubs I know. When he does try an explanation without any formulae he is obviously unhappy, *eg* on p354: "The above is, to say the least, lacking in mathematical rigour . . ." Just a little less rigour, with more maths relegated to Appendices, would have encouraged this reviewer to have skipped fewer of these pages.

Even if you have to admit defeat in the theory chapters there is still plenty left for you to read by Ann and Lorne Welch: thermal soaring, cross-country flying including landing out, competition flying and making the best use of the weather are examples. NSP touches on most topics likely to interest those in search of current knowledge on soaring matters, but in the space available some subjects necessarily have to be treated superficially: mountain flying is a case in point. And surely the authors could have illustrated points in their text with flights made more recently than in 1947 and 1956? But there are some very useful nuggets of information. Their description of how to back a glider trailer is masterly; if that had been in the first edition my various crews would have found all those early retrieves far less exciting.

New Soaring Pilot is not a book to lift your gliding spirit; for the wonder, the beauty and the excitement you still cannot beat Wills. Nevertheless Messrs and Mrs W & I have made a good job of up-dating their manual. The style is cool, the coverage comprehensive with the emphasis distinctly technological: it remains essential reading for the thinking and ambitious glider pilot.

ROGER BARRETT

Light Aircraft Inspection by J. E. Heywood. Published by T. & A. Poyser at £4.

The UK is bankrupt for useful books on the more practical aspects of anything to do with general aviation engineering, the Americans dominating this scene. Mr Heywood's book, is, therefore, very welcome.

It is concise, systematic, well indexed and is unusual in that it includes light aircraft together with light helicopters; a logical thing to do! There is a chapter devoted to agricultural aircraft.

Whereas this book is aimed at enlightening the private pilot, it will also fulfil a useful rôle as an *ab-initio* text-book for engineering students.

R. B. STRATTON

Meteorology for Glider Pilots by C. E. Wallington. Published by John Murray, London, at £8.50. Available from the BGA, £8.99 incl. p&p.

This is the third edition of "Wally's" famous book, the first having been published in 1961 and the second in 1966; this one is subtitled "International Edition" and, sure enough, includes weather charts of the Southern Hemisphere, where Wally now lives and works. This edition, though only 27 pages longer than the last, includes a great amount of up-to-date material, so much of the old stuff must have been discarded; for instance, the Index contains eight references to cumulus compared with two in each of the previous editions, and 37 to thermals compared with five previously. "Forecasting" includes two new sections for Championships and task-setting. Lee waves are evidently still difficult to forecast in detail and no really definite "do it yourself" prediction rules are offered, but there is also a very valuable section emphasising some of the risks of wave-soaring and how to avoid them.

The book only arrived as we were about to go to press, so further discussion of its fascinating contents must be foregone.

A. E. SLATER

The Flier's World by James Gilbert. Published by Michael Joseph at £10.50.

A friend suggested to James Gilbert, editor of *Pilot* and author of **The Flier's World,** that he should take a cassette recorder and stereo earphones with him when gliding. "I tried it, but found the music disconcerting," he writes. "The whisper of air over the canopy is music enough."

A chapter is devoted to "silent wings" in this super-glossy coffee table book and although Mr Gilbert is foremost a power-pilot and came later to gliding, he projects the feel and mood of the sport with an obvious empathy. It is also a good piece of journalism giving all the basic facts without the indulgence of the sentimental cliches so often used when describing gliding.

Of course the book will have a wider appeal. It is a competent survey of the world of flying, starting from the earliest days and is packed with colour photographs, many taken by the author. Definitely a book to leave around and dip into whenever the sky clouds over.

GILLIAN BRYCE-SMITH

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your letters

ARE GLIDING COURSES GOOD VALUE FOR MONEY?

Dear Editor,

As an active gliding enthusiast for the last ten years I am alarmed at the poor reports that I hear from people taking holiday courses. Most candidates for these courses appear to be people with little or no gliding experience. They take a course to either obtain some intensive glider training before going on to join a gliding club or to have an adventure type holiday.

These people seem to come away from courses feeling that they have not had anything like value for money. Common complaints are: flying delayed due to defective launch equipment, having to wait till the end of a soarable day before getting a couple of quick wire launch circuits, no resident course instructor available, instructors who are not constructive about their students progress, instructors taking extended lunch breaks, cold impersonal and unfriendly reception when booking in and worst of all, if they should summon up the courage to complain, being told with a shrug of the shoulders, "that's gliding".

That may well be acceptable as gliding in normal club life, but it seems to me that people who pay as much for a one week gliding course as it costs for a whole year's gliding in some clubs, expect and should get a professional, efficient service.

I well remember going on a gliding holiday myself when I first thought of taking up gliding. It really was a farce. For on the first day we found that there was no resident course instructor and the only person on the airfield apart from the course members was the cook. We had to 'phone up and plead with the CFI to come and give us some flying and by the Wednesday all the launch vehicles were U/S. That course so put me off, it was another year before I actually went ahead and joined a gliding club.

The point I am trying to make is, that people who pay good money to go on a gliding course and don't get a professional service, end up looking on gliding clubs as being money grabbing profiteers and, furthermore, cannot be expected to act as ambassadors for the gliding movement.

What these people want is lots of gliding. If we cannot guarantee them that, are gliding holiday courses really worth it?

M. WELLS

NO SUBSTITUTE FOR SKILL AND EXPERIENCE

Dear Editor,

The article "Flying the Mosquito" by Derek Piggott in the August issue of S&G (p159) was of great interest and most informative. I have always admired Derek and regard all his publications as the "Bibles of the Soaring World"; more so since my wife and I had the pleasure of dining with him at Lasham a few years ago.

I must however challenge one statement in his article; namely his disagreement that one should possess a high degree of skill and experience to be safe in a modern glass-fibre sailplane.

In my opinion, the ease of operation of a sailplane of this type is one reason why the inexperienced glider pilot can be so easily lulled into a false sense of security. I had the same initial thoughts when I first flew Std Libelle and Hornet sailplanes. Under normal conditions they are admittedly very easy to fly.

However, the problem arises when during moments of carelessness, forgetfulness, inattention, or just plain stupidity, the controls are mishandled and the pilot "loses it"; then, due to the aerodynamic perfection, the speed builds up rapidly without the normal accompanying noise factor and this is where and when the inexperienced type subsequently exhibits his lack of skill and experience, often with disastrous results.

There is no substitute for skill and experience in the world of flying.

Ontario MAX HARRIS

(Chairman of the Safety Committee, Soaring Association of Canada)

SOARANOLOGIST BIRD

Dear Editor,

Last week I found out how to stop the domestic hen going broody: (see "The Soaranologist Bird", S&G April, p59). Keep. its reproductive end cold and prevent it from sitting down comfortably. Remembering the draughty Elsans of my early gliding days and the need to sit on wing tips during all daylight hours, and with only beercrates for comfort in the evenings, I am not surprised that soaranologist hens don't breed easily. Is there any evidence to show that where more mod. cons. and armchairs are provided in gliding clubs the breeding rates are higher? It is certainly noticeable that more chicks abound in clubs where there are centrally heated loos (*eg* Lasham).

May I remind your correspondent that for soaranologist hens the mating procedure involves a wing-clipping process: unlike most bird species, it is not one season required for chick rearing activities but up to 18. No unaccompanied expeditions can be made by the young in their first five years, and they can only be let out from under-wing in controlled conditions for the next ten years at least. No wonder the soaranologist hen is a rare bird!

Camberley, Surrey. ANN PROCTER

A Christmas Teaser: The following words were hidden in the puzzle; Aileron, Airfield, Angle, Barogram, Call Sign, Canopy, Climb, Cloud, Club, Cross-country, Diamond, Flaps, Glass-fibre, Glide Angle, Glider, Gold, Instruments, Knot, Land, Laps, Low, Occlusion, Photo, Pilot, Radio, Rope, Sink, Soaring, Solo, Sun, Tax, Thermal, Tow, Trailer, Trainer, Water, Winch, Wind, Wing and Yaw.

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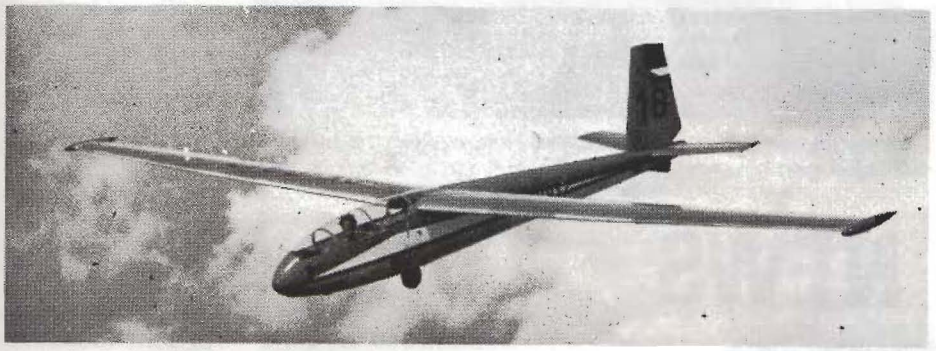
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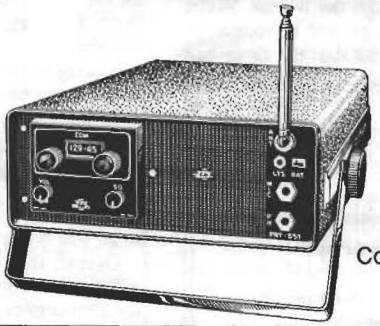
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Concorde 01, which has become part of the Imperial War Museum's exhibition, arriving at Duxford in September with the Cambridge University GC's T-21 in the foreground. B. H. Bryce-Smith

CLUB NEWS

Copy and photographs for the February-March issue should be sent to the Editor, S&G, 281 Queen Edith's Way, Cambridge CB1 4NH, tel Cambridge 47725, to arrive not later than December 2 and for the April-May issue to arrive not later than February 14.

October 14, 1977 **GILLIAN BRYCE-SMITH**

BLACKPOOL & FYLDE

An unusual cloud street enabled Bob Gordon to cross the Fylde and reach Blackpool for a 60km round trip. West winds normally suppress thermals for several miles inland. Roy Greason found another blue wave in an east wind on September 18, after a struggle in tiny thermals and broken hill lift. We watched him overhead while he climbed to over 12000ft, where he broke off because he had no oxygen though still climbing at 2kts.

An attempt to hill soar the east face in 10 knots from 050° showed that the beat was too short and narrow to sustain even the SD-3 on its own. Thus the limits to our hill soaring are 060° to 330° on the home slopes, just three quarters of the circle, with a north facing ridge three miles away. Initial training is much more efficient than in the old short circuit days, now that we can give relaxed flights while the pupils develop co-ordination. The landing and circuit tuition then follows much more easily, leading to first solos after about 40 flights.

We are watching how the field stands up to rain, hoping that our efforts to level and drain it will enable us to fly through the winter. While fitting double wheels to a tractor to reduce its footprint pressure we found that the tyres had been filled with water by a previous owner for the opposite effect.

A third field landing accident in two years has led us to think that our regular use of heights down to 700ft, with reliable hill lift behind us, has suppressed our instincts to pick fields when below 2000ft. We intend to watch this when we leave home.

Our fleet is now up to 18 plus a T-21 under repair. Paul Gibson has imported a Scheibe SF-26, the one with a steel tube fuselage and three-piece wing.

K.E.

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BRISTOL & GLOUCESTERSHIRE

At the time of writing the club is a mass of activity with everybody fettling gliders and trailers for the annual trek to Shobdon in search of wave.

With the end of the thermal season upon us, we have had some very interesting Saturday night lectures in the clubhouse. They have included a wave talk by Tom Bradbury and a talk on motor glider operation by Bill Scull, at the club for a full rating test on three of our assistant instructors. We have several more talks for the future including "Birds I have known - their anatomy and performance" by Colin Pennycuick.

At long last we are planning to get a new toilet and shower block built, hopefully in time for next summer when we will be the venue for Euroglide. The success of the project, master-minded by Dave Wales, will depend one hundred per cent on the help we get from members - we can't afford professional labour so all you Nympsfieldites, we need your help!

Overall, the club has seen a very encouraging influx of new members to swell our two-seater list almost to capacity.

R.A.R.

CAMBRIDGE UNIVERSITY

It has been our worst year since somewhere before 1970 with hours and launches well down, largely due to the appalling weather. However, late August and early September of this year produced an encouraging spate of Silver legs. Hilary Henderson's Jubilee Cup, presented by her to the pilot completing all three Silver legs in the Jubilee year, was finally snapped up by Hugh Joyce with a Silver duration flight on August 28. On September 3, when a number of Cambridge pilots criss cross-countried, John Scott, whose previous attempt at Gold distance and Diamond goal was rejected because of poor TP photographs, set off again and got everything just right!

S.N.L.

COTSWOLD

Our late summer task week couldn't have been worse - Tim MacFadyen set the distance record with an out landing 4km away. However, September kicked off well with three Diamond goals being collected by Trevor Wilson (K-6CR), Richard Furley (Pilatus) and Ken Lloyd (Std Jantar). Larry Bleaken flew the first 500km flight from Aston Down to make the day complete.

The club held a successful open day on Saturday, August 27. It wasn't the best of weather but we achieved 180 launches, starting at 8am and finishing at dusk.

We will soon be giving the club gliders Cs of A and have film shows and lecturers lined up for Friday evenings during the winter.

P.G.

COVENTRY

The dinner-dance to celebrate the Club's Silver Jubilee was a grand success. Unfortunately our President, Doc Gregg, was unable to attend as he was in hospital following a major operation.

Laurie Watts, one of our other founder members stole the show with his recollections of our early days when ground slides, hops and solo flights were achieved with only single-seaters available. His brief but humorous account of the first 25 years gave us newer members something to think about.

Most of the syndicate gliders are laid up or being taken to wave sites. It hasn't been a good year but plans are being made for 1978. The CFI is out buying new gliders, the tugmaster is looking for an extra tug and the Treasurer is holding his head in dismay!

C.T.

DERBY & LANCS

Fantastic wave came to Camp Hill on September 11 and our site record was broken with a climb by Peter Blacklin (Std Libelle) to 23400ft above the club and 24800ft asl. This gives him his second Diamond. Don Hatch (Dart 17R) at 23400ft asl and Brian Jackson (Dart 17R) at 20400ft asl also gained Diamond height.

Peter Grey (K-6E) and Andrew Stocks (Oly 463) achieved Gold heights, Andrew reaching 16900ft asl and on the same day Bill Ellrington completed a 300km triangle.

Ursula Whittingham, Dave Martin, Chris Brook, Ray Jones, Dave Wilde and Ashley Birkbeck have gone solo. We have two new gliders on the site, a K-6E and a Pilatus B-4.

C.D.R.

OBITUARY

Alfred Anderson Verity

Alfred Verity died on October 8 after only a very short illness. Known to his friends as Alf, he began flying with the Royal Flying Corp towards the end of the First World War. He took up gliding in the mid-thirties and, with his brother Charles, was well known at Camp Hill.

With the late C. A. Kaye, he was very much involved in the building of what were, at the time, some very modern winches. He and Charles shared the first Tutor built by their friend the late Fred Slingsby. Later this was replaced by a Kite 1 and shared with C. A. Kaye.

During the last war Alf, with C. F. Faulkner, started and operated for many years the two ATC gliding schools at Woodford. They both helped build Lancasters on the night shift and taught cadets to fly at the weekends. After the war he was involved with the beginning of the Avro GC.

In 1949 the Kite was sold to the club at Camphill. It was in an immaculate condition, having been kept under cover at Woodford in its own trailer, except for the occasional illicit airing during the war. The syndicate then took delivery of one of the first Olympias built by Elliotts of Newbury and constructed an all-metal trailer for it, designed on an aircraft type fuselage pattern. They flew this until retiring from gliding in the early 1950s. Both the glider and trailer are believed to be still operational.

The gliding world has lost one of its few remaining pre-war members. His brother Charles is still living in Sheffield and his son is a flying member of the Kent Club.

A.R.V.

DEVON & SOMERSET

Bronze C badges continue to appear at the club, with Louise Norton, Gordon Peters, Doug Watson, Simon Minson and John Brown all passing within the past couple of months. John Collins and Michael Crompton have soloed and Chris Miller has completed his duration during his first flight in his newly arrived syndicate Pilatus B-4.

A lot of new aircraft have appeared on the site, totalling a B-4, a Pirat, an Astir, a DG-100, a Pik 20B and the latest, a Pik 20D. Bernard Reeves has completed his instructors' course and we welcome this addition to the club's "elite".

The club's AGM will be held on December 10 in the clubhouse and a repeat of the dinner and disco held earlier this year is planned for early November. Finally, a thank you to "Auntie" Kitty Cooper who has started serving Sunday lunches again in the clubhouse.

M.G.P.

DONCASTER AND DISTRICT

At the time of writing the first October fog has closed our airfield, so our members are busily taking to the clubhouse and workshops for various winter activities. We have had one of the best seasons of soaring and cross-country flying upon which to reflect during the ground-bound days of winter.

Youngsters have made their mark this season with Jeremy Mills going solo in February on his 16th birthday, gaining a full Bronze, cross-country clearance and a wave flight to 10500ft by the end of the season. He and Robert Fletcher gained Whitbread awards and Robert's achievements include going from newly-solo to Silver C in one season with several good cross-country flights also to his credit. Martin White and Paul Wheat have also done particularly well. Sally Dudley was one of several to have flights in excess of 9000ft with our Chairman, Frank Thompson, out-soaring everyone to gain his Gold height.

Several new syndicates have been formed, the latest arrival being the Astir. High spot of October was the weekend visit of Bill Scull and Brian Spreckley with the BGA Falke, timed to coincide with our annual dinner-dance.

P.Y.

DORSET

The August task week produced wind, rain and, consequently, some commendable attempts at 300km triangles. Claims were also made by Messrs D. Rickman and B. McCann for their Silver distance.

Work is progressing well on the new two-drum winch and its specification is such that, with the right conditions, it may put the tugs out of business!

Wednesday flying has now ceased and in its place greater emphasis is being given to lectures with films and the inevitable social high-life. At the moment we are waiting for the date of the Christmas dinner-dance to be confirmed.

From November 1 the club telephone number will be changed to Blandford 52028.

B.Mc.C.

DUNKESWELL

We are happy to announce the birth of a new "baby" - the club newsletter, under the talented and untiring editorship of our Canadian friend, David Bowsher (aided by his staff of thousands!). The first issue last month was packed with an admirable mixture of news, cartoons, funnies, profiles and reports. We all hope it will be a regular event and wish David lots of contributors and assistants.

Together with the newsletter came an extremely welcome appendix on safety procedures for launching, observing, signalling and towcar driving, which was the result of much thought, experience and midnight-oil burning by our three stalwarts, Dave Bindon and Mike and Barby Fairclough, who put in so much hard work and thought to ensure the safe and enjoyable flying of us all.

We were lucky enough to have a visit from a Motor Falke during the past few weeks and some of our members had a trip.

Congratulations to Roger Edwards, who usually flies with the Albatross Club but whom we borrow from time to time and Peter Clements who are just back from instructors' courses and Tony Easterlowe, Dick Froggatt and Marie Jewell who have gone solo. Marie, at 16, is our youngest lady solo pilot.

A.C.P.

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EAST SUSSEX

This being the end of our third summer's flying at the club, we have to report (modestly?) that although conditions for thermalling have been worse than average, our general achievements have been very good. This year we've had the highest number of first solos since the club began and also a record number of Bronze and Silver badges. In early October Margaret Schofield became our first female pilot trained by the club to go solo.

The next social event is a firework display in the field.

D.E.C.

ENSTONE

On Sunday, September 18, two of our members, Jean Newman and Doug Blore, were tragically killed during a training flight at Enstone.

Jean joined the club about a year ago and was a very active flying and social member. Doug was one of our founder members and senior instructors and had been our CFI during 1976. They will both be greatly missed by all of us and our sympathy is extended to their families.

M.W.

ESSEX

This has been a poor season but the weather relented enough to allow David Appleby and Fred Sage to complete 300km triangles in September.

George Withrington has been our instructor for the summer courses which have proved so popular that the season was extended to the end of September. Kath MacElarney has been a most efficient and helpful course secretary. Our thanks to them both.

The Aboyne expedition is currently underway and we are delighted to report several good wave flights including a Silver C for Terry Clark and Gold heights for Bill Medcalf and David Appleby.

S.P.

ESSEX & SUFFOLK

More Silver C legs were achieved this season than ever before in the club's history with members taking full advantage of the limited number of really good soaring days.

Cliff Barnett (K-6E), Mike Bailey (K-6E) and Bob Green (K-6CR) gained their five hours. Silver Cs have been completed by Angus McDonald, Roy Grubb, who claimed the distance and duration in one flight, Simon Barnes and Ian "Spud" Hodge. We are very proud of Claire Harris, our first lady Silver C, who has done all her training at Whatfield and flew 86km in the K-6CR for Silver distance.

Jane Paros has gone solo and the longest flight of the season was by E. Hibbard (SHK) who covered 347km. There was fierce competition for the club 100km triangle, Bob Bousefield achieving the fastest time in his Std Libelle.

We welcome Bill Horne from Booker, who joins the instructors. His help is much needed. The clubhouse is being erected, we now have water on the site and we are widening and improving the entrance to the field.

C.C.S.

HIGHLAND

In spite of the weather, we have had an unusually high proportion of soaring days at Dallachy this summer.

Our congratulations go to John MacFarlane for Silver distance in the K-6CR, thus completing his Silver C, to Mike Rodda on achieving Silver height and to Mike Flaherty, who went solo in the Bocian on a Saturday and in a Cessna on the Sunday!

The syndicate Astir arrived in August and is described as "magic" by all who fly it. Especial thanks are due to Bob Maclean of the SGU who nobly towed it all the way from Germany and to Jeff Howlett who has been performing electronic miracles behind the instrument panel.

Four of our keenest younger members have left us this autumn to go to college or university; and, whilst we hope to see Mike Foreman, Colin Haddow and Alasdair Macphail during their holidays, we have unfortunately lost Mike Rodda for good. We wish him good soaring in those wide southern thermals!

R.E.T.

LAKES

Peter Jackson has retired as CFI after two years hard work. Our thanks to him for his help and encouragement. Ron Hawkes has (temporarily) taken over the post. We have lost some valued members and instructors, among them Ian Ronald (to the Herefordshire Club, lucky people) and Peter and Jill Gillett who have moved to the north-east coast for ten months.

Peter Craven has joined the select band of only five or six people who have made all their Silver flights from Walney, with an up-wind cross-country to Clapham, Yorkshire. Congratulations to Neil Houghton who made his first solo flights two days after his 16th birthday, to gain his A, B and C certificates.

The day of our 21st AGM was the best thermal soaring day over the Island that anyone could remember, most of our gliders being airborne at 3-5000ft. Our winter wave started to appear on September 18 and we are looking forward to a good winter season.

E.G.A.

LONDON

To have six contest days at the Nationals at Dunstable was something of a triumph in this year of downpour, 1977. Nevertheless, the latter part of the season came to life when on August 10 Malcolm Humphries and Gordon James (a visitor from Norfolk) took K-18s round a 360km triangle, accompanied by CFI John Jeffries and Adrian Coombes in the K-13. There is no doubt that the Dunstable High Performance Soaring Courses, of which these flights were a part, are an established and increasingly popular institution.

After the appearance of graffiti on the scoreboard at the Nationals "Booker Rules OK" celebrating wins by Steve White, Chris Rollings and Rocky Stone, there was some small revenge when John Jeffries won the Booker Regionals' Sport Class in July, giving rise to a graffitum (graffito?) by an unknown hand "Dunstable rules OK". (JJ also won the Inter-services Sport Class.)

Altogether, this year has not been one of great fortune for our local pilots in the big contests. Our established pundits (not as many of them as we would like) will try to put 1977 behind them and gird up their loins (*ie* tighten up the parachute straps) for 1978. Our stock of Nationals-level pundits should increase as the Soaring Courses bring on the new breed of ultra-keen young pilots. Dunstable rules the 1980s OK?

Following the success of a wave expedition to Shobdon in March, similar expeditions, taking a club tug and glider, are planned for the end of October and November and early March. We have a Super Cub from Germany as a popular addition to the towing fleet.

We are now into the season of mulled wine, bonfires, baked potatoes, seasonal parties, Cs of A and learned debates about soaring techniques. Last year a long and passionate argument raged at one such Dunstable brains trust about what to do at cloudbase if the MacCready ring was set to five knots and the lift increased to ten. The writer of these notes said it was as daft as discussing what we would do if we won the football pools. No doubt such dreaming keeps hope warm throughout the winter gloom. This time we trust the discussions will take a more practical line: "It's drizzling, you're doing a marginal final glide in a 25kt crosswind on the upwind side of the Luton zone, then you get half a knot up . . .". Try keeping warm on that juicy prospect. Come to think of it, we'd prefer the ten-knots-at-cloudbase daydream after all.

M.B.

MIDLAND

In September Ernie Ainscough stood down as CFI, a position he had held since 1968. A generation of Mynd pilots appreciate Ernie's interest and encouragement – in many cases from *ab-initio,* through badges, to instructing in their turn. Nine years is really a stint beyond the normal call of duty and we wish Ernie many happy hours in what will from now on be his "own" flying.

Bob Scarborough takes over as CFI. He proposes a new approach to instruction which promises to be interesting. In future a small gaggle of *ab-initio* pilots (what is the collective noun for an assembly of P2s – a clutch? a murmuration? flock? shoal? muster?) become the responsibility of a pair of instructors. The system has potential rewards for pupils through continuity and for instructors, who should get the satisfaction of more closely observing their pupils' progress.

W.J.T.

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NORFOLK

Hundreds of visitors from far and wide have been flocking to Tibenham each Sunday for the past few weeks. Our short runway is now the site for an open market. Despite our original misgivings, the presence of large numbers of people has made little difference to our activities apart from having to observe the rules concerning minimum heights above crowds.

To add to our summer problems, we had both Condors out of action at the same time with cracks in the crankcases. The incredible efforts of a few members financed, fetched and fitted one new engine in record time, so quickly in fact, that many people were not even aware of the disaster.

Following complaints from an airfield neighbour, our local MP decided to find out for himself by visiting us and let it be known, *via* the press, that our flying operation did not constitute undue disturbance.

While some have been going up, some have been going down, with the result that they struck water at 150ft, thus providing the clubhouse with a much needed service. Further excavations are in progress to install underground fuel storage.

Martin Day deserves a mention - having soloed on his 16th, he has now completed Silver C before his 17th birthday.



The IS-28 is still having "adventures", the latest epic being an "in-depth-investigation" into water-filled gravel-pits.

C.E.H.

NORTHUMBRIA

Although summer brought disappointingly few thermals, the shorter flights meant a greater opportunity to practise take-offs and landings which may account for the encouraging increase in the number who went solo.

We are pleased the Sports Council are going to help us with a substantial grant towards our new clubhouse project. We now need a Herculean effort from members who will be asked to use their various skills and expert knowledge wherever possible.

In addition, we have to repair and partially replace the perimeter fence, a requisite for our lease renewal from the National Coal Board. We are also planning a full winter programme to combine essential fund raising with social activities.

R.R.H.

OUSE

We managed to move from Rufforth to RAF Church Fenton without too much trouble over one weekend and are now well established on the site.

Wilf Coulsey, our CFI for many years, is retiring and Peter Ramsden is taking over. We would like to thank Wilf for all his hard work and wish him a leisurely retirement.

J.G.

OXFORD

On August 28 Mike Randle (Kestrel 79!) became the 79th British pilot to claim all three Diamonds with the first 500km triangle to be flown from our site. Meanwhile, Phil Hawkins started on the Gold and Diamond trail with 300km on the same day. An impromptu barbecue sort of happened that evening to celebrate, using the leftovers from the "proper" barbecue of the previous day.

The following week Tom Lamb flew his first 300km in a Skylark 4, chasing Phil Hawkins (Astir) who was presumably trying to prove that his earlier flight wasn't a fluke. Janis McGill (K-6E) also completed the same task.

Apart from these two days the pickings have been meagre. Richard Cowderoy won at Booker in his Phoebus and our pilots have also competed at Lasham, Nympsfield and Sutton Bank. Joachim Schneibel got lost on the way to Lasham and landed at Thruxton - good enough for Silver distance, though. Completed Silver badges include Terry Green, Martin Brown; first solos by Mike Williams, Peter Darnborough, Martin Nickolls and Clive Smith.

After such a rotten season there are vague mutterings about a wave expedition in the winter.

P.H.

SCOTTISH GLIDING UNION

The AGM produced a resounding vote of confidence in the Board with all the directors being re-elected. Sadly Alistair Murray had to resign because of moving to Liverpool and Jimmy Hempseed through business pressures. Jimmy's efforts as Secretary over the years are more than appreciated.

The Lasham gang are here again and wave has obligingly appeared for them (see Surrey & Hants report). The expedition winch is being refurbished for a Highland trip at the end of the year, Ben Nevis being mooted as a possible venue

R.H.

SOUTHDOWN

The weather has been so bad that none of the five club courses were at all successful. Nevertheless Chris Barkwell and Brian Bateson completed 300km and Peter Holloway gained his Silver distance on September 3.

Bad weather has meant slow progress on the ground vehicle hangar. The club is also being equipped with a new launch control van and consideration is being given to updating our fleet.

A party is being given on November 12 for those farmers who have had club gliders landing in their fields.

Winter approaching means an opportunity to continue using the ridge -180km triangles on average. This must surely be the longest available ridge in the country?

B.A.B.

SURREY & HANTS

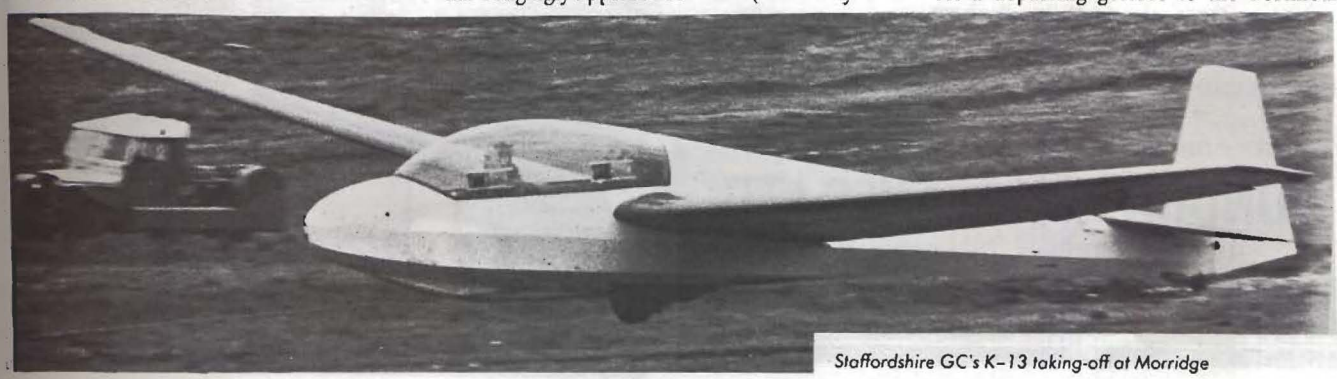
One ray of brightness this season came in a scattering of really good days over August and September. Twice in August and again twice in September the redoubtable Alan Purnell succeeded in doing 500km. We are as certain as can be that nothing near 500km has ever been flown in September before (see also Cotswold).

Your scribe spent three weeks in the USA and 18000ft cloudbases starting at 10.30hrs in northern Nevada did little to take gliding off his mind!

Portmoak '77 started with a real burst of excitement with guess who reaching 25000ft? A. D. Purnell, of course. Paul Thompson and Bill Dean climbed to 23000ft or so and Tony Clutterbuck gained his Diamond height with 20000ft. Since then a familiar rainy south-easterly has persisted.

Plans for next year are under way with 630 litre oxygen bottles being fitted as standard in the expedition part of the fleet. The Astir is being considered as a replacement for B-4 No 397, which came to an untimely end in a field during the summer, and the first Vega we have on order should be with us soon. It has "linga'd longa" than we would have wished but it will be a welcome addition to the high-performance end of the fleet. The Kestrel trailer is to be modified with an all-metal body attached to the original base.

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expedition an afternoon of wave flying occurred on the day of the briefing we arranged for new members - 6000ft and 120km triangles could be flown, all in about 4/8 stratocumulus type lenticulars.

C.L.

ULSTER

A succession of autumn weekends were spent on safari at our potential new site at Bellarena – a superb, optimum field about a mile out from the foot of the 1260ft Binevenagh ridge. We will spend the winter pursuing all possible assistance towards our becoming either the owners or long-term tenants of this site, which could not be more ideal if you sat down to design it from scratch. Meanwhile, the hospitable owner has invited us to return for the whole season from the early spring; we have local storage for trailered gliders and hangarage for the tug at nearby Eglinton.

The Queen's University Skylark 3B, written-off during the summer, has been replaced by a Skylark 3F. Our two-man Pik 20D syndicate have just departed for Finland – a four-ferry, 1500-mile drive to Eiri Avion to pick up their purchase at the factory door.

R.R.R.

WEST WALES

Our second flying week was not as good as our first one; but in spite of inclement weather we still managed to set up new club records and several Silver distances were attempted.

Sandra Evans went solo and gained her C certificate with a 16 minute flight in wave conditions at 7.30pm. Ken Douglas and B. Jose Managham also went solo with Jose obtaining his two Bronze legs. Graham Moss still holds the club record for local soaring this year in the K-7 and T-21 and Clifford Davies flew the first 120km triangle the club has had for several years. Tony Green visited the Bath & Wilts flying week and obtained his Silver C.

I.W.G.



George Lee handing over a cheque to Paul Shearman-Earp of the Tyne-Wear GC at Sunderland Airport. George had just received the cheque on behalf of the club from Mr Bill Saunders (centre), Principal Regional Officer of the Sports Council. The presentation took place during the Club's Introduction to Gliding weekend which, despite thick fog, attracted over 600 visitors to the airfield.

WOLDS

Quite a few pilots enjoyed the better weather in early September and on one beautiful Saturday Tony Acey, Bob Kirbitson and Colin Milner completed their Silver Cs with duration flights; Heather Preston and John Mackenzie gained Silver heights; Barry Gardner claimed Silver height and distance in one flight and there were several Bronze legs.

Byron O'Neill gained his Silver distance and height this summer and Pete Norrison and Mike Wandby flew Silver distances. Bronze Cs were completed by Grant Johnson, Malcolm Gibson and Bernie Svenson.

Wave finally reached the Wolds in September when Bob Kirbitson and Byron O'Neill climbed to 10000ft and 9000ft respectively.

Our summer evening visit programme was again a success with members bringing parties for air experience flights and the flying weeks organised by several instructors in July and August were well attended.

A.J.B.

YORKSHIRE

After a not-too-successful gliding season things suddenly improved and we had three weekends of fantastic wave from the Pennines. Two of them were in a west wind, which sent pilots up to 20000ft and over, picking up Diamonds on the way, and the third was northerly, in which Fred Knipe, flying a Kestrel, amazed everyone by reaching 16500ft, which is a club best for such conditions.

Hilda, our Secretary for the last eight years, left at the end of September and we welcome Joan Hirst as her replacement.

G.B.

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Service News

BICESTER (RAFGSA Centre)

The poor weather of August and September has curtailed achievements, but despite this we have achieved one A and B, five Bronze legs and three Silver legs. Further, Frank Walker, Martin Lawrie and Terry Braganza gained Diamond goals – our congratulations to them all.

We have a new Astir 77 which is popular, but not so popular as the Caproni Calif A-21F. The CFI is the only instructor insured to fly the aircraft and he has a never ending stream of customers. (Instructors beware, you carry out your annual check ride in a glider you have never flown before!)

The roof of the airfield bus has finally given in and we are giving it a new roof and a face lift. A stand-in caravan is coping very well with the large demands for hot food and drink.

C.M.T.

CLEVELANDS/HAMBLETONS (RAF Dishforth)

After a mediocre summer we were rewarded on Sunday, September 11, with a record day for certificates. From early morning it was obvious it was going to be a good wave day and in the end there were five Diamond heights, five Gold heights, four Silver heights, three durations, three Silver Cs completed, two Bronze legs and a total of more than 1000 cross-country kilometres, all flights ending back on the site.

Some performances worthy of note were Dick Coles' Diamond height, this being only his second flight from the site and J. Turnbull's Diamond height because he found the tow very rough, pulled off in the Swallow at 800ft and then climbed to 20000ft. Tony Sims, who had been working on the tug the night before, arrived at 16.15, was airborne at 16.45 and went to Diamond height. Billy Bishop, who gained his Gold distance and Diamond goal the week before, missed Diamond height by 1000ft when he ran out of oxygen, as did several others. Steve Sampson and Eric Stevenson were the other two to get Diamond height. The furthest distance flown was by Terry Potter with a wave flight of 330km.

A very happy time was had in the bar that night and I think the happiest of all was our new CFI, Roger Crouch. Welcome Roger, long may you reign.

J.A.S.

CRANWELL (RAFGSA)

Congratulations to Gary Moon, Cam Anderson, Keith Cocking, Chris Cole and Dave Kent on going solo; also to Pete Schneider, Mark Burch, John Hull and Keith Johnson on completing their Bronze Cs.

Our thanks to Dick Cole for all his hard work as CFI and welcome to his replacement, Richard Meyer.

On the aircraft side, the Pilatus has been replaced by an Astir CS and the club hard core have bought a Tutor for the real pundits. The new bar is near completion, thanks to Norman Temple's hard work, and we now have draught beer. If you are passing, drop in and see us.

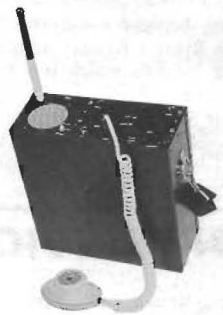
N.J.H.

FENLAND (RAFGSA)

Pat Rowney, CFI, has been posted after a year of hard work and his place is taken by Ben Benoist. Mal Wells has completed his Silver C and Andrew Elliott, who has just joined the RAF, his Silver distance. Bev Lawton, Phil Morgan, Helen Hickling and Ian Hazel have completed their Bronze Cs and Sue Quinn and Derek Jones have gone solo.

We have purchased a bus and work is well in hand converting it into a mobile control and "restaurant". We have a club expedition to Aboyne during the last two weeks of October.

J.D.B.



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FOUR COUNTIES (RAF Syerston)

A number of 300km attempts have been made, many of which were doomed by the weather. Steve Hymers landed short of Diamond goal but covered 301km to claim Gold distance. The following weekend he flew the Astir round the milk run of Moreton-in-the-Marsh and Cosford to claim Diamond goal. Ben Beniston landed just short of a 300km attempt in the Skylark 3 and Lindy flew the K-18 to Wittern for Silver distance. Chy-Chinn only just failed a brave 500km attempt, covering 460km.

Expedition time is upon us with a trip planned in October to Millfield in Northumberland, a promising wave site. Parties are also in the pipe-line to fill winter nights.

I.Mc.

GREYLAG (Benbecula, Outer Hebrides)

Sea breezes and runway resurfacing have somewhat curtailed operations but flying still continues. We now have a second K-4 which will make a considerable difference to our launch rate as it is more suitable for the prevailing conditions up here than the Prefect.

The MK10 Jaguar towcar continues to give faithful service and we have regularly achieved 1400ft launches from the main runway.

We regret having to say farewell to two founder members, Brig G. R. Rigby, President and Dougie Braid, Engineering Officer. Their enthusiasm was an inspiration. We welcome Brig A. A. Fielder as our new President, Peter Garron, Engineering Officer, and Mike Clulow, Treasurer designate.

W.H.M.

HUMBER (RAF Lindholme)

Well, September turned out to be a better month than July and August put together. We achieved three Bronze legs, John Cooper's second and Bruce Chalmers, who recently went solo, did both of his. Trina Jennings and Stan Cooper, John's father, went solo, Trina missed going solo on her 16th birthday through bad weather. Keith Taylor and "Brit" Britton completed their Silver Cs with distance flights; Brian Lumby and Ray Ravenscroft gained Silver heights, the latter first having gone solo many moons ago as his Gliding Certificate is stamped "British Empire" instead of United Kingdom, and a duration by Keith Sleigh gave him his Silver C.

Tom Barnes, CFI, has just been granted a BGA inspector's ticket and we are hoping another Full Cat Instructor will join us in the near future.

K.M.G.

KESTREL (RAF Odiham)

The last few weeks of the summer produced a fresh crop of badge qualifying flights. Keith Allen became our latest solo pilot whilst Bronze flights have been made by "Jackie" Pobjoy, Nigel Corner, Trevor Cole and Andy Ginever. Andy has also completed his five hours as has Simon Davis. Simon also flew 51kms but lost out because of the 1% rule.

Neil Brown, who only started gliding this season, has completed his Silver and Paul Mulhern is also sporting his shiny new badge. Peter Richie has completed his Gold with a 300km triangle.

Two more instructors join the roster, Wendy Uphill and Peter Jenkins having completed the Bicester course. At the time of writing several members are at Aboyne looking for Diamonds, we wish them luck.

P.W.A.

PHOENIX (RAF Brüggen)

We had two very successful open days at Phoenix as a result of a blaze of publicity on the radio and in the Services' press and warmly welcome all our new members. It is good to see a high percentage of lady members and also to see our Canadian friends (from AFCENT in the Netherlands). Jan and Rick Paradie - who last flew with us some 14 years ago! We also welcome Mike Greaves as our Army representative, but are sad to say goodbye to Bob "Rodney" Farthing - thanks, Bob, for being our bar member this year.

There have been three aerobatic displays at Brüggen for Squadron and Station open days and we were also represented at Rheindahlen's fête - we lent a Club Libelle for static display.

We had the use of Eagle GC's Motor Falke for a weekend; 14hrs of field landings amused the local residents and wore out the eardrums of our SLMG Instructors - thanks Bill and Geoff. Since those practices we have had several 50km attempts, although Pete Fincham was the only one to actually gain Silver distance. Malcolm Oulds has completed his Bronze and his younger brother, Richard, has a second Bronze leg. Roger Davies, Dave Hourston and Chris Jacobs have gone solo.

Phoenix looks forward to the proposed Vennebeck ridge soaring expedition this month, the Hallowe'en party and, of course, the festive season, by which time the winter training programme for our new members will be well under way.

M.T.

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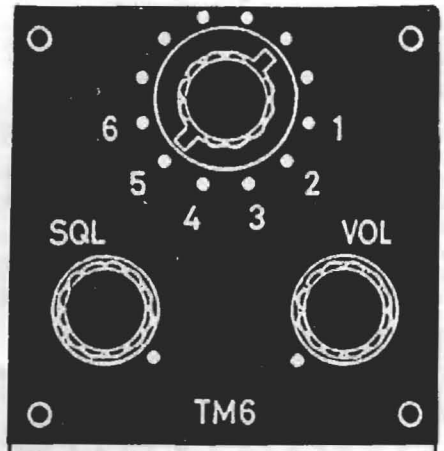
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