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Volume XXXVII No. 2

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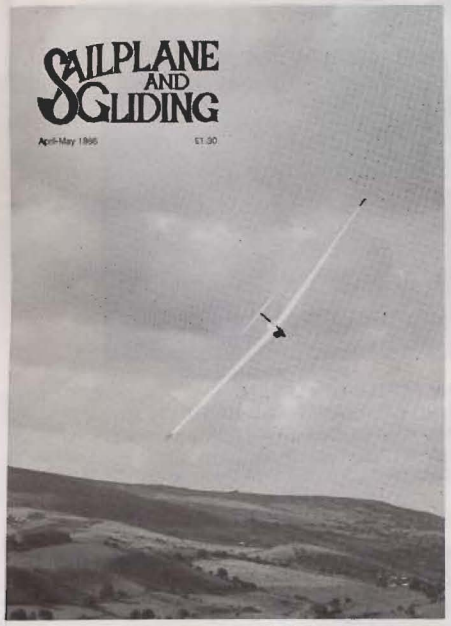
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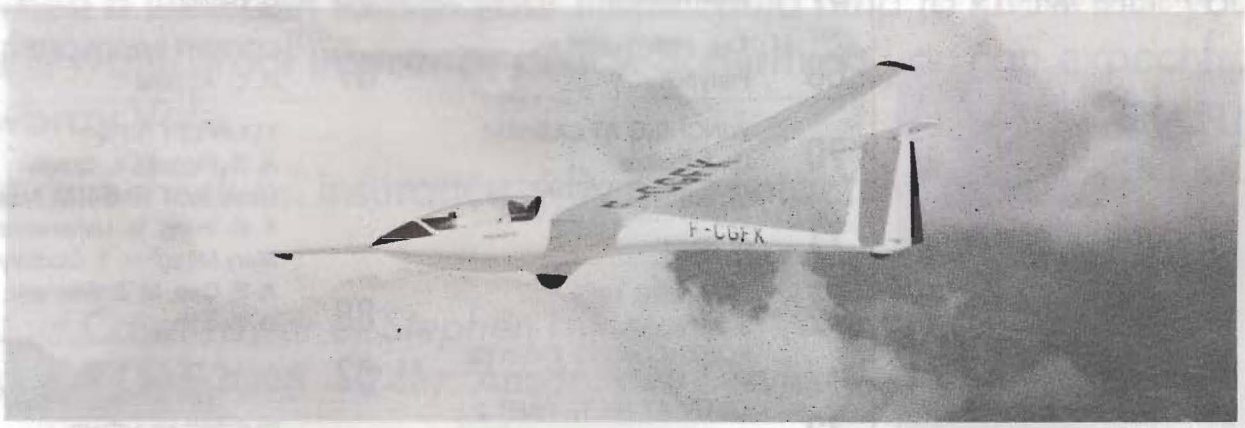
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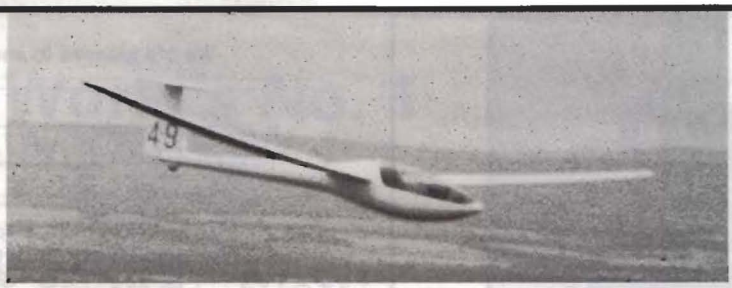
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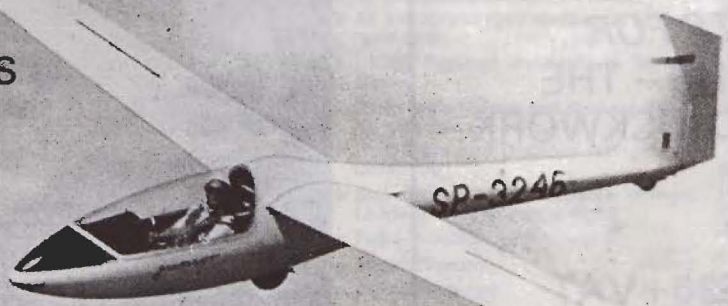
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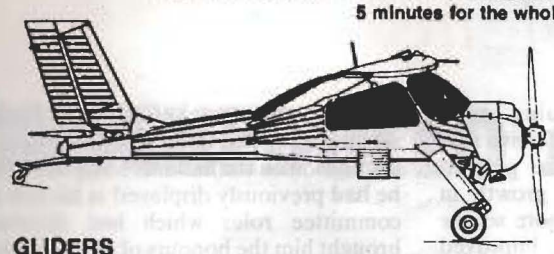
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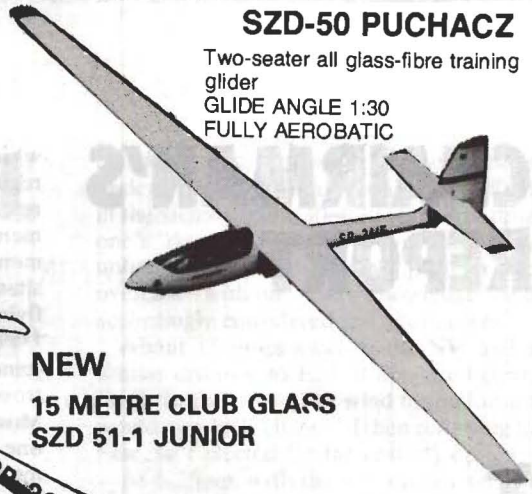
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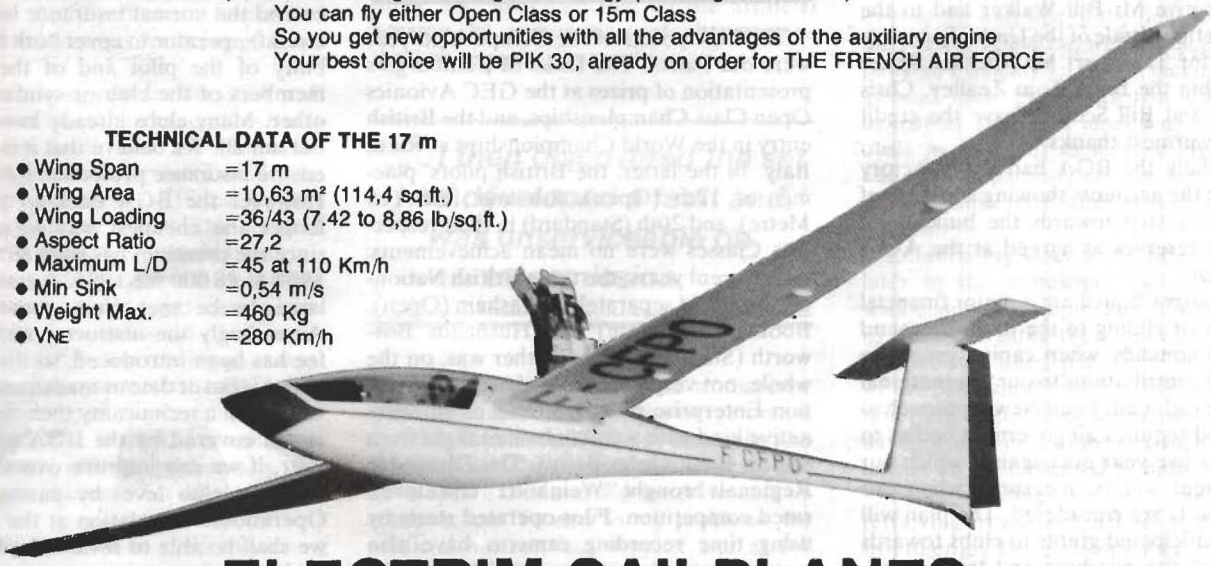
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CHAIRMAN'S REPORT

The weather was ghastly but in other respects 1985 was a remarkably good year. Total hours flown increased by 5% and pilot membership of all clubs by 3%. However, cross-country distances flown were down by 14% from the 1984 record. A few soaring days were excellent. Congratulations to Chris Rollings for the first UK 750km triangle (Petersfield/Welshpool/York), to Tom Docherty for the first 500km in Scottish wave, to Dave Watt for the 15m 400km triangle speed record and Mike Jeffereys for the two-seater O/R record. Further afield Pam Hawkins in Australia set a new world female 750km speed record (110.5km/h) and Alan Sands in USA the British National goal and return distance and speed records (1128km at 105.8km/h). Congratulations to both of them.

Our success in reopening access to wave soaring at Portmoak represents a considerable achievement after more than two years pressure and negotiation by the BGA. We are most indebted to our Parliamentary representative Mr Bill Walker and to the sympathetic attitude of the Under Secretary of State for Transport Mr Michael Spicer MP. Within the BGA Tom Zealley, Chris Nicholas and Bill Scull deserve the credit and our warmest thanks.

Financially the BGA had a satisfactory year with the accounts showing a surplus of £14 911 – a step towards the building of adequate reserves as agreed at the AGM last March.

The Sports Council are a major financial supporter of gliding to the tune of around £100 000 annually when capital grants to clubs and contributions to our international teams are included. Their New Approach to Grant Aid requires all governing bodies to produce a five year plan against which our achievement will be measured when our future grants are considered. The plan will include anticipated grants to clubs towards the cost of site purchase and training aircraft. A considerable amount of work has been involved in the preparation of this plan but it is now well advanced and should come into effect from October 1, 1986. Our main aims are the preservation of a low cost base which depends on continuing self-regulation and that in turn on effective representation by the BGA *vis a vis* government (*eg* CAA and NATS); growth in membership; development of more secure sites and improved equipment; improved flying and sporting performance.

Four new or re-emerged gliding clubs joined the BGA during the year – Albatross, Dartmoor, Eye Fly and Surrey Hills. Most important for the long term future, one more club acquired its own site (Usk), making a total of 19 secure civilian gliding sites. The BGA has been heavily involved in assisting other clubs to obtain sites or planning permission, though sadly one of the greatest efforts (Albatross-Plymouth) has proved unfruitful after years of work and £7 000 of legal fees for the club. In the latter case, the CAA failed to disclose a most damaging situation for the club's case until the inquiry, but there is no appeal or compensation procedure where the authorities so act – a recurring problem.

- ***Increase in hours flown***
- ***Membership up by 3%***
- ***Reopened access to wave soaring***
- ***Satisfactory financial year***
- ***Now 19 secure sites***

The high points of the Competition year were our Patron The Duke of Edinburgh's presentation of prizes at the GEC Avionics Open Class Championships, and the British entry in the World Championships at Rieti, Italy. In the latter, the British pilots' placings of 12th (Open), 8th and 11th (15 Metre), and 20th (Standard) in their respective Classes were no mean achievements. As in recent years, the three British Nationals were held separately at Lasham (Open), Booker (15 Metre) and Husbands Bosworth (Standard); the weather was, on the whole, not very kind. Elsewhere, Competition Enterprise provided tasks of an alternative kind with a cross-channel flight from Sutton Bank (John Bally). The Dunstable Regionals brought "Weinholtz" tasks into a rated competition. Pilot operated starts by using time recording cameras have also been successfuly tested and will be mandatory for the Nationals in 1986.

The BGA's Annual General Meeting and Conference were held at Cardiff, ably hosted by the South Wales Gliding Club. This event saw the retirement from five years of chairmanship of Tom Zealley, whose dedication and energy have been an inspiration on the national scene – as indeed he had previously displayed in his club and committee roles which had deservedly brought him the honours of the Royal Aero Club's Silver Medal. He continues to serve the BGA as our CIVV delegate.

Dedication in national and club affairs are as old as gliding itself, but it was gratifying to see them rewarded by Her Majesty the Queen personally at the Royal Aero Club's presentation ceremony, when Tom Zealley received his Silver Medal and Jack Minshall, of the Midland Gliding Club, a Bronze Medal in recognition of his devoted service at the Long Mynd.

Ted Lysakowski retired from the chairmanship of the Competitions and Awards Committee, a demanding position he had so ably held for five years. The new incumbent is John Taylor. The Executive Committee has benefited greatly from the contributions of Dickie Feakes, Mike Smith and Pete Saundby. These members retired at the 1985 AGM and were replaced by Max Bishop, Bill Dean, and Don Spottiswood. The BGA has forged closer links with the Air Cadets to our mutual benefit, and now has Air Cadet observers at the Executive and other committees. We in turn were invited to visit Syerston to see the new approaches and equipment being adopted by the Cadets.

We have given much consideration to insurance matters. A proposed amendment to Operational Regulations for the AGM in March 1986 will make it mandatory to extend the normal insurance bought by an aircraft operator to cover both the legal liability of the pilot and of the individual members of the club or syndicate to each other. Many clubs already have this cover but not all. We believe that it is essential to ensure insurance protection for instructors. However the BGA back-up policy is no longer the cheapest way to achieve this since the premium has risen from £2 000 in 1984 to £8 000 for 1986. A sum that is too large to be met from general income. Accordingly the instructor rating renewal fee has been introduced, so that if a club's policy is out of date or inadequate in total or voided on a technicality then the instructor is still covered by the BGA policy. However, if we can improve overall insurance cover at club level by passing this new Operational Regulation at the AGM then we shall be able to review the BGA's own back-up policy again next year, and also the instructors renewal fee, to see if they are still necessary.

Training and safety standards have continued to receive close attention. The over-

(Continued on next page.)

UNSCHEDULED ARRIVAL

Wave flying in a mountainous area, Alf had few options when the gap in the clouds closed, daylight was fading and his radio developed a fault.

Sitting at 17 000ft in my Ventus B over the Dee valley to the lee of the Grampians I divided my attention between the altimeter showing a gradual climb of 150ft/min and keeping a weather eye on the stratus type cloud slowly thickening way below. Overcast skies earlier on that mid-October day had finally cleared sufficiently for the tug to start launching at 3pm so that we could take advantage of the few remaining daylight hours.

Above Aboyne field the previous week, strong south-westerly winds had been regularly producing wave formations from the mountain contours which glider pilots dream about – vast areas of strong smooth upcurrents of air wafting sailplanes to altitudes verging on the sub-statosphere.

Earlier on this particular visit flights to 9500ft and then 15 500ft had whetted my appetite, so although the sun was now sinking I was loath to break off climbing before topping Diamond height.

Then it unhappily happened. The one smallish gap underneath showing the reassuring meander of the Dee near the home airfield closed up in a matter of seconds and left me no alternative but to start descending. Below there was now a complete cloud blanket and at 6pm daylight availability was becoming an all important factor in the changed circumstances.

Putting out the airbrakes, I started to let down slowly to avoid encouraging the formation of mist or worse still ice on the canopy exterior due to a cold airframe encountering the lower warmer temperatures, and then switched on the artificial horizon in anticipation of the passage through cloud.

'. . . I then discovered the set had developed a fault and was unserviceable on transmission.'

At 13 000ft it became safe to dispense with the encumbrance of the oxygen mask and thus use the radio. To my discomfort, to say the least, I then discovered the set had developed a fault and was unserviceable on transmission. To add to my problems the artificial horizon had toppled and at full revs was showing an inverted presentation. However, it would only be at fault in pitch and the degree of error could be assessed by the aircraft's gliding angle.

Loss of radio contact was disconcerting as it was of paramount importance to know the cloudbase and general weather conditions under it. With mountains peaking to 3000ft in the vicinity and a 30-40kt wind upsetting one's dead reckoning, I was decidedly unhappy about descending through the overcast without that knowledge and accordingly considered the alternatives.

About 15 miles away to the NW and a similar distance to ESE it appeared clear. To fly in the strong SW wind to the former would give little chance of then returning to base, so I elected for the easterly option.

At 6.25pm, with the sun already set but with the ground visible, I pinpointed the aircraft's position near Loch Skene and could see the eastern sea board. Unfortunately it was not possible to verify my actual position as Aberdeen, though presumably only about eight miles away, was shrouded by the cloud layer.

From 6000ft it was still possible to get back to Aboyne in the thirty minutes of daylight left but with the ground assuming a monochrome appearance, coupled with a partly misted up canopy, any possible error of navigation would entail landing out in the sticks, a hazardous and daunting prospect at dusk.

There was only one really sensible course of action, make for Dyce Airport. So turning east I rapidly lost height to see if Aberdeen was where it should be. Sure enough within minutes the glider was under the cloud blanket and there it lay with the aerodrome on the north side invitingly lit up.

As anticipated a radio call to the air traffic frequency elicited no reply, so flying over to the east side of the field, away from the runway in use but well inside the circuit pattern, I quickly let down, picking a small grassed area by the British Caledonian helicopter pads and landed as inconspiciously as possible; so successfully, I might add, that apparently no one was aware of the sailplane until after it had arrived at 6.45pm.

Relating my story some fifteen minutes later to the somewhat cool and correct senior air traffic controller, it was pleasing to see him visibly thaw out and when I'd finished he smiled and said "Well as far as we are concerned it was an emergency situation – above cloud, no radio, running out of daylight and in a glider, in such circumstances we were pleased to help."

Whilst waiting for my very relieved retrieving crew I settled down in flying control to enjoy Dyce's hospitality in the form of an Air UK packed meal, coffee and, of course, a not so wee dram.

At my rather ripe age, one ought to be considering a pastime with a softer option, but then it could never be the fun or have the challenge of soaring in the skies!

(Continued from previous page.)

all trend of accidents continues to be similar to recent years and, sadly, there was one glider fatality during the year. Research into tug upset accidents continued, including flying tests by an intrepid group of pilots at Booker, but there is not yet a reliable and fail-safe mechanical solution to the problem. Various modifications to hooks and other new developments are being progressed.

It has been a busy year for the BGA staff particularly our two senior executives Barry Rolfe and Bill Scull; and 1986 looks no different. On behalf of all pilots I would like to thank them and their staff most warmly for their work on our behalf. The hours of 9-5 have little relevance in their lives.

In addition to the permanent staff there are no less than 84 glider pilots serving honorarily (and fairly voluntarily) on committees. In nearly every case this involves continuing responsible work for the BGA and not just attendance at meetings. We could not operate without them so I thank them also very much indeed, particularly the sub-committee chairmen for all their work during 1985.

As we look forward to 1986 the issues most in our minds are the proposed airspace restrictions around Upper Heyford and the Hire and Reward case at Lasham. An update on both will be given at the AGM. With your help we will continue the fight for freedom from beaurocracy!

500KM DAYS

Tom tells you what to look for on Met maps so this season all the good days may be exploited

The ideal day starts off with clear skies. Strong thermals, marked by shallow cumulus, develop early and the cloudbase rises above 4000ft by mid morning. Cloud remains well broken throughout the day and shallow cumulus persists till very late in the afternoon. The wind at flying levels remains light and the visibility is very good. There are no problems with showers, no spreading out of layer cloud to cut off the sun and no approaching fronts to send a sheet of cirrostratus to cut down the thermal strength. The area we wish to fly over remains unaffected by incursions of unsoarable sea air and any sea breeze fronts lie conveniently along our track during the latter part of the day.

Such days are so rare in England that it is a tragedy to be stuck on the ground when they come along. This article is an attempt to show how one may pick out the really good days using only the limited data provided by the BBC and the press.

Where to find the data

The larger dailies such as the *Telegraph*, *Times* and *Guardian* print forecast charts showing the pattern of isobars and fronts for 1200GMT. The BBC T/V broadcasts (which were much improved last year) generally show both the present chart and a forecast for 24hrs ahead. If one lives near one of the weather centres (located in a few of the major cities) these charts can be seen on display.

What to look for

1. Wind speed and direction. The direction is shown by the isobars. At 2000 to 3000ft the wind blows almost parallel to the isobars with (in the northern hemisphere) low pressure to the left. The speed can be measured from the distance between the isobars if there is a geostrophic scale provided. Newspaper charts do not give geostrophic scales, but one can find the approximate wind speed as follows:

Mark out a distance of 300nm with a piece of paper or dividers. This distance is equal to 5° of latitude. If your little map does not mark lines of latitude then pick some prominent features such as Lands End to the mouth of the Humber, (or if these marks are obscured on the map, then try the Isle of Man to Cap Gris Nez across the straights of Dover).

Lay the dividers at right angles to the isobars and find the change in pressure from one end to the other. Multiply this by 2.5 and you have the geostrophic wind speed in knots (see Figs 1 & 2). For example if the pressure change was 10mb the wind speed would be 10×2.5=25kt.



Fig 1

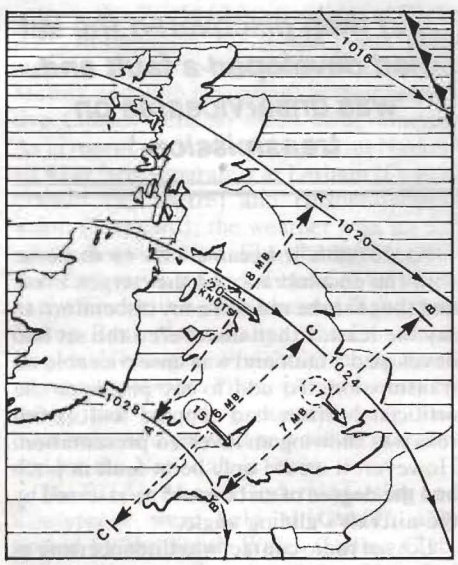


Fig 2

Geostrophic Wind Factors

To use the table below:

1. Measure off a distance of 300nm on the weather map. This is equivalent to the distance between 5° of latitude or 10° of longitude at latitude 60.
2. Lay this 300nm line at right angles to the isobars and find the pressure change between ends.
3. Multiply the pressure change by a factor for latitude given in the table below.

For example if the latitude was 55° and the measured pressure change was 5mb, then the geostrophic wind would be 5×2.4=12kt. (2.4 is the factor for latitude 55.)

Latitude	Factor	Latitude	Factor
70°	2.1	45°	2.8
60°	2.3	40°	3.1
55°	2.4	35°	3.4
50°	2.6	30°	3.9

You can take half the distance instead of the full 300nm. If so the factor must be doubled from 2.5 to 5 times the pressure change to get the wind speed.

Critical values: the ideal is about 10kt, more than 16kt begins to present difficulties unless the soaring day is very long. 20kt is about the limit.

Best wind directions: When the air has come from a more northerly point thermals are likely to start earlier and finish later than in air which has come from the south. However air which has had a long sea track is liable to be too moist, especially near windward coasts.

2. Curvature of isobars. In the northern hemisphere isobars curving to the left round a low are said to have cyclonic curvature. Curving to the right (round a high) is termed anticyclonic curvature. It is nearly always true that the best conditions occur with anticyclonic curvature. Cyclonic curvature, even if the nearest low is hundreds of miles away, is apt to produce excessive amounts of cloud and often stimulates "showers or longer periods of rain".

Anticyclonic curvature is almost essential for 500km days. This means that a well marked ridge or an advancing anticyclone appears on the forecast chart for your area.

3. The dew point. If you listen to VOLMET broadcasts you will hear (after the wind, weather and cloud data) the temperature and dew point. The drier the air the greater the difference between temperature and dew point. One may estimate the base of cumulus from these figures provided that the temperature is rising (during the morning and early afternoon). Take the difference between the two values and multiply

by 400. This gives the likely cloudbase in feet. For example if the temperature is given as 22°C and the dew point as 12°C then the cloudbase should be 10×400=4000ft above the station. Do not use this simple formula after the temperature has begun to fall.

Criteria: A difference of 10°C by early afternoon is the lowest acceptable value for a 500km day. On most occasions the value ranges between 11 and 18.

The only reliable way of finding this value is by asking a Met office, but one can make a very rough estimate by seeing what the T/V gives for min and max temperature the night before. Provided that the weather looks fairly settled (and no fronts are expected to cross the area overnight) then the night min temperature is a rough guide to the afternoon dew point.

If the day max is forecast to be less than 10° above the night min then conditions are unlikely to be good enough for 500km.

4. Additional items

(a) Dry ground. Dry ground with no significant overnight rain is almost essential. When the ground is very moist so much of the sun's energy is used for evaporation that little is left to produce good thermals. Only when the air is particularly cold and unstable do satisfactory thermals rise from sodden ground. Even then the cloudbase is likely to be rather low.

(b) Pressure and Tendency: The actual pressure is not a critical factor. It is more useful to see if the area is closer to a high than a low. On most good days the pressure lies between 1016 and 1030mb. Too high a pressure is not a good sign in summer; there seems to be a cut off above 1033mb. This is because anticyclones are usually associated with strong inversions which limit the extent of thermals. With dry air and a strong inversion below 4000ft there may be only blue thermals. If the inversion lowers to 3000ft it becomes almost impossible to maintain enough cross-country speed to complete 500km.

Unfortunately the only means of finding the level of the inversion is to send a tug aircraft up with thermometers or ask a Met office which has access to upper air soundings.

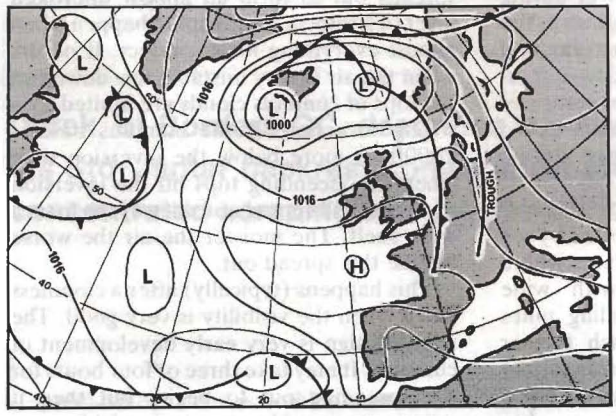
"Tendency" is the term used to indicate if the pressure is rising or falling. The best days usually occur when the pressure is steady or just beginning to fall; in other words near the crest of a mobile ridge just before the next frontal system spreads its sheet of cirrus over. The days when pressure rises strongly following the passage of a cold front or trough are seldom good for long cross-countries in thermals (though they may favour wave flights).

(c) Visibility. This is not shown on press or T/V charts and seldom mentioned on radio forecasts. A hazy day is seldom good for long flights. Haze is thickest when a well developed inversion traps the particles of dust and industrial pollution in the lowest few thousand feet of the atmosphere. Over the British Isles haze is often worst with easterly winds from the continent.

The haze absorbs some of the sun's energy. This is particularly noticeable when the sun is low in the early morning and late afternoon. As a result thermals start later, end earlier and are often weaker on hazy days.

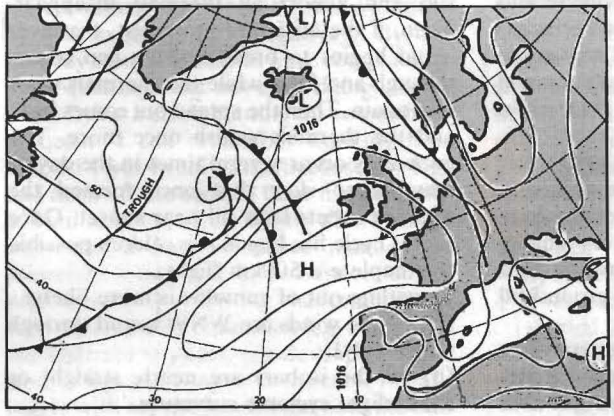
Weather maps which show three of the 500km days in 1985

Tuesday, May 28



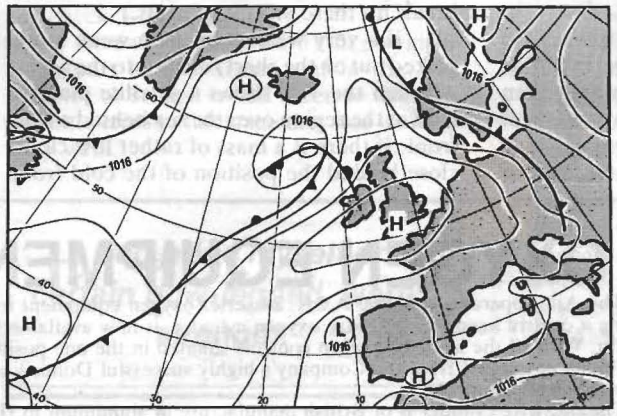
One of the best soaring days of the year. The air over England had come from the region of Iceland. The isobars (drawn at 4mb intervals) indicate wind speeds less than 10kt over the Midlands but about 20kt over northern England. The ridge was building and high pressure settled over the country next day.

Saturday, July 6



The air had come across the Atlantic from the west but the Azores high was being transferred to southern England. Although a good ridge was developing the spacing between isobars suggests 20kt winds over the Midlands at midday. The speeds decreased from the SW as the high approached.

Sunday, July 7



The air over the country had not changed much during the previous 24hrs but the winds had become very light over England. The only snag was the warm front (shown crossing Northern Ireland). This front brought moister air and a stratocumulus sheet spread across Wales into the west Midlands later in the afternoon.

5. Points on route planning. Let us suppose that all the weather signs are favourable. A cold front has gone through followed by a north-westerly wind. A developing ridge is expected to move over during the day; the winds will become lighter as the day goes on. Pressure has been rising and seems likely to peak at about 1025mb. Yesterday the T/V predicted min temperatures of 6°C and a max of 20°C so the air should be dry enough for a high cloudbase during the afternoon.

(a) Turning points should be chosen well clear of coasts which may be affected by sea breezes. This means avoiding places where there are broad estuaries with wide expanses of low ground extending miles inland. Sea breezes travel much further over such flat ground. If these areas cannot be avoided it is as well to get across them early in the day.

(b) Try and pick the first leg downwind. If the wind is expected to decrease one should make the most of its help during the morning when thermals are weaker. Later in the afternoon when the cloudbase has risen and the thermals are strong one can push into a headwind much better.

(c) It is often worthwhile to start over higher, and therefore drier ground. Except in a drought thermals develop later over wide moist valleys than over dry chalky downs. The difference may amount to a couple of hours. Leave the low ground till afternoon if possible.

(d) Late in the day thermals may continue over ridges facing the setting sun for a couple of hours after they have died out over level ground. This may be decisive at the end of a long day.

6. Some things which may go wrong. No simple rules of the weather are infallible and the day may look very promising even though all the criteria are not satisfied. However, beautiful clear mornings may prove deceptive. Still if one waits for the optimum the good day may be wasted.

1. Spreading out of cu. The commonest cause of a spoilt day is when cumulus spreads out to form an almost unbroken layer of stratocu. This is apt to happen when almost everything looks perfect. It occurs when the air is very unstable low down but the tops of cumulus clouds are limited by a strong inversion. If the cumulus base is 2000ft or more below the inversion then when the ascending tops hit the inversion the cloud will spread out sideways to form a wide shelf. The moister the air the worse will be this spread out.

This happens (typically) after a cloudless dawn when the visibility is very good. The warning sign is very early development of cumulus. It may take three or four hours for the spreading out to begin, but then it occurs over a wide area very quickly.

"Cycling". The spread out cuts off the sun and almost all thermals disappear. Then, if the air is not too moist, the layer cloud begins to break up, the sun comes through and for a while the thermals work well again. Then the spread out comes back and the thermals vanish once more. The cycle may occur several times in the day or may be so slow that once formed the stratocu sheets lasts till near sunset. Once such a cycle has begun it is seldom possible to complete a 500km flight.

Spreading out of cumulus is more likely:

(a) if the winds are WNW round through north to NE.

(b) if the isobars are nearly straight or show slight cyclonic curvature.

(c) near the windward coasts. (A range of hills between your area and the coast may break up these stratocu sheets.)

(d) if a very weak front (too weak to be picked out on the chart) drifts into the area.

When the T/V shows a satellite picture, look at the region over the sea behind a cold front. If there is a mass of rather low cloud close behind the position of the cold front then one may expect cumulus to spread out overland next day.

2. Dispersal of cu. Spreading out of cumulus occurs when the air below the inversion is fairly moist. If the air is relatively dry the cumulus does not spread out but may gradually disperse as the temperature rises. This is likely:

(a) when there is an anticyclone moving in towards the area.

(b) when the cumulus forms less than 1000ft below the inversion or,

(c) when the inversion comes down to meet the base of the cumulus.

This "burning off" of cloud is far preferable to the previous "spreading out" because it nearly always leaves blue thermals to continue. It is usually rather disconcerting when it happens in front of one. The reason may be just that the air has become drier in that section but it may also mean that the inversion is lowering, in which case the thermal strength will probably decrease. If it happens near the coast the sea breeze may be responsible and it would be rash to try and press on across the blue.

BRIEF SUMMARY OF GOOD CONDITIONS (April to September in England)

1. After the passage of a cold front (but not always immediately after it).
2. When the wind speed is less than 16kt and the air has come from a colder (usually a more northerly) region.
3. When the isobars have anticyclonic curvature (generally nearer the high than the low), *eg* near the crest of a ridge of high pressure or ahead of an approaching high.
4. If the night min is at least 10°C below the max the following afternoon.
5. Provided the land is not damp after recent rain.
6. It is an advantage if the pressure is between 1016 and 1030mb and has almost finished rising, and if the visibility is good.



OXYGEN EQUIPMENT

The Air Apparatus & Valve A.I.R. 24 series oxygen equipment for gliders, comprising a control head and 680 litre oxygen cylinder, is now available for self installation. With all the in-flight oxygen controls situated in the one position, this control head has been developed from the Company's highly successful Domiciliary oxygen unit to Drug Tariff Specification 01B.

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COCKPIT CONTORTIONS

Derek, of Borders GC, describes the alarming problems when his Std Jantar backrest comes adrift after 45 minutes of concentrated scraping in the hope of finding wave.

In retrospect my cockpit workload was quite high even though it was self-imposed and I probably did 'hitch' myself in the seat from time to time. After approximately 57mins from take-off I felt my seat backrest give a little and I took a cautious look over both shoulders to assess the problem. The horizontal tube sticking out both sides of the backrest had somehow slipped out of one side of the previously considered very adequate notches on the wall of the cockpit. I paused only for a moment before deciding to land and while attempting to alleviate the pressure on the backrest, I reached for the undercarriage lever. That is when the backrest came completely out of the notches and clattered to its rear most position in the cockpit.

Not only could I not lower the undercarriage but *all* the other controls were beyond reach, except the stick which I could only just reach well enough to stop stalling. (I suppose my sudden weight shift rearwards contributed more than a little.) With the sudden strength and agility one gets in such moments of crisis, I was soon bolt upright but still too far back to get my feet on the pedals. The problem was the carefully profiled floor/seat made a bowl shaped well and without the backrest I kept slipping rearwards and down (rather like sitting on a children's slide at the bottom and pushing yourself back up the slide feet first). The movement involved was only a few inches but enough to make me give up worrying about the rudder. Other problems loomed. (Isn't it wonderful how it steels the mind!?) I can remember pausing (while I lost height) to further assess my options and duly registered the pre-stall buffet caused, no doubt, by the above problems and compounded by some of these:

Without the backrest I kept slipping rearwards and down

1. My straps had gone slack when the backrest slipped and somehow seemed to have caught up on something, stopping me bending as far forward as I might.
2. My parachute tended to pull my back straight while I tried to bend and only added to the load on my stomach muscles, which were all that were keeping me in the sitting position.
3. Although you wouldn't think that with all the handles and controls in today's crowded cockpits you could have much trouble finding something to hang on to stay upright, I assure you that if you are 5ft 7in and in a Jantar cockpit in such a predicament there is nothing, and I was looking hard!

I was being a bit vicious with the stick and after avoiding another stall (or two) I managed to impose a little negative *g*. By this time my stomach muscles were complaining and twitching – its not easy doing sit-ups while flying a crash hunting for somewhere to occur. I can remember thinking how relaxed I was in this crisis because my legs had risen off the cockpit floor momentarily as I induced negative *g* during what I laughingly call a stall avoidance manoeuvre. However, being still in possession of my urge to survive, I saw my chance and jammed my erstwhile redundant legs up behind the instrument panel, crawled up my own trouser legs and hung on to the cable release toggle with my left hand. I did note the odd white knuckle or two! Clunk – down went the undercarriage and I completed my landing checks – well, nearly.

My stomach muscles were still playing a large part in this drama and in the two minutes or so that it had taken to develop my little crisis to this stage they had worked very well.

'. . . I do pride myself on a certain bow-legged, warty strength.'

Now, while I have never been complimented on my athletic physique, I do pride myself on a certain bow-legged, warty strength. Unfortunately, this was rapidly deserting me.

Ailerons only, I rounded the combined crosswind and final turn while lying down almost blind in order to give the old tummy muscles a rest. As soon as I had partially recovered I began the long crawl up my trouser leg again and after securing the airbrake lever in my left hand, began to see the possibility of landing without breaking Carol Taylor's heart. After that the landing was ungainly but uneventful and the steepened attitude allowed me the privilege of the rudder now and again. I rolled to a stop, laid back and made a mental note to assure one of my comedy-prone associates back at the launch point that under certain conditions certain sphincter muscles really do twitch "like a mouse's ear".

Upon reflection –

1. I will make better use of the so far disregarded toe straps on the rudder pedals.
2. (a) If I had spun in, and were not here to tell the tale, the reason for the accident would have been very difficult, if not impossible, to determine.
   (b) Have any unexplained accidents caused by this or a similar problem occurred?
3. A simple mod is possible that would lock the backrest home.
4. The backrest probably freed itself because at some point after taking up the seat in the aircraft I hitched myself up. In the Jantar this means that my parachute, being on my back, would connect with the bottom of the headrest which is part of the seat back. After this contact is made, a further upward hitch of no more than the depth of the previously mentioned notches on the cockpit wall is required to give you first hand appreciation of the mouses ear syndrome.
5. Even in flight (after being checked by someone else on the ground before take-off) it seems to me very possible, and all too easy, to dislodge the backrest.
6. Should I have loosened my straps?
7. Perhaps ideas about the best way to modify the seat adjustment can be aired in *S&G?*

'SO THERE I WAS...

John ruminates on the coming season

". . . crop up to the horizon and nothing on the clock but the maker's name, when I felt this tickle under my left wingtip, cartwheeled into a four knotter and just scraped together enough height for a straight-in glide back to base. Damned close thing; don't fancy doing that every day, I can tell you! Who's round is it, anyway?"

Here we are, in the bar of just about any gliding club at the end of a Good Day. The pundits have all taken photos of John O'Groats and got back in time to let their partners have a go, and badge collectors are waving claim forms at Official Observers. New solo pilots are planning their 300kms for tomorrow, which Mr Met on the telly assures us will be even better than today. Meanwhile, strange looking boxes are being towed down unreasonably narrow country lanes in attempts to locate the more ambitious of the day's pilots.

All things being equal, I would on the whole much prefer to end the day back at base rather than in a field a hundred miles away with the night closing in. I might even go further to suggest that had I been present at the Creation I would have been tempted to offer some useful hints on the better ordering of the Standard British gliding season; you see, no matter how determined I am to never land out again ever, I regularly find myself just outside a place like Ambridge (one telephone, pubs all shut), waiting for my crew to arrive and wondering how I managed to cock it up yet again.

Of course, the day never starts out that badly when one decides to do the Big Task. On the contrary, the airfield comes alive with enthusiasm; cheerful cries ring out proclaiming "It's MY turn today!", while the poor old Official Observer is snowed under with requests to sign every barograph in the club (his own, incidentally, remaining untouched), supply maps all pointing downwind, lend his car to complete strangers so they can move their trailers to the rigging area and put together gliders he never even knew existed.

Speaking for myself, should I manage to get to the launch point with an intact glider, all my maps and even a vague idea of where I'm going, I reckon I'm riding my luck and perhaps I ought to start doing the football pools as well. Not that just being ready to go is enough; the next problem is trying to locate someone with both the ability and the intention to offer a tow during the soarable part of the day. Now I am led to believe that the super clubs don't have this problem – just wheel out another tug, insert a passing PPL holder in the correct seat and shout "Take me to that cloud!". However, this ain't necessarily so at the humbler end of the scale, where mere mention of the words "tug pilot" throws up nostalgic memories from the previous evening's session at the King's Head. Naturally, this situation can lead to emotions running rather high.

'. . . it will be possible to witness normally sane, responsible human beings going bonkers . . .'

It becomes evident that the carefully prepared mammoth task of the season is slipping away; serious consideration is given to the challenge of wire launching half-a-ton of ballasted glider to dizzy heights of up to 500ft. Should one elect to play safe, it will be possible to witness normally sane, responsible human beings going bonkers over the dilemma. The fun really starts when a tug pilot is finally persuaded to leave his hangover in bed and drive his machine onto the launch line. Several gliders pull out at the same time, each naturally expecting the first launch. A scene develops very like those found in "Rambo"; we are soon past thinly veiled implications concerning each other's airmanship/parentage/carnal habits and well into full-blooded physical warfare. It occurs to me that it might be a good idea to avoid thermalling with this lot, if it can possibly be avoided.

Eventually, something resembling sanity returns to the airfield (usually, though not always, in the form of a CFI) and gliders at last start to get away. Now to turn my attentions to the now unrecognisable task of the day. Last season I used to set myself these multi TP jobs, which I have subsequently found to be somewhat double-edged. It is true I didn't often find myself too far away from home; nevertheless, it is also true that there was a far greater number of opportunities to lose hard-earned altitude by my rather erratic TP photographic techniques.

The task progresses and what were earlier on wonderful round topped, firm bottomed "up" clouds have now degenerated into flat, nondescript sheets with lift to match. After spending what seems like hours in a strong zero knot thermal at an indecently low altitude, the feeling grows that perhaps once more it might not be possible to get back. A field becomes selected by some mysterious process not yet fully understood, as 130.4 informs me remorselessly of other pilots final-gliding. "Blown it again; should have turned back earlier. Where on earth am I, anyway?" This "Who Dares Wins" spirit is fine for some – they either make it back every time or actually enjoy going *aux vaches*. The best that can be said for the rest of us is that it is good character building stuff.

So, there's the field, that's the undercarriage lever and here's the one for the brakes. A vain attempt is made to contact someone back at base; probably in the bar already. Tally-ho, down we go. As field selection is usually a headache for me, these days if I have the choice I much prefer landing out at real airfields rather than Farmer Brown's wheat crop; airfields are easier to find for the crew, and the chances of hitting unseen obstructions are that much less. I quite like the idea of being able to drive away with an intact glider (and, incidentally, an intact me). Besides, the chairman's got all my Polyfilla.

Of course, another big plus for airfields is that they are fairly used to aircraft descending upon them. I can't speak for Heathrow or Westcott, but at most of my outlandings I have at least managed to locate fairly quickly a telephone which works. There can be few more frustrating situations in which to find oneself than in the middle of the country next to an abandoned farmhouse trying to force 10p pieces into a vandalised telephone as the night draws on.

All I can do is wait to be rescued

At last I get through to a semi-drunk back at base who seems to find my predicament hilarious. After several more 10ps, the details of my landing are allegedly with the crew who cannot believe I could possibly have landed that far away – again. All there is left to do is wait to be rescued.

This generally takes an inordinate amount of time, so giving me plenty of opportunity to amuse myself. Of course, it may be just possible that the landout has occurred in the vicinity of a country estate,

at which I may be treated to an intriguing combination of pizza and champagne by two well-appointed young females, or perhaps instructed on the finer points of billiards and the subtleties of malt Scotch in the Earl's drawing room. Never seems to happen to me, though – these are the stories which always originate from a friend of a friend.

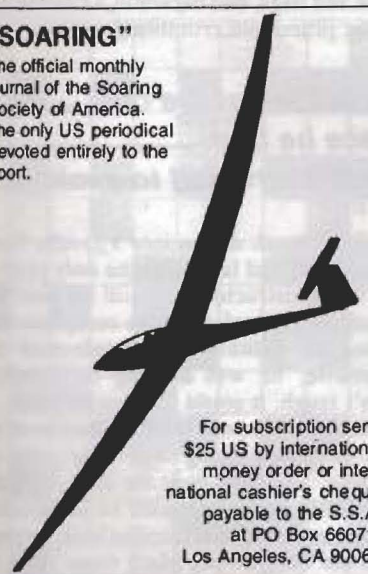
Eventually, the sandwiches run out, and all the tapes in the Walkman are exhausted. In spite of the anorak brought along for the ride, the cold begins to bite. Just when the thought of a warm fire and something hot inside me becomes intolerable, a large object lit up like a horizontal Christmas tree appears out of the murk. The car holds a remarkably large number of people who are eager to pull the glider to bits and get on to the real business of the evening at the nearest pub.

Once there, I reflect that at least the landing was safe (*ie* I walked away from it) and that my trailer is unlikely to fall to bits on the way back to base. That hasn't always been the case; it was as a result of my old trailer attempting to commit suicide on the M6 near Carlisle that I realised that there must be a better way to get a glider from A to B. These wooden trailers are fine for their first few years, but one's faith in them diminishes slightly when the floor parts company with the walls at 50mph.

So, I went to see this bloke down Membury way who not only built me a fine metal trailer but also put back by several years my plans to buy a Nimbus 3T. If you're reading this, Angus, thanks for the box – it did me proud last year (I've not known gratuitous publicity to do any harm). As for my crew – you can relax; I've no plans whatsoever to land out this season. Just like last year.

"SOARING"

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MIKE GARROD

CUMULUS

A look at meteorological services for competitions, past, present and future, with fears that we are heading for a critical time

It goes without saying that gliding, in spite of major advances in sailplane design, remains totally dependent on the weather. The pilot needs to learn some meteorological knowledge to achieve the best performance on a soaring day, and in the competition arena the professional meteorologist is there to improve the chances of success. One would have thought that as gliding developed the Met aspect would have improved too, and indeed it has to some degree, but in the UK we have reached an extraordinarily precarious position. It needs to go back in history to see why.

Competition flying before the Second World War just did not exist as we know it today. Perhaps this was just as well, as Met knowledge of the upper atmosphere was also in it's infancy. Weekend meets were a common occurrence, during which pilots were left entirely to themselves to decide whether to go for duration, height gain or distance. Prizes were awarded for what was considered the most meritorious flight.

After the war things began to change, if only slowly. The first ever task to be set in a Nationals was in 1950 at Camphill, the goal being Boston, Lincolnshire. It was the only one set at that meeting, but from then on it became an institution.

It soon became apparent that there was a need for a professional meteorologist for National events, and the Met office was approached to furnish this need. It was extremely fortunate that one volunteer for the job was a Mr C. E. Wallington.

By the mid fifties a working system for the Nationals had been developed, led by Wally. He usually brought along a trainee forecaster with him, and also an assistant to plot the essential information received on a teleprinter linked into the Met office communications' network. The only cost to the gliding movement was the data link, and in those days it was relatively cheap. The main expenses were charged to the public purse.

I first met Wally during the 1957 Nationals, my first gliding competition. It soon became very apparent that Wally was not an ordinary man. His briefings were extremely detailed and very well presented. He exuded confidence, and not without reason. He was usually right. His association with the gliding movement resulted in the publication of his famous book, **Meteorology for Glider Pilots,** and was probably a cornerstone of what has been a brilliant career. Others have followed, but none quite like Wally.

During the fifties practically anyone could enter the Nationals provided they had the required qualifications, and these were fairly minimal by today's standards. It resulted in more and more entries, culminating in 92 at Lasham in 1961. Post competition discussions suggested that the numbers were getting too large for safety, and as a direct consequence the entry qualifications were considerably raised. In 1962 the Regionals were born.

Rated competitions in the early sixties raised problems in the Met area

The sudden, explosive development of rated competitions in the early sixties might have been good for the gliding movement, but it raised problems in the Met area which got progressively worse. The Met office were asked whether they could post in forecasters for the Regionals as well as the Nationals, and it is not surprising that this was refused. They did, however, permit forecasters to attend the Regionals provided it was in their own time and not at public expense. There were volunteers, and as far as the gliding movement was concerned the service was adequate.

In reality though there were major difficulties in providing forecasts at gliding sites scattered throughout the UK. Region-

als attracted, at most, 20 entries, and as a consequence the competition budget was much tighter as compared with the Nationals. It usually meant the organisers could not sanction the cost of installation and rental of a teleprinter and the relevant Met man was obliged to look for other means of obtaining information. The usual answer was to travel to the nearest Met office in the early hours of the morning, spend about two hours plotting and analysing data, and return to the airfield in time for a meeting with the task setter. This mode of operation proved to be very unpopular and was probably the main cause for the decline of numbers of volunteers. The Nationals remained subsidised and insulated against this particular headache.

Regular volunteers covering competitions can be counted on one hand

During the late sixties the format of the Nationals began to change, eventually evolving into two separate competitions at different sites. Today we have three. Remarkably, the Met office continued to support all these Nationals, probably because the full brunt has never been felt. A volunteer (not at public expense) has usually offered his services for at least one of these events each year, and recently no Met office staff have been posted in to cover a Nationals. Fine but for one thing. The number of volunteers who regularly cover competitions can now be counted on one hand. Two, though still prepared to offer their services, have now retired. The pool of experienced volunteers is drying up.

Apart from this critical manning situation, the whole scene has been exacerbated in an unexpected way. Quite suddenly, and largely unnoticed except by those who used a teleprinter for a contest, the cost of installation and rental jumped tenfold. It cost approximately £1000 at the 15 Metre Class Nationals at Dunstable in May 1980, and was to be the last occasion that organisers were prepared to pay such a crippling cost. This left the Met men in an extraordinarily difficult situation. Very few people realised how serious it was, even at the top.

Somehow or other, during the following two years, forecasters managed to get by. For example, Competition Enterprise in 1981 was held at Shobdon, and extremely successfully, but it could hardly have been a worse site from the Met man's point of view at this critical time. It was resolved by spinning a few yarns to Rank Xerox, and borrowing a Docfax machine for nothing. A telephone link was established with the Met office at Heathrow, and the charts requested sent down the line at relatively low cost. The overall situation, however, was so critical and urgent that two individuals dipped into their own pockets and purchased radio receivers, Facsimile and radio teletype equipment. It cost over £5000. This eliminated the need for costly telephone links and rental charges. The provision of forecasts at many events now depends on these two private individuals, and for the time being the pressures are off. But for how long, one asks?

Regionals and Nationals are here to stay, and we have not yet got to a position where we can say, with all honesty, that we can dispense with the Met man. Some try, and succeed up to a point. There are various sources of information which the competition director can use, such as Volmet, TV broadcasts and, if lucky, have a satellite receiving system to see the distribution and movement of clouds. All this will not tell him, however, the actual and forecast upper winds, freezing level, start and end of convection, thermal strength, whether a cloud sheet will break up (to mention but a few of many relevant parameters). It is a shaky basis for running a serious competition. Telephoning a Met office for this sort of information, for various reasons, is unproductive, apart from the substantial expense.

What does the future hold? In the short term the situation is likely to become critical again, depending on how much longer the broadcasts *via* radio will continue from Bracknell. They could be withdrawn at any time. If this happens, then the Met men will again be starved of their vital information. The Met office is being obliged to run on more commercial lines, and has suffered major cutbacks in staffing levels, and it is inevitable that the gliding movement will have to pay soon for the data it receives. The posting of staff to cover a Nationals could well become a thing of the past.

The long term answer to both the problems of manning and data reception must be resolved, and soon. Relying on the support of a handful of volunteers would be very short-sighted. Could the answer be the employment of a professional Met man to cover all competitions?

The information we need is always there in the Data Bank at Bracknell. How do we get it? If it doesn't come by radio there is only a telephone link. The answer must be a portable computer, capable of receiving a set programme at high speed down a normal telephone line. Does such equipment exist? What will it cost? Who will pay for it? All these questions have to be answered, or we will soon be "Up the creek without a paddle!"

MARY ON A RETRIEVE

Mary claims a sure way to find some action is to volunteer for a retrieve

It's possible in gliding to have adventures without necessarily hazarding your own life and limb, or going to great expense, simply by volunteering to help with a retrieve. I was keeping the log one busy Sunday afternoon. In fact it was so busy I thought it prudent to stay on the ground and build up credit with the CFI by being conspicuously noble and useful, so when Brian Spreckley said that Geoff Purbrick had landed out with the orange K-8, I volunteered to go and fetch him.

Brian had told Geoff, just before he set off on his attempt at Silver distance, to avoid Westcott. The week before one of our members had landed out at Westcott, and the Ministry of Defence had sent a formal letter advising us that Westcott was forbidden territory, a disused aerodrome bristling with obstructions, wires, antennae, explosives, red flags, and big white Xs on the ends of the pitted and crumbling runway.

He landed at the only place he had been instructed to avoid

Like a moth drawn into a candle flame, poor Geoff had landed at the only place he had been instructed to avoid! He was completely convinced, until the reception committee of military police informed him otherwise, he was landing at Cranfield! Don't laugh, it could happen to you.

Mark Holmes and Ian Langham were willing to come along and help with the retrieve. John had bent the club Astir during a little encounter with an inopportune hedge, and he also wanted to built up credit with the CFI. Young Mark came along too just because he's a nice guy. We hitched up

my Escort 1300 to the open trailer for the K-8, lurched on down the hill, circumnavigated Aylesbury, and found Westcott, lined by tall poplars and wide fields of winter wheat. Securely surrounded by an eight foot perimeter fence, K-8 Josée reposed on the long green grass next to the runway. We drove round and found the entrance and the resident constabulary.

"Did you bring the tools?" Geoff asked with anxiety, as soon as we arrived. To be sure, we had brought tools. Mark and John brought spanners, tappets and wrenches, appropriate for wing detachment. But first we had to fill out forms and sign our names and leave our cameras behind with the guard on duty at the gatehouse. Forms completed, assured that we had no sinister intent other than removal of the small winged intruder, we were escorted by two officers in a police car around the peritrack to the scene of the landing.

The officers remained in their car, watching us as we pulled the trailer round to the glider and began to remove canopy, cover and tailplane. All went well, until it was time to take out the mainpins. Geoff was holding up the fuselage, Mark one wingtip and me the other, instructed by John, who attempted to loosen the bolt. It wouldn't oblige. "Hold up your wing a bit higher, Mary". I heaved and struggled. Mark heaved and struggled. John heaved and struggled. The officers watched from their car, impassively.

"We'll have to hit it with something" said John. "Have we got anything to hit it with?"

We tried hitting it with a shoe. With the end of a piece of timber. With the jackhandle from my car. The perverse pins remained obdurately fixed in place. The officers in the car watched impassively. The sun began to descend in the heavens and purple dusk came creeping, as the air turned blue over the cockpit of the K-8.

I had no pride and didn't mind asking for help

"Maybe the cops could get us a hammer" I suggested, helpfully. The others were reluctant to ask for help in any form, but I had no pride, and didn't mind asking for help, and the military police didn't mind being asked, and promptly went off to look for a hammer, came back with one, and they even got out of the car and helped us heave on the wingtips, but despite all persuasion the mainpins simply refused to emerge.

"I give up. Let's go home." Geoff wanted to struggle some more, but I promised to come back the next day with a crew of experts and unwillingly he agreed to leave it up to us.

At least we didn't have to worry about security of the aircraft. No cows were going to get in that field, nor small boys either. I had four boxes of books that I planned to take to Oxfam next day in the back of the car; these were left in the cockpit to weigh down the glider overnight, Geoff staked down the wingtip, and thanking the police for all their help, we promised to return next day to retrieve the K-8.

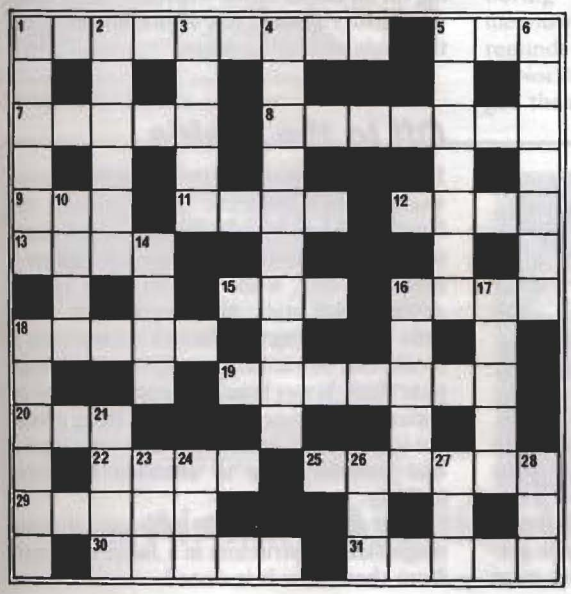
Next day was Monday, of course. Geoff and John and Mark had to work for a living, so I showed up at Westcott with Paul Brice, Mike Philpot and Chris Lyttleton. We brought enough tools to take apart a Sherman tank! Even so, even with this committee of expert pundits on the job, it took a mighty struggle under the watchful eye of our friendly police escort to persuade the mainpins to loosen up and let go at last.

"I bet this K-8 hasn't been taken apart since last winter" gasped John Wills, after emerging victorious from the struggle. "Rusted tight, those pins were." He held them up for our appreciation. We collected all the bits and pieces. Loaded up the trailer. I was gratified that even the committee of experts had a hard time; made us duffers from the night before look a bit better.

We drove round to the gatehouse to pick up our cameras and sign out. The cops were really friendly by now. "Yeah, we're getting used to it" they told us. "You're not the only guys who landed here by mistake" and with considerable pride we were shown newspaper clippings and a letter of thanks from a certain famous Booker pilot who landed out at Westcott a few years before. They still remember Superman at MoD Westcott!

Brian Spreckley was a bit upset when nobody could find the cotter pins. By mistake I left them in the box of books and donated them to OXFAM.

GLIDING CROSSWORD



Compiled by Julia Williams

DOWN

1. Airway, by appointment. (6)
2. It controls yawing movement about the normal axis. (6)
3. Cumulus or lenticular? (5)
4. Take a TP photograph short of the target? (10)
5. Makers of the Bergfalke. (7)
6. ASW-20 add-on? (7)
10. Point in favour of the rising sun. (4)
14. In the Norwegian capital they fly on their own! (4)
16. To fall away, by degrees. (5)
17. The glider inside was tired? (5)
18. Around southern parts they hold you firmly in the cockpit? (6)
21. Soar these sort of Cornish hills? (4)
23. Friend about the beginning of 16 down? (3)
24. Approximate touch-down time. (1.1.1.)
26. Air that rises above the rest. (3)
28. See 28 down.

28 & 27 Visitor from across the ocean. (3, 3)

ACROSS

1. A cute harp will aid you on the way down. (9)
5. Loose a point when planting a cornfield (3)
7. Transmitter. Within – extra diodes (5)
8. JSW marine animal (7)
9. Wave to George? (3)
11. Flying projectile? (4)
12. Flit around in 4kt up! (4)
13. Listeners in the cornfield (4)
15. Schempp Hirth's Kite, initially (3)
16. On landing, a quiet meadow to jump around in? (4)
18. Put off lifting the nose too high? (5)
19. See 22 across.
20. Rodent in 29 across. (3)

22 & 19. Undo the canopy to fly in the fresh air (4, 7)

25. Cuts the wind changes. (6)
29. No point in the Bucaneer flying a glider (5)
30. Not tensed up before all out – better take it up. (5)
31. Confused at VOR – in a glider. (5)

(Solutions on p101)

TAIL FEATHERS

The Bringing Down of Platypus

"Tradesman's Entrance" is a very 1930s expression. In those days such signs were posted on the back gate, where a path led up through the kitchen garden to the cook's door of any typical bourgeois residence in the Home Counties. In the war, however, butchers and grocers made a point of com-



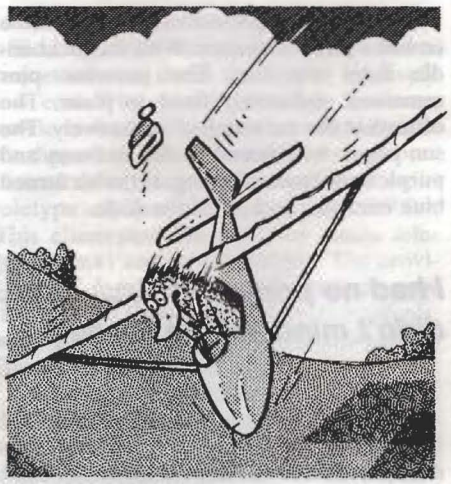
Tradesmen treated like royalty.

ing instead to the front door, if they came at all, where they were treated like royalty by the lady of the house in hopes of getting a little something over the meagre rations of the period. Nowadays there aren't any cooks or maids, tradesmen don't deliver and the signmakers, never short of something to extol or prohibit, have gone over to printing savage threats against smokers.

The fact that a hollow in the rolling Bedfordshire farmland adjacent to our field is called The Tradesman's Entrance would give away to a non-gliding social historian both the date of the London Club's origin and the type of comfortable citizen who could afford to glide. To have to arrive through this declivity, low and grovellingly slow, is proof of a cocked-up approach, poor airmanship and altogether the mark of a cad. By doing so you show yourself up as a member of the servant class, earning scorn and demotion.

Disgrace and Consolation

It is the doomed attempt in 1950-something to throw one more circle in the club



This landing is terrible.

Prefect downwind of the site that leads Platypus to a desperate, heart-pounding scramble back through the Tradesman's Entrance. There are no bad landings, only bad approaches. This one is terrible: no plan, just a wretched slipping and drifting, with not enough speed to round out parallel to the rough steep slope of the first bit of LGC soil that presents itself to the sweating tradesman. Awful cracking noises as the skid decides it has just been turned into a ploughshare and prefers to chew earth rather than remain part of a rich man's toy. Daylight appears suddenly through the cockpit floor. The other Prefect pilots give vent to their feelings. Whatever happened to the stiff upper lip? What sort of people are they letting in these days? he asks himself. He is grounded and dejectedly takes the bus to London, bereft of ways to amuse himself, so totally does soaring possess him.



Platypus takes the bus to London.

Back in Chelsea he rings up girls with whom he had shared innocent passion when an undergraduate (what they now call a student). The mother of the first tells Platypus, with evident satisfaction, that Katie is getting married tomorrow, so there. He must have made her day. The next one is on the phone like a shot, however, and Plat explains how busy he has been with one thing and another (just one thing, if he is truthful) and asks her if she will come across. Which she does.

And that is how Platypus lost his virginity. (Look that up in the dictionary, too, you young people.) Mrs Platypus, whom sadly I did not meet till many years later, has given me permission to write all this on the tolerant grounds that I am no longer a serious hazard except as a pilot, and this is pretty well ancient history.



No longer a serious hazard.

So when in her splendid piece in S&G, August 1976, p158, (which he conceitedly and absentmindedly keeps taking credit for) she says to Platypus Gliding is a substitute for sex" and he retorts "Nonsense, sex is a substitute for Gliding!" he is not throwing off an Oscar Wilde witticism, but stating what every glider pilot's wife knows to be the plain and sober truth.

Off to the Prairie

I have given up mountain flying. My nerves won't stand it any more. Nor can I take the frustration and humiliation of being unable to get away from the nursery slopes on a mediocre day, while watching the typical Alpine pilot stick his wingtip into every little lift-yielding crevice like a diner with a toothpick, to vanish on a 300km and reappear three hours later to dump a full load of water on the piste. That sort of thing giveth me to gnash the teeth, pour dust on my head and generally vow to abandon the sport entirely.

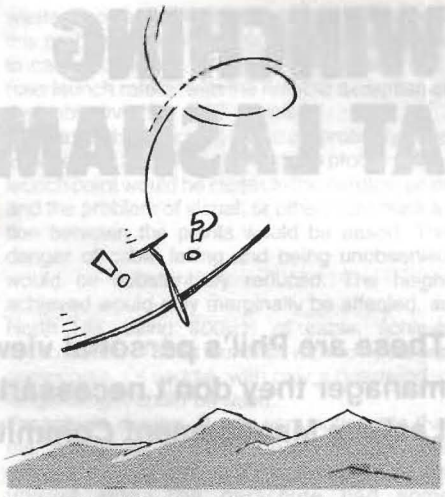
Why not, you ask, fly with one of those magnificent instructors in a Janus and learn from them how it is done?

I've done that for as long as I could take it. The trouble is that (1) every such instructor talks, without pause for breath, in very rapid, impatient French. (Though that's a lot better than when they try rapid, impatient broken English.) Now my French is not bad, and I can usually remember what a rudder-pedal or a flap or an incipient spin or a downdraught is, but it is less than instantaneous. It is not helped by the fact that the PI is constantly on the radio to all his little chickens, so his bellowing command to "get closer to the rockface, you idiot!" may be intended for someone else, though if your wing is more than a few centimetres away from the mountain you can take it that he means you.

(2). They all seem incapable of letting a pilot make any kind of mistake, but grab the



His command to "get closer to the rockface" may be intended for someone else.



While the equipage plummetted towards the snows.

controls immediately they feel that something short of perfection is being achieved. This makes sense when you are glued to the geology, so to speak, but the habit persists even when you are thousands of feet from anything hard and the odd mistake would do no harm. I could only deal with this by promptly raising my hands over my head to show that I was not in charge and would not fly the beast until I was asked. This had no effect at all, so it seemed that half the time the aircraft was being flown by two people wrestling for supremacy and half the time was being flown by nobody at all, while the equipage plummetted towards the snows and the chamois scampered nervously out of our path.

To be fair to the French, the worst offender in this latter respect was a German. (That's right, alienate everyone. *ED.*)

So it's goodbye beautiful and altogether too exciting mountains, hello lovely flat and boring prairie. *Prairie* is French for meadowland and wide open country, and reminds us that the French possessed most of North America before the British mugged them and took it for themselves.

Not Quite the Texas of the Hexagon

For 1986 our old friend, the distinguished ex-chairman of the BGA, has picked a site reasonably near the middle of the Hexagon (as the French journalists like to call their country). I'm afraid we will not be quite in the Texas of France (as French pilots like to call the area around Bourges). It turns out that he did not pick the place as I would have done, with the aid of a contour map and a list of French gliding records, but with the *Guides Michelin* and *Gault-Millau* and an encyclopaedia of wine.

When one party is looking for triple-Diamond country and the other for triple-rosette country, compromises have got to



Compromises have to be made.

be made. Apart from occasionally fighting for control of the menu and a few quibbles over how to pronounce basic words like *corkscrew, room temperature, magnum, medium rare, cream and truffle sauce,* it is about as different from mountain-flying as you can get. Thank Heaven.

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PHIL PHILLIPS

WINCHING AT LASHAM

These are Phil's personal views and while he is their general manager they don't necessarily represent those of the Lasham Management Committee.

Lasham, with its 6000ft main runway, has for many years operated a towcar launch system using two wires and two towcars at peak times. In the dim and distant past, 1952 to be precise, winches were used at Lasham and there are many myths and stories of winch operations.

As any regular reader of S&G will know, there is a new generation of winches on the market and Germany, the leading European nation in the sport of gliding, uses winches as the norm. Currently available and advertised in the UK is the Supacat winch, designed by David Clayton and used by the Devon & Somerset GC at North Hill, and the Munster van Gelder winch, with its six drums, in use at the London GC site, Dunstable.

Lasham recently had two of its five towcars stolen, driven 20 miles, used as bumper cars and then burnt to a cinder. (Other clubs: "How is your security?") To make matters worse, they were our newest towcars bought 2½ years ago. This left us with only three very old towcars. There was no better time than the present to review our position.

North Hill kindly offered the use of their Supacat for a week, with up to four North Hill members demonstrating its operation for the cost of the transport. They would tend the winch while our own members would carry out all other operations.

First pair of piano wire cables gave 3500 launches

The Supacat winch arrived on October 20 with two empty drums. We had already decided that we would try our seven strand multicore polypropylene coated cable on one of the drums and the North Hill group brought along a new coil of piano wire for the other drum. The Devon & Somerset GC had achieved about 3500 launches with their first pair of piano wire cables and they were due for replacement. There was no problem in winding on the Lasham cable, straight from the drum to the winch drum in approximately 15min. The piano wire took somewhat longer as the wire had to be slowly uncoiled along the perimeter track using their towing vehicle with Ken paying out the wire. In total, we placed 11400ft of stranded cable or piano wire onto the two drums.

Day 1. Monday, October 21

Monday dawned foggy in a high pressure area and it took time to clear. We could not start until after midday. The first launch was flown by Derek Piggott and Roger Downing, using 800yds of wire. All went well and after four launches at that length we increased the wire to 1200yds and finally to 1500yds. Initially, with no head wind, 1200 – 1300ft launches were achieved, but most members were using car launch techniques and being very cautious. It was not long before 1500 – 1700ft launches were being achieved. With only a single two drum winch and the pressure from members to "have a go", and with the inevitable initial teething problems, we soon started auto launching while the winch cable was being payed out. The rate of launch slowly improved and, at best, was 9min for two winch launches and a car launch. The best achieved rate in one hour during the afternoon was 18 launches. On North Hill's recommendation we were using 1400lb weak links for two-seaters and 1000lb weak links for single-seaters. The change over using the screwed chain cleats certainly reduced the launch rate, but was well worth the effort.

* * *

Total launches: 47 in 5hrs 7min (9.18/hr).

Day 2. Tuesday

Again, a late start due to fog, but with a welcome 5kt headwind component, though 40° across the runway. The operation continued without any problems; 1500yds of winch wire, and intermediate car launches, was the order of the day. Winch launches were now averaging nearly 1700ft with the occasional 1900ft. It was noticable that experience on the winch, possible two or three launches, was needed to achieve a good height. The car launch was achieving 1000 to 1100ft on this day.

* * *

Total launches including car: Approximately 2 to 1 in favour of winch launching. 23 launches in 2hrs 33min (9.02/hr).

Day 3. Wednesday

Fog to start again and about 8kt of headwind component. The first minor problem arose. Due to poor pay out of the "Lasham cable", it being jerked at the far end, the polypropylene cable over ran the winch pulley and somehow caught over the rim of the pulley without being noted by the winch driver. On the singal "All out" the winch driver thought it was a difficult launch with a great deal more power required. The reason for this was that an 800yd complete length of the polypropylene coating of the seven strand wire had been stripped off. A very efficient strip technique with patent possibilities! Despite this, we continued to use the cable without the covering. This was the best day so far; launches with the K-13 were averaging 1700ft and the highest was 1999ft plus. The rate of launch had improved (two winch launches, one car launch) to 13.78/hr average with a best of 20 launches in one hour.

* * *

Total launches: 94 in 6hrs 49min (13.78/hr).

Day 4 & 5. Thursday & Friday

Two excellent days after late starts due to poor visibility, with 1500yds of run and a crosswind of 8kt, no headwind. The weekday members were becoming more familiar with the beast and the teething troubles, mainly car retrieves of the cable, were being reduced. Consistent launches of 1700ft plus with the highest at 1999ft and lowest at 1300ft, which were usually the first, were being achieved on the winch. The rate of launch was still 18 – 20 in the best hour. The change over of weak links, which should have had quick releases, possibly reduced the launch rate by 2/hr.

* * *

Total launches: Thursday 91 in 6hrs 59min (13.04/hr). Friday 60 in 5hr 17min (11.73/hr).

Day 6. Saturday

A high pressure system was still influencing the area resulting in poor visibility and a light crosswind. A new group took over without experience on the winch, apart from the North Hill winch drivers. Overall, a day of problems but despite this, the best launch rate was achieved. (13.99/hr average.) An incident occurred when the winch cable dropped right across an RAE aerial. At the same time a car launch wire crossed the winch cable without the car driver knowing. Eddie Bromwell, a visitor from North Hill, was dragged 50yds up the runway by the car cable which had been caught around his leg as he tried to untangle the cables. Fortunately, after a night in hospital, he was all right. A little later the boom on the winch retrieve bashed into a private car. Inevitable! In addition, it was the first day with a number of piano wire breaks, usually caused by releasing the glider under tension. However, there were no major snarl ups.

* * *

Total launches: 73 in 5hrs 13min (13.99/hr).

Day 7. Sunday
A fairly good day with no serious problems.

* * *

Total launches: 87 in 7hrs 25min (11.23/hr).

My findings were:

a. The airfield requires more *skilled manpower* to operate smoothly. The winch operator should be skilled and a launch point controller of some experience is required. There should be a radio link, and lights, to the winch and a radio link with the towcar to co-ordinate the two launching methods. We learnt this lesson, lack of co-ordination, on the Saturday with the accident. Lasham would probably have to employ a professional winch driver at weekends to achieve this if it converted to winching.

b. **The efficiency of launch** largely depends on an effective cable pull-out system. We used an old 2 litre Ford Consol with a boom to enable us to drive on the runway edge but have the cables on the grass, but we found that the car was underpowered and unreliable. Weak links at 1400lbs and 1000lbs were necessary and a "snap on" system would have improved efficiency.

c. **Rate of launch.** The highest rate with one two-drum winch and, sometimes, a motor launch between each pair of winch launches, was 20/hr. The average over the whole seven days, including the initial fumbles in operation, was 12.06/hr. The max full day rate was 14/hr. As a comparison during the previous week, using one or two towcars as required, a rate of 9.41 launches/hr was achieved; the highest day rate was 10.21/hr. Moreover, on the best three weekend days in August and September 1985, with two towcars operating most of the day, the average rate achieved was 10.12/hr. This is an interesting comparison. Consequently, one cannot justifiably complain about the launch rate using the winch. If Lasham moved to all winches, two would be needed and when in use it would be reasonable to expect 18 launches/hr.

d. **Height achieved** was variable on the skill of the pilot. First flights were 1200 – 1400ft using car launch techniques. Subsequent launches were invariably in the 1600 to 1800ft range and the highest launches were 1999ft, or even slightly higher (with altimeter error). During the whole week there was little or no headwind. An extra 600ft could be achieved on top of the average car launch height. Many instructors commented favourably on the ease of conversion of the trainee pilot and the advantage of the extra height to the training.

e. **Areas of potential hazard in the system.** Releasing under tension at the top of the launch is the most likely cause of a cable break. The five cable breaks experienced during the week were all caused this way. The max time to repair the piano wire was about 20min. Efficient winch drivers are essential in this respect as they must be skilled in dealing with the cable break at the time of the break and the subsequent repair. Initially at least we would require professional winch drivers to maintain the launch rate.

f. **Airfield shape.** It has been alleged that Lasham is too narrow at the ends for efficient winch launching. Any glider that lands up the field or is close to the launch point stops subsequent launching. Also the proximity of Dan Air at the western end and RAE at the eastern end adds to this problem. However, this factor did not seem to cause too much problem in the weeks' trial, (see launch rates), with the notable exception of the cable over the RAE aerials.

If we went to winching we would probably have to accept a 1200yd run to avoid this problem. The launch point would be closer to the aerotow point and the problem of visual, or other, communication between the points would be eased. The danger of cable falling and being unobserved would be substantially reduced. The height achieved would only marginally be affected, as North Hill, using 800yds of cable, achieve approximately 1500ft launches with no headwind component. Of course, with only a headwind, a longer length could be used.

g. **Parachute design.** It was very noticeable that the parachute seemed uncontrollable after release. It could end up 90° to the winch on the upwind side. The parachute had some aerodynamic lift when being pulled in a cross-wind. This is why the RAE aerials were straddled. Research into parachute design would be essential. However, the normal distance the parachute landed from the winch was only about 75 to 100yds.

h. **Cross runway use.** A strong reason for considering winches at Lasham is the very poor state of the unmaintained cross runways. Car launching is almost impossible due to wheel spin on the loose stones. With a winch there would not be this problem. I am sure Lasham would buy a second-hand winch just for this need. Any offers?

i. **Polypropylene covered stranded wire** is not suitable. Apart from the problem of stripping off the polypropylene on the Wednesday. On the one and only cable break, the strands unwound for quite a distance and the resulting delay was approximately half an hour.

Costs. My figures are 60/launch operating costs, excluding any paid staff to maintain or operate the winch, broken down as follows:

Capital	20p
Fuel	8p
Piano wire	2p (or multi strand 4p)
Retrieve car maintenance & fuel	20p
Sundries	8p
Total	60p

This compares favourably with car launching in which the operating cost is about 80p/launch.

Conclusions: We were very impressed with the Supacat. It is a well engineered, simple and powerful winch. It does need a guillotine and we would find a rotating beacon essential to warn the remote aerotow point of a launch in progress. Lasham is seriously considering a winch which is becoming essential for the crosswind shorter runways. However, such a change, with the financial implications involved, will take a little longer than a one week trial. We are continuing to look and talk at present.

My thanks to the Devon & Somerset GC and especially Nick, Ken, David, Tony, Eddie and the others who gave us their time and effort to demonstrate the Supacat winch at Lasham.

A NOVEMBER SILVER

Dick, of Welland GC, describes a late season distance flight in an L-Spatz

The day was bright and clear with a stiff NW breeze. At about 1130 it looked as though thermals might be developing with the possibility of a downwind dash.

I had my best ever winch launch to 1500ft and after searching around, contacted weak lift at 1300ft and drifted out over East Carlton. Lift petered out at 2100ft so I went back towards the quarry where contact was re-established. It was only ½kt lift but I was drifting on track for Duxford. Once over the southern outskirts of Corby I decided to press on, even if I only made the other side of the town.

Navigation was no problem as the visibility was excellent and I travel that way to work. I picked up the roadworks from the main Brigstock by-pass and the gravel pits at Thrapston. I had enough height to make Thrapston but the lift gave out. Field selection was no problem due to an abundance of large recently sown fields and a field landing course at Syerson – thanks Ivan.

Just in time I contacted a 2-3kt thermal and was away. I could now pick out Grafham Water and there was a good cloud street all the way from Thrapston. I worked the thermal up to 4000ft, just below cloudbase, and flew at 44kt down the street and up to 54kt in the sink between the clouds. Finally it looked as though the Silver was on.

Grafham was a beautiful sight with hundreds of yachts. Over the southern shore I identified St Neots and the offices where I work. One more thermal and I could make Duxford but I was unable to find one. A large field near Gamlingay and down I went.

The 57km, which took me 56min, completed my Silver C and I was retrieved and back in time for the club's 30th anniversary dinner. It was November 2.

AWARDS FOR WOMEN GLIDER PILOTS

The British Women Pilot's Association have three major annual awards with the O. P. Jones cup specifically for glider pilots. It is presented to the British woman who has made a noteworthy performance in gliding, either by an outstanding flight or her contribution to the sport.

Nominations are invited for the 1986 award and should be made to: The Awards Committee, BWPA, 25 Fouberts Place, London W1V 2AL by July 31.

The awards will be presented at the BWPA AGM in September.

JOHN ELLIS

VRYBURG 1985

John, who is now a member of a gliding club in Natal, gives his personal impressions of Vryburg and the South African Nationals held from December 16 to 18

In the last nine years there were four non flying days at Vryburg with many South African and world records flown from the site. It was with keen anticipation that Leonie and I set off from our new home in Natal to drive the 800km or so to the Northern Cape for our first SA Nationals. As we got nearer we puzzled over great clouds of smoke in the sky. Enormous fires? No, just dust and top soil changing farms in the wind and thermals.

As Vryburg came into sight over a slight rise, a bolt of lightning hit the town followed by the first heavy rain in umpteen years. We booked into the hotel and met lots of old friends, including Pete (Boris) Wyld and Laura from Booker. Boris had agreed to crew for me in the absence of Mike Carlton, who'd apparently believed all he had read in the newspapers.

Saturday and Sunday were practice days. After 45 minutes on Saturday, flying my ASW-20F, I just beat the cu-nim before it hit the airfield and on Sunday I didn't bother. At least most things worked, except the flap switch and the audio bit of my expensive new vario. Boris showed much persistence with the flap switch but we gave up on the audio, letters to the manufacturer at Aachen over seven months having produced no reply.

A very sophisticated Met set-up complete with daily radio sondes, a beehive thing and back up from Pretoria failed to predict the weather, but George Cooper lied very gracefully. Tugs were Super Cubs and a very powerful Cessna spam can with an "interesting" slipstream. The pilots included John Heath, ex BGA national coach, and also some of the competitors, which complicated gate opening time. Landing areas around the airfield are a bit sparse, mainly confined to the taxi strip, the main runway and an ill defined dirt cross strip.

Followed the wrong dirt road for quite a while.

The first day was a bit weak and I managed to come not quite last. Apart from my usual fumbling, I followed the wrong dirt road for quite a while. As Bobby Clifford said afterwards: "Take the broad view and ignore all the local stuff." This and other Clifford information was most helpful and I didn't get uncertain of position again. Then came a 369km triangle with enormous thunderstorms. I outlanded after nearly crossing a 30 mile gap. The successful returnees backtracked half way along the 1st leg – ah well.

Next day produced a shorter triangle, half of which was just like being back in the UK, ½ to 2kt thermals under an overcast sky. "I've seen this before" I thought and went very carefully while most of the others raced into the ground. Then two fantastic storm fronts, and 120kt to stay out of cloud whilst trying to pick a route avoiding the vast number of lightning strikes, took me to 2nd place for the day. Someone ought to have been playing Wagner.

Days 4, 5 and 6 aren't really worth talking about, except that I came across thermals which caused me seriously to consider giving up gliding. Bomber Jackson later said that they were a well known SA phenomena which he called "flat faced thermals"; just right for circling in, until one does, when they contemptuously hurl one straight at the ground.

Day 7 was interesting. A 553km triangle in which I did quite well until near the second turn. It became completely overcast with thermals from nowhere and a solid line of dust at least 300km long moving across the last leg at 10kt or so. No problem I thought, I'll listen to the experts: "Klaus from Timmy, what about this dust?" "Don't know, I've never seen anything like it." "Laurens?" "Don't ask me, I'm on the ground in 100m vis." "I'll try and cross it" (shortly after) "Back over – don't recommend that" – this in an ASW-22. Fat lot of good all that was, so I landed at the second TP five minutes before the dust with Jan Geerlings (ASW-22) and we cleared our throats with some Afrikaaner-provided beer to celebrate Christmas Eve.

Christmas Day was spent lazying about in the sun quaffing Bucks Fizz, a new experience – well the sun was.

On Day 8 conditions were similar to a good UK day and I started to go fast at last – 107km/h over a 252km O/R achieved 5th place and my highest speed ever over any distance. (Don't' laugh Booker pundits.) Then as the Comp began to draw towards its end, Day 9 brought some real SA conditions and a 507km triangle to the west of Vryburg was set. As far as I could see this was either all unlandable or crew unfindable. It didn't seem to matter all that much as eventually the base went up to 16 000ft. I got round at 111km/h feeling very pleased with myself until my crew met me with the rude comment "What kept you?" The winner's speed, Laurens Goudriaan, was 150km/h and close to the world record – I was last! Must do better, I thought and actually did on the last day, at 4th place with 126km/h over 341km to end up 7th overall.

Out of 12 days we flew ten. One day was cancelled on the grid. The decision seemed right at the time although use of alternative TP (pilot selected) tasks might have saved this day and certainly would have improved some of the other days when cu-nims were a real problem. A cat's cradle was turned down by mutual pilot consent on another day. But who could complain about ten days' good flying, almost unknown during a British Comp, and all those lovely people. It seems that our days spending Christmas in the traditional way (gluttony and Morecambe and Wise repeats) may be over for a while.

My Class, the 15M, was won by the amazing Laurens Goudriaan (3rd at Rieti) beating Bomber Jackson by some 1200pts. The Open Class winner was Jean Paul Castel beating Jacques Rantet also of France by 1000pts. The first SA in this Class was Klaus – Laurens's father. The Standard Class winner was, of course, Dick Bradley, the very small Class entry not detracting from his performance. Finally, the Sports Class was won by another ex Booker foreigner, Tracey Tabart in a borrowed Diamant.

FORTHCOMING EVENTS

MAY 24- JUNE 7: 5th European Motor Glider Championships, Zell am See, Austria.
JUNE 3-12: US Standard Class Nationals, Cordele, Georgia.
JUNE 7-15: 15 Metre Class Nationals, Nympsfield.
JUNE 12-29: European Championships, Mengen, W. Germany.
JUNE 24- JULY 3: US Open Class Nationals, Minden, Nevada.
JUNE 28- JULY 5: Competition Enterprise, North Hill.
JUNE 29- JULY 13: Trans-European Rally, Colmar, France.
JULY 5-13: Booker Regionals, Booker.
JULY 26-AUGUST 3: Open Class Nationals, RAF Hullavington.
JULY 26- AUGUST 3: Northern Regionals, Sutton Bank.
JULY 26-AUGUST 2: Vintage GC Rendezvous Rally, Dunstable.
AUGUST 2-9: 14th International Vintage Glider Rally, Lasham.
AUGUST 2-10: Saltby Regionals, Saltby Airfield.
AUGUST 5-14: US 15 Metre Nationals, Uvalde, Texas.
AUGUST 5-14: Inter-Services Regionals, Middle Wallop.
AUGUST 15-25: Enstone Regionals, Enstone.
AUGUST 16-25: Standard Class Nationals, Dunstable.

OSTIV AT RIETI

PART TWO
The Technical Papers

After three days of the Sailplane Development Panel, its members joined the rest of the XIX OSTIV Congress for a day-trip to Assisi, home of my patron saint, and Spoleto, where it rained. Quite apart from the cultural aspects of this trip, it took us into the mountains where we could see some of the alarming terrain frequently traversed by WGC tasks.

Then followed three days of technical papers. The gentle reader would not thank me for describing all of them, but some were noteworthy for their interest/quaintness/novelty/eccentricity, etc.

We started with Kensche talking about Fatigue of Composite Materials, a matter already discussed by the SDP. One Branko Stojkovic from Yugoslavia told us about Semi-Dynamic Thermalling: apparently you can wring more energy out of a strong and narrow thermal by indulging in a series of swoops, amounting almost to a pair of chandelles on opposite sides of the thermal each turn. As sketched by the lecturer, it looked extremely emetic and he did admit that it introduced certain minor difficulties like keeping centered.

Beneficial effects from wing bending

Professor Mai from Finland delivered a formidably mathematical paper on "The effect of Aeroelasticity upon Energy Retrieval of a Sailplane Penetrating a Gust". This analysed the effect of rigid body motions and wing flexibility on the gains of height and energy height for a sailplane penetrating a sinusoidal up-gust. The amount of computation looked pretty formidable and ran to sundry programs with titles like GUST3PLOT. The conclusions were that wing bending could produce very beneficial effects and suggested that some tailoring of the wing characteristics, with caution, might further enhance the results.

I gave my little piece on Glider/Towplane upsets, a resumé of most of the UK thinking on this topic. Piero Morelli spoke about towplane design, including a survey of current aircraft. He went on to consider the ideal towplane and concluded that it would resemble an overpowered motor glider. There was, however, a general feeling that designing a totally-dedicated towplane is something of a waste of time: potential customers always want a second seat, the ability to use it for touring, and so on. At the end of the day, you buy a standard production light plane and screw a hook on the back.

Peter von Burg, from Switzerland, described the Delphin II variable-geometry sailplane. Over the parallel inner part of the wing, about 60% of the span, it has a Sigma-type flap fitted to an Eppler 644 section. I thought he was less than kind to the SB-11 by remarking ". . . there hasn't been a succeed in any of the already realised projects". The Delphin II flap, we were given to understand, was "done very simple" and doubtless would be a "succeed". And so ended the first day.

The following morning's session was largely devoted to very light gliders, flexible wings and the man-powered Musculair I. Ann Welch started the proceedings with a powerful plea for light inexpensive machines, as opposed to the millions-of-pounds-worth of advanced composites being diligently polished and watered on the adjacent greensward. If you don't really want to know about flexible wings, we will pass lightly on to the afternoon, when Wieslaw Stafiej of Poland spoke about "Pattern of Glider Operation". This was in the context of evolving a suitable load spectrum for the purposes of fatigue tests, currently a matter of some importance, not least in our own ATC. Wolfram Gorisch contemplated the velocity distributions in a vortex ring and how to make the best of them in thermals: radial flow re-visited as it were. And then we got on to instruments, with Mr Brözel of Bayreuth displaying his novel static head. We also had a decidedly curious address from a gentleman who had just discovered total energy.

Load spectrum for fatigue tests

On the final day, Hans Zacher was one of the major attractions with "Some Experience with Sailplane Inflight Measurements over the past 40 years". A great delight it was, coming from the most respected practitioner of sailplane testing.

Captain Casu, of the Italian Air Force, explained the strange device on a trailer near the WGC Met Office, which occasionally pinged. Initially, some of us took it to be one of those odd bits of sculpture which sometimes appear at World Champs (*eg* the crocodile in Poland). In fact it was SODAR (Sound Detection and Ranging), which could detect wind shears and such-like phenomena. And then Professor Pfenninger, he of the blown boundary layers, explained Laminar Flow Control Glider Airfoils in some detail.

Of great interest was a presentation relating to the Braunschweig SB-13 tailless sailplane project. Conventional tailless aircraft either have conventional wing sections together with considerable sweep and twist to provide stability (thus producing an inefficient spanwise lift distribution) or, like the Fauvel devices, have no sweep but use wing sections with reflexed camber lines. This produces stability and a desirable spanwise load distribution at the expense of fairly dreadful profile drag characteristics. However, with modern aerofoil design methods, it is possible to produce a low-drag section with a very small pitching moment coefficient. It is therefore possible to design a stable configuration with little sweep (about 16° in this case), a good spanwise lift distribution, and vertical tail surfaces used as winglets. It is estimated that the performance will be up to 10% better than that of conventional Standard Class machines.

Resonance tests and flutter calculations

An immense effort has been applied to this project by the Braunschweig Akaflieg, including using a Janus as a free-flight test-bed for the wing sections, building a one-third scale remotely-piloted model and carrying out ground resonance tests and flutter calculations at DFVLR as a result of observing an instability in the longitudinal motion of the model at low speeds.

We were also addressed on the "FL 500" High Altitiude Soaring Project, an organisation which proposes to go rather high in American waves. The jargon of their presentation is largely borrowed from the astronauts and seemed rather breath-taking by European standards: "Clearance for take-off, the ground roll commences and lift off follows. The aerotow is merely formation flying with a two hundred foot umbilical cord between participants. Low level rope break contingencies dominate the thought process at this time". Let's hope they achieve success in the Terminal Manoeuvring Phase Energy Management (NASA-ese for getting the approach right). Purple prose apart, they do seem to have achieved a very thorough organisation: we await results.

The Congress terminated with a splendid closing dinner, accompanied by flowery speeches in all known languages and 'Strine as well.

BOOK REVIEW

Janes All the World's Aircraft 1985-6 edited by John W. R. Taylor, Published by Jane's Publishing Co Ltd at £64.

It is an incredible encyclopedia of aeronautical information from official records, correct on October 1, 1985, as well as covering full details of aircraft, homebuilds, microlights, hang gliders, sailplanes, airships, balloons, RPVs, missiles and aeroengines. It is sad to see that the UK entry has nothing to offer in the sailplane section though it is represented in every other branch of aviation.

John Taylor presents his own view of the state of the art and has some pertinent observations to make about the economics and politics of military aircraft procurement. There is a beautiful colour frontispiece photograph of the record breaking Wallis autogyro overflying the replica of the Wallbro monoplane of 1910.

B. H. BRYCE-SMITH

W. G. SCULL

WHY BUY A SITE?

The number of clubs owning their own sites has risen from ten to 19 in the last six years and there are three clubs actively negotiating to buy a site — not necessarily as sitting tenants. The financial benefits of buying might be arguable but "what price long-term security?" Here Bill Scull, BGA director of operations, looks at the pros and cons of site purchase.

Any club which doesn't own its site but has a long-term lease might be described as having the "fat, dumb and happy" syndrome. Fat because they are probably not paying a realistic rent, happy because the club's costs and finances are that much easier and dumb because they are not making any appropriate provision for the fateful day when the lease expires. Even clubs with a long history of security but on a short-term basis — even one month's notice to quit — are to a degree fat, dumb and happy, but might be better described merely as complacent.

Only if you look at the problem of clubs really desperate for a site do you begin to appreciate the nature of the problems they face.

Starting from scratch

Where do you start looking for a site? Twenty or 30 years ago the answer was a disused airfield but these are now difficult or impossible to find and, in any case, do not afford the facilities they once did due to disappearing or decaying runways. The only alternative is "open" land which may vary from good-quality farming land to moorland or, in one case, a reclaimed National Coal Board tip (which is recovered with top soil and grassed).

Whatever the type of land one problem is finding a plot of the right size. The size is not necessarily determined by the club's present needs but should, ideally, take into account the potential for growth. (In this context the growth of clubs which have bought their sites might warrant a special study.) Land for sale comes, typically, in farm-sized units which, if you only want 50 or 60 acres, probably means that you have to buy the lot and then sell what you don't need. If this doesn't give an outright problem of cash it certainly will mean heavy borrowing to finance the initial-purchase-to-sell-the-remainder phase. Since typical sites are costing in the order of £80-£100 000 the problem should be obvious!

Finding a site

Since you are unlikely to find a suitable disused airfield the alternative is a search for suitable land. Even if the remit is land to lease or purchase the search is an enormous task. The story of clubs which have tried this is a sorry one. Searches over an extensive area — say a 25 mile radius (or even a whole county) — may yield a handful of possible sites each of which may be eliminated when looked at more closely on grounds of size, shape, cost, quality or drainage, to say nothing of environmental considerations. It is interesting to note that a circle of 25 miles radius encloses an area of almost 2000 square miles; 60 acres is 1/10 of a square mile so a site is 1/20 000 of the search area — like looking for a needle in a haystack! The stories told by the Dorset Club (presently at Old Sarum) and Albatross (without a site at present) bear witness to the enormity of such a task. If you are looking for a site to rent or lease then the search is made more difficult because of the need to find a friendly landowner. The Channel GC and Albatross GC are two that have been lucky in this respect.

Planning permission

Even if a suitable site is found there is still the hurdle of planning permission. This phase is fraught with possibilities. Not that planning officials themselves are unduly difficult — usually quite the reverse. The problem lies in understanding the system and nice though it might be to have a planning consultant among your members this is not usually the case.

Successful planning applications start, it seems to me, with local goodwill — the residents around the site and probably the local parish council. This is essential because once the locals have wind of the project they will undoubtedly make representations to the planning committee and the first barriers go up. To my certain knowledge the aspect was well managed in the cases of the Marchington and the Burn GCs. Even the choice of name reflects this — the clubs seeking to associate with or be recognised by the local village.

The details of planning procedure are not relevant to this article but the hurdles are. Recent BGA involvement in a couple of issues has reminded us of the minefield that a club may be faced with. For example, a permission granted in the face of strong local opposition may well have a series of conditions imposed. These seek to limit the extent of gliding (and particularly aerotowing) activity to ensure some peace for the local residents in the mornings and/or evenings, during church services or even on bank holidays. In an extreme case the limitations — say only one tug or five aerotows an hour — may restrain the development and financial viability of the club which may be critical if buying a site.

Planning conditions may be appealed against either within six months of the permission being granted, subsequently on re-application or on appeal to the Secretary of State for the Environment. These appeals may be in three forms — written appeal, hearing or a public inquiry. In the latter an Inspector, and maybe an assessor, hear evidence from both sides and eventually recommend whether permission will be granted and what conditions may be imposed. To stand a chance at such an inquiry good legal and specialist representation is required — the opposition will certainly have it!

We are fortunate in having a selection of skills around the gliding movement to assist in this area but we need to know of your problem before we can help. The better way of avoiding these problems is to buy the site you are on now!

A club may be at a point of no return when as a result of local opposition or failure to comply with conditions the matter gets to the inquiry stage. The trigger point may have been one club member frustrated by unreasonable opposition telling him or her to "******* off".

Commitment

If you don't think the problems of finding a site and getting planning permission are enough then you will find that commitment to the principle of site purchase is an equally big issue. The reason for this should be obvious; quite a proportion of any clubs' members will only have been gliding for a year or three. Anyone new to the sport will not know your club's past problems nor the work that has gone into trying to find a site. **You can't expect them to!** The committed or "hooked" gliding person may have the fat-dumb-and-happy syndrome. Only the committed few (the rest of the membership think they should be committed that is) have the vision, drive and initiative to pursue the ultimate goal of buying the site.

One of the stock excuses is "we couldn't possibly afford that!" It's a bit like a young married couple saving for the deposit on their first house — each time they reach the figure it's gone up — if you see what I mean. Yet, if the commitment is there then anything is possible. A marvellous occasion, for me at least, was the unanimous support for a proposed site pur-

(Continued on next page.)

VIC CARR

HORSES FOR COURSES

Vic, a gliding enthusiast for 37 years during which he has held club and BGA Executive office and is currently chairman of the Shropshire Soaring Group, casts a look at the state of our clubs and makes some suggestions about objectives and equipment.

This year I have been lucky enough to visit quite a few of my favourite gliding sites after a considerable absence.

I was impressed by the confidence so many of the clubs now have. Ten or fifteen years ago many were only just beginning to be secure. For example, although there were new gliders then many club fleets still had second-hand machines, some of which were fairly tatty. Launching was mostly by worn winches, with privately owned tugs operating on the side.

This year I felt there had been a big change almost everywhere. New glass gliders almost outnumber the rest in some places. Glass two-seaters are in a very high proportion of the clubs, and occasionally a really high performance two-seater. Most impressive of all is decent launching equipment, mainly tugs, with winches doing less of the work.

For all these advances, however, a look at the Association's statistics show that although we have improved our launches and hours, our crashing of these more expensive gliders is at best unchanged, but very much worse taking expense or cost into consideration.

In considering why this should be I noticed an argument put forward by people who I thought were old enough and experienced enough to know better. The suggestion is that high energy two-seaters are not necessary for training in today's environment. No one will disagree with this statement if local soaring of K-8s and K-18s is the objective. But if you believe as I do that our training today should be to make safe and competent pilots in today's new gliders, then the suggestion in my opinion is rubbish.

(Continued from previous page.)

chase given by 83 Dorset GC members (total of 100 members) at a recent EGM. As I said before given the commitment . . .

Finance

The we-couldn't-afford-that state of mind mentioned earlier is largely refuted by the actual evidence of recent site purchases. The average investment per member is between £500 and £900. If these figures can be achieved it puts the purchasing power of a centre such as Lasham in the order of £500 000.

The problem of raising and managing such sums of money is considerable; keeping it may be even more difficult if a site purchase is not imminent. "Why can't we buy some decent club gliders?" But, once again, if the commitment is there anything is possible. Read the stories of the Cotswold, Borders and East Sussex GCs in S & G if you want convincing and ask the BGA for a copy of their publication "Financial help for Gliding Clubs".

At the present time there are three clubs hotly pursuing site purchase which, if they are successful, will bring the total of club-owned sites to 22. The clubs in question have memberships of 41, 39 and 101. The most recent site purchase is the South Wales GC with 103 members at a cost in the order of £80 000. Why not join the ranks and secure gliding's future!

If I were to suggest that the RAF, in the interests of better training, were going to re-introduce the Tiger Moth as a basic trainer — that in the end it would produce better Phantom and Harrier pilots, that Tigers spin better and make it easier for instructors — you would know I was out of my mind. I will not tax your credulity any further.

In the UK approximately 450 pilots a year qualify to Bronze C standards. Roughly half of these go on to complete a Silver C, and in the process a high proportion are exposed to high energy single-seaters, a proportion of these without any training on high energy aircraft at all.

Some seven years ago the BGA with its advanced training programme recognised the approaching problem, which was at that time developing. Today it is becoming more serious as the crashery multiplies. Why more serious? Because insurers are demanding an ever-increasing proportion of the hull value as premium. Brokers will delight in taking the same percentage from a higher premium. They, for sure, have no interest in holding down the claims. The responsibility is ours.

In many clubs it is difficult, if not impossible, to satisfy all the priorities with which club management are faced. I see three conflicting objectives present in most club situations. Not all these objectives can be served by one decision.

The first objective for many clubs is to maintain, or perhaps increase, revenue. This takes no account of the training needs but is totally related to paying for permanent staff and overheads *ie* to keep the place open seven days a week, and 52 weeks a year. No other objective is considered. The result is that we find half the population of the UK being half trained to the detriment of overall standards.

In some clubs there is a second objective — to provide free flying for that proportion of the members whose main and often sole interest is to fly at someone else's expense, *ie* pseudo instructing and passenger carrying. Many of the enthusiasts for this activity do not put anything else into the club, certainly not flying fees from their own pocket. They will, however, sincerely believe that they are making a great contribution to club funds.

The last, and most important objective is often sadly taken for granted and neglected. It is to train competent pilots to fly today's new gliders not only well, but with more emphasis on safety of the aircraft.

The first two of these objectives can be met by using K-13s, Bocians and Blaniks, even motor gliders. But these aircraft do not and cannot demonstrate the characteristics of high energy modern gliders. As a result, they instil techniques and habits which have to be eliminated later on. Quite a few pilots change their ways only after breaking their high energy single-seaters. Another demonstration of the same problem is the way so many clubs have rolled their new high energy two-seater into a ball a few weeks after putting it into service. Surely the message is clear.

High energy two-seaters are needed! Yesterday's trainers need training and real experience before they are let loose in the new aircraft to train tomorrow's pilots. If we serve the first and second objectives exclusively at the expense of the last, by buying what are now very expensive wooden parachutes, we will lose the opportunity to make some contribution to our most serious problem. Whose interest shall we serve? Yesterday's instructors or tomorrow's pilots?

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THE JANUS CM

Ian flight tests this self-launching two-seater and asks "Shall we go round the 500km triangle today?"

The glider is at the launch point, maps prepared, declaration and barograph signed, photographs taken. A big triangle looks "on". How many times have you been in this position? But how many times do you actually complete the task? One complication is that this glider is a two-seater and our local pundit has just consented to show us the ropes. But how many times have you been round a task of any size in a two-seater? And practised with one of the experts well away from base?

This two-seater is a Schempp-Hirth Janus and its claimed 42½:1 performance should ensure that we go a long way. Even so in the UK on a big triangle in a two-seater there must be a good chance of landing out. But this Janus is different. It has a minimal chance of landing out, and a maximum chance of completing the triangle. It is the self-launching Janus CM with the fully retracting 59hp Rotax 535A engine which, when folded away, gives a performance just like a normal Janus carrying ballast equivalent to the engine weight. "Engine ballast" can be significantly more useful than waterballast, particularly when subsiding into that soggy field somewhere in the back of the beyond having just remembered that your retrieve car keys are in your pocket. Ted Ayling was kind enough to let me fly the Oxfordshire Sportflying Club's machine at Enstone. Suitably qualified pilots can hire it and if necessary fly with a qualified back-seater, on an hourly, daily or weekly rate. How about trying that 500km triangle, or taking a look at that Welsh wave?

Cockpit Layout. Engine controls are on the right and include rpm and temperature gauges, ignition switch, a pylon extend/retract rocker-switch, and buttons for the electric starter and for testing the two ignition circuits for rpm drop. There are also circuit breakers for battery and generator, a red light and voltmeter showing electrical power and a green light when conditions are ready for starting. The green light is on when the pylon is fully up and the propeller brake released, and until these two conditions are satisfied the starter motor is inhibited. It is therefore not possible to start in the wrong configuration and as an additional precaution the electrical pylon drive is inhibited when the ignition is on. Engine controls not shown in the photographs are a fuel cock, throttle and choke levers on the left side of the cockpit, and a fuel gauge and prop brake lever on the right. Other points of note are the temperature gauge is for the engine coolant, this engine being water cooled (see the small radiator at the base of the pylon), and that a fuel booster pump cuts in automatically whenever the iginition is on.

Take-off and climb. Take-off was straightforward using 8° of flap, giving a ground roll on tarmac of about 200yds into a 10kt wind. Rate of climb averaged over the first 1000ft was 508ft/min, with two twelve stone pilots and 30 litres of fuel out of the max of 44 litres. Although the speed for best rate of climb is given as 49kt, it was safer near the ground to climb at 60kt to give more margin in case of engine failure and also to obtain a better view over the nose. Attention has to be paid to the sideslip string as the Janus has a natural tendency to wander directionally at low speeds and this seems more pronounced when under power. There is little stall warning with the engine running, but at full power the nose high attitude at the stall is very marked. At the stall it is not difficult to induce wing-drop but recovery using forward stick followed by aileron is rapid.

Retracting the Engine. Retracting the engine involves throttling to cool the engine for about one minute. Because there is no cylinder head temperature gauge, unlike the air-cooled Rotaxes in the PIK 20E and DG-400, engine cooling cannot be assessed directly. The ignition is then switched off and the prop is stopped by gentle application of prop brake. You fly the machine with the left hand, keeping the right on the prop brake lever and your eye on the mirror to see the prop.

The second 'clunk' tells you the engine doors are closed and you are a soaring glider

At 50kt, the prop will slowly turn towards the vertical. There is a very useful bright red circle painted on the front of the engine which, when covered by the prop, ensures verticality for safe retraction. Before the prop reaches the vertical you apply the prop brake and then nudge it off and on a few times, watching the red circle in the mirror. When the red has disappeared behind the prop blade, pull the prop brake lever into its notch, then push the downward side of the rocker switch on the engine panel, thereby retracting the engine. Hold the switch down, and 11sec later you hear two "clunks" about one second apart; the second "clunk" telling you that the engine doors are closed and you are now a soaring glider.

This complete process took 37sec and involved a height loss of only 100ft from the height of throttling back. However, on this Janus if you went even slightly past the vertical with the prop, infuriatingly it then proceeded to flick over a compression and the angle became unsafe for



A photograph of the Janus showing the general layout, with Derek

retraction. I wondered if by re-positioning the prop on its drive belt it could be ensured that the desired vertical position was on a compression cycle thereby making achieving the vertical easier. If you missed the vertical position the first time round there was about a further 150ft height loss for each 180° cycle of the prop. The answer was a positive use of the prop brake well before the vertical.

The DG-400 is easier in this respect with its electrical sensor of prop verticality and the ability to perform a near-automatic retraction sequence. Mind you, height loss in getting the engine away is not critical because you can anticipate it by taking extra height while under power, or if you make a mess of it, just restart the engine, climb and try again.

Flying with the engine retracted. Once the engine was retracted the glider was simply a Janus with its superb soaring performance. Time for 45° bank reversals averaged only 3.2sec with 8° (soaring) flap, and 3.1sec with land flap; remarkably good figures for a big glider and sub-

The front cockpit panel.





erek Piggott and Bo Henriksson aboard.

stantially better than the 4.2sec quoted in the Flight Manual which I suspected is therefore for a non-motorised Janus with full waterballast (and therefore more inertia in roll). However using full aileron and full rudder there is residual sideslip and this is one of several indications that the Janus is slack directionally and ought to have more fin area or a longer tail moment arm.

Other points about flight without the engine are that aerobatics and spinning are not permitted, presumably because the weight of the engine increases the wing-root bending movement compared to the normal Janus. Indeed if the engine is actually removed then these activities are allowed. However, on p31 of the Flight Manual, a *g* clearance of 5.3 to −2.65 appears to be given with no qualifications or warnings. These *g* figures are the standard German Certification Authority ones for semi-aerobatic gliders and so many also appear in *your* glider's Flight Manual, but no explanation is given on how to reach −2.65*g* (if you were daft enough to want to) in a glider not cleared for inverted manoeuvres, and on the +5.3 figure surely a reduction should be quoted for the Janus CM, to be consistent with the withdrawal of the aerobatic clearance. After all, if you are allowed to pull 5*g*, surely it is safe to loop, indeed if you have just pulled 5*g* with wings level you may *have* to loop to recover safely from the ensueing attitude!



Re-starting the engine. The most crucial point about any motor glider is the convenience of re-starting in the air. You set the fuel, choke and throttle before the decision is made to erect the engine. Having positioned for a possible field landing, you press and hold-in the "erect" side of the pylon rocker switch. You can hear the electric motor working and after 7sec by using the mirror you can see the engine coming up. You lower the nose to maintain speed. After about 15sec the engine is fully up although this has to be guessed because there is no "clunk", and no panel light as in the DG-400. You release the prop brake, check that the green "start" light is on, switch on the ignition and press the starter button. After 20sec and a 120ft height loss you are successfully under power. All the final starting actions are accomplished with the right hand and so there is no 'changing hands during the drill as there is with the PIK 20E. These actions, once regularly practised could be made on the downwind leg to a selected field or, if the field is big, as late as on high finals as long as due care was taken to keep the option of a safe field landing if there was any problem with the motor.

Range Under Power. Range on full fuel of 44 litres, is given as 280km if running the engine continuously, and 470km using the "climb-and-glide" or "saw-tooth" technique. With the latter of course you are under power for only about one-third of the time. I found that, at max continuous rpm, speed stabilised at 93kt, and the Flight Manual gives 76kt at ¾-power. You can therefore motor the Janus to your area of best soaring, to that big wave, to the Alps, or simply to circumvent ATC restrictions.

Desirable extra features. It is, however, disappointing that there are two areas where useful facilities have not been provided, one of convenience and one of safety. First, there is no steerable tailwheel and no tip wheels, even small ones. So the machine cannot be taxied other than in a very half-baked way – the flight manual refers to taxying "with one wingtip dragging on the ground". Tip wheels can easily be put on by an owner but a steerable tailwheel is more difficult. Schempp ought to look at the very simple way the PIK 20E tailwheel works even if they don't wish to go the whole hog as the DG-400 has done with a semi-recessed steerable tailwheel.

The second point is more serious. There is no engine control panel in the rear cockpit. The instructor in the rear not only has no control of ignition, engine erection and retraction, he hasn't even a mirror to see what's going on. Now for my sins I am also a power instructor and I have never flown a tandem-seat training machine in which vital safety controls are not duplicated in the rear seat. The Janus CM needs in the rear cockpit a minimum of ignition, pylon movement, prop brake and mirror (it already has throttle and choke). And if the instructor is in the rear, intercom and headsets are also essential when under power. Ted Ayling is carrying out mods on the Oxfordshire Sportflying machine to enable it to taxy and also to allow the instructor to operate the engine from the rear; he has already fitted an amber light in the cockpit to show when the pylon is fully up. Clearly, though, these mods are better done during build at the factory.

There is no "parking brake" setting on the otherwise good wheelbrake handgrip on the stick, which in itself is much better than the DG-400 which applies wheelbrake through the airbrake lever thus increasing the risk of taking-off with airbrakes unlocked. I believe that all motor gliders should have a parking brake for safe engine runs, and the simple flange fitted to the PIK 20E at the bottom of the handgrip is all that is needed. All the interlocks on the Janus engine circuits (and the DG-400) are very ingenious but I query whether they are all necessary. Particularly, engine restarting in the air must be made as simple as possible. I see no reason why the ignition should not be pre-set ON before the pylon is moved, as it can in the PIK; the starter circuits are not live until it's fully up so it would be perfectly safe. Also, when you are restarting at low altitude you don't want to be fiddling about with prop brake levers; surely the prop brake can be taken off automatically as the engine comes up. What you want is the prop brake to be pulled on by a cam as the engine retracts; all the pilot then has to do is use the cockpit lever to stop the prop before retraction. The principle when designing the starting system should be to enable as many controls as possible to be pre-set when the pilot senses a risk of landing out (say at 1500ft), leaving the final actions of starting (say at 700ft downwind or 250ft on finals if the field is large) to be as simple as possible.

For the future. And when is a manufacturer going to design a completely automatic "single action" re-start? All you should need to do to start in the air is make one switch, and then get on with flying the glider into the field. All controls such as fuel, throttle, choke and ignition whould have been pre-set beforehand. Engine erection and a pre-set time of starter motor would all be automatic, and as you heard the engine burst into life you would check that all was well and then climb away. With a hold-in relay for the erect circuit and a timer for the starter, this would be achieveable now in the Janus CM and DG-400. You would do this *via* a special, gated "automatic start" switch, the other controls and switches being retained for more routine starting on the ground, and in the air as a secondary method. How about it, all you manufacturers and bright engineers? I also have a plan for automatic pylon retraction too. . .

And to go back to the beginning, we were at the launch point and the cu have just started popping. Shall we go round that 500km triangle today?

References. DG-400, S&G, December 1984, p262; PIK 20E, S&G, August 1980, p167, and *Soaring*, November 1980; SF-27M, S&G, December 1971, p469, and October 1973, p368; "Manufacturers, Awake!", S&G, August 1972, p323.

THE VENTUS TURBO



John in the Ventus.

The best compromise so far?

The argument will probably go on for years – "It's neither a glider nor a motor glider" I can hear the purist lobby proclaim, and "What's the point if you can't take-off?" the motor glider brigade will exclaim with emphasis. However, it is interesting to look back through old S&Gs and note that every so often there have been attempts to design a glider with a sustainer (get you home if it works) engine.

You only need a very small horsepower and the engine can be light and simple to operate. The main advantage would be to get you home when the weather goes wrong which nearly always happens when you are furthest from your base airfield and when your standby crew are away wasting their time on holiday in Majorca! – there are facets of our sport which can cause the grey haired ones in our ranks to waver a little. When it comes to a cold, wet, long and late retrieve, fighting one's way through our overcrowded road system, the pleasure and beauty of the earlier flight tends to become hazy and somewhat less desirable.

Other more or less important advantages include the ability to reach a patch of weather which *is* "working", exploration of conditions in areas which tend to be ignored because inadvertant landing is too hazardous and the fuller use of wave conditions. (All these advantages have actually been sampled in the first season of flying 488 and have meant in practice many more pure gliding hours than would otherwise have been possible.)

The Ventus is a superb aircraft and I have been continually surprised by its long legged performance. There are some reservations on handling, particularly in the landing configuration using the landing flap setting. The aileron power is insufficient towards the end of the landing run to prevent a wing drop in light wind conditions or when there is a crosswind component. There are techniques to overcome this problem and the one I found best was to set the flaps at "0" (neutral) and then during the flare out (or just before) use full airbrake. This effectively applies landing flap setting to one-third of the wing span and if the air speed is correct there is negligible float.

The aircraft also requires more than usual concentration to fly accurately but this is really a relatively marginal matter. The airbrakes are powerful but strangely different to the Mosquito system although they look geometrically identical. Certainly new approach and landing techniques have to be learnt converting from a Mosquito to the Ventus.

I have tried a circuit and landing with the engine extended (propeller wind milling) and provided one organised a modicum of extra height for the final approach there was no pronounced effect on the handling characteristics



A photograph showing the position of the engine.

for this phase of a flight. I do not anticipate landing the aircraft in this configuration will increase the hazards usually associated with a field landing. Performancewise it could be described as a fairly abrupt switch to a K-8.

The engine operation is simplicity itself with the cockpit controls well arranged. Engine deployment and retraction is electrically powered and operated by a three-way switch on the engine control unit. This unit consists of a circular insert in the instrument panel 3¼in in diameter which houses the deployment switch, the (shielded) ignition switch, a green light for engine locked up and a green and red light to indicate engine rpm. Green normal above 4000rpm, red below normal less than 4000rpm (and you have a problem). The only other control is the fuel cock on the right side of the cockpit which incorporates a thumb operated priming pump. No throttle control, *ie* two speeds, stop and flat out!

Starting the engine involves deployment at about 45kt IAS. The compression relief valves are automatically set open and the engine revs are increased by raising the airspeed to about 70-75kt at which point the compression relief valves automatically close – there is a distinctive change of engine note when this occurs. The ignition is then switched on and the engine bursts into life. The noise level is quite high but reasonably acceptable. If the fuel line has not been bled properly before take-off there can be one or two momentary engine cuts – very disconcerting when it first happens but vigorous pumping with the thumb pump puts things right and one can proceed to the next phase of the flight which is to reduce speed for the best climb (55kt) which will give a still air rate of climb of a little under 200ft/min. Flying at 75kt results in level flight and can be considered max cruising speed. 86kt is the recommended VNE with engine running. Max range is 500km on four gallons of four star petrol!

To retract the engine switch ignition off, close the fuel cock and reduce the airspeed to something close to 40kt (+2 flap). The engine rpm will slowly decay and within 60sec the engine can be partly retracted to lie back at about 45°. This will stop rotation of the five bladed prop in a matter of a few seconds. The book of words then recommends that this position is held for a further half minute to reduce the temperature of the cylinder block before completing retraction. A small cockpit mirror allows observation of most of the retraction sequence up to about 50° layback.

One cannot actually see the final phase, including the engine bay doors actually closing. There is however a reassuring thump when the engine reaches its retracted position and having heard this the doors themselves will almost certainly be closed. A curious psychological effect, after the engine retraction is complete, is the feeling that the air flow noise levels are higher than they were before the engine was used and therefore the doors must have failed to close

properly. This has proved to be a pure figment of the imagination and is probably due to the fact that the air flow noise level on this particular aircraft is a little on the high side even when everything is tucked away out of sight. It should be noted that the installation of the engine is really excellent and the layout seems to have had most of the bugs ironed out of it already resulting in a thoroughly practical engineering arrangement (488's production number is 35).

The loss of height resulting from the starting procedure can vary between 300 to 400ft and this gives rise to an interesting question. At what height should one try to start the engine? Brennig James wrote to S&G some time ago suggesting that starting a motor glider in flight should be commenced with a reasonable amount of ground clearance and he was advocating something in the order of 2000ft. I would agree with this basic philosophy except in the turbo's case I have found that 1500ft is reasonably comfortable although the decision point can be lowered to 1000ft agl if there is a Grade 1 landing area close by.

Of course with the engine hammering away the excitement of a low scrape is eliminated – although they are usually somewhat higher than the pilot's animated description (whilst propping up the bar) would lead one to believe. You've heard it – "I had to change the direction of my circle to avoid the church spire!" – sort of thing! But for those of us who are approaching the category of geriatrics anonymous, close encounters with Mother Earth become progressively less entertaining, even if they end in success.

All this introduces a new decision making element to cross-country flight which has in a way replaced the excitement of a low level fight for survival. Maybe the ground isn't too close when considering an engine start at at 1500ft but there have been many occasions when one had to decide whether or not to go on just a little bit further because there was an "obvious" source of lift a mile or so ahead. Thus, quite often the 1500ft rule becomes an adrenalin generator with similar perception intensifiers normally only associated with a low level save.

A further option is always available – leaving the engine in and go for the purists' solution. I found myself making this decision during Enterprise '85 when I opted for a distant source of hill lift which would have ruled out the use of the engine if it hadn't been working and working strongly at that

To be honest I am not completely convinced that the concept has sufficient advantages to outweigh its disadvantages – I am really one of the old (purist) school at heart – but my traditional conscience is greatly eased by the thought that this type of aircraft requires close involvement with the gliding movement because one has to have a conventional form of launch. The greater independence of the motor glider must surely tend to lead to small pockets of activity unconnected with club operation and possibly the BGA as well. I would hazard a guess that we will be seeing many more Ventus BTs in the near future and it will not be long before other manufacturers follow suit with their variations on the theme. Schempp-Hirth would certainly seem to be the first to get the engineering of this concept just right.

KENYA

Max Bacon has recently visited the Njoro Country Club first described by Geralyn Macfadyen in the June 1984 issue, p128.

After several years of attempts to get gliding organised in Kenya, progress is at last taking place. Richard Pollard, manager of the Njoro Country Club (situated about 100 miles north-west of Nairobi), has for the last year been working flat out to provide cross-country flying facilities from his 7000ft altitude airstrip.

So far Richard has built an unusual but effective winch which provides 1200ft launches for his K-13 and is steadily rebuilding the assorted fleet of gliders left by previous owners. Progress in January 1986 was that a K-13, T-21 and Tutor were serviceable, a Swallow nearly ready after some fuselage work and a Blanik was still some way from being flyable. With only two local workmen to help him, Richard has worked long and hard to reach this stage and is now seeking ways of acquiring a glass-fibre two-seater fully to exploit the soaring conditions. Other developments he is working on include re-engining a V8 auto towcar and formalising arrangements for aerotows.

Njoro is a very good soaring site within the Kenya Rift Valley with cloudbase usually 14 000ft asl and is adjacent to peaks of 9-10 000ft. Soaring conditions are good throughout the year and it is easy to get away from a winch launch.

Gold and Diamond distance flights are practical despite the rugged terrain as there are many landing strips throughout the country.

Njoro is about ten miles from Nakuru, the third largest town in Kenya and all main roads are tarmac. Accommodation at the Njoro Club (about 300yds from the airstrip) is better than most UK gliding clubs but booking is essential. Charges in January included, daily membership 100/-, winch launches 100/- and solo flying 360/-/hr. The Kenya shilling was 24/- to the pound sterling.

Anyone wishing to combine a holiday in the scenic splendour of Kenya with soaring in the Rift Valley should contact Richard Pollard at PO Box 323 Nakuru.

NORWAY

Martin Judkins tells of excellent and varied flying

Last July I went north to visit friends in Oslo. I had previously sampled the spectacular Norwegian scenery by an earthbound holiday nearly six years earlier and the thought of gliding there was very tempting. I contacted Angus Monroe, an English ASW-20 pilot, who took me to one of the Oslo Flyklubb Seilflygruppen's evening meetings held in a converted cellar used for socialising and fettling.

I was fixed up with a lift for the Friday evening — the intention was to fly down but low cloud precluded this so we had to make the two hour journey by car. The airfield — the Ole Reistad Seilflysenter – is a small municipal one just outside Notodden in the Telemark region, about 110km SW of Oslo. When we arrived the remnants of an instructors' course were enthusing about the wave that afternoon. The end-of-course festivities left events for the rest of the evening shrouded in haze! Sunset is about 11pm and it never gets really dark — a

Richard Pollard's twin engined high altitude winch in action at Njoro, photographed by Max.



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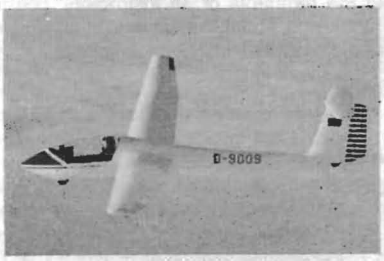
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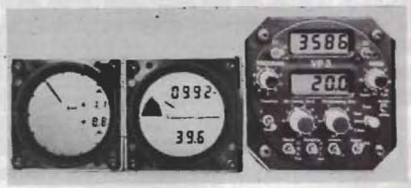
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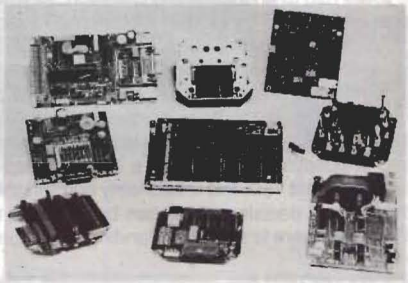
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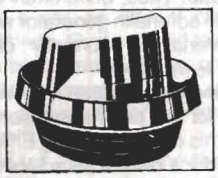


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fact which the Norwegians certainly make the most of — and I did learn the secret of summoning up good weather. Some of the old Norsk customs still linger on and at about 2.30am we duly paraded in the middle of the runway to make offerings to the Great Thermal God!

He was obviously pleased for the next day turned out to be a good one. The Oslo club shares the facilities at Notodden with a few other small clubs and some light power traffic. The airfield is in a valley and has a single tarmac runway, aligned 120°/300° with a lake at one end — which made for one interesting downwind take-off! A road crosses the runway about a third of the way along and only the smaller part is used for club flying which is all aerotow. The Oslo club has a Blanik, K-8, two G103s, an Astir 77 and a Std Jantar. I was impressed by the level of instrumentation — all had multi-channel radios, averaging varios and/or flight director.

Incidentally, wooden trailers are banned in Norway — perhaps a sensible rule considering the state of a lot of wooden trailers over here!

My "host", Tommy Ekeberg, took me for a flight in one of the G103s to have a look at the area. And what a view unfolded as we climbed out of the valley! Under a 5000ft cloudbase, the mountains, averaging about 3000ft, stretched in all directions as far as the eye could see. To the NW, the almost conical peak of Gausta rose to 6200ft. The area is dissected by fertile valleys, filled with small lakes and even smaller fields. The mountains are wooded and rocky and although many of the fields would have been big enough to land in, virtually all were under crop. Cross-countries are carried out very cautiously over there! The locals ensured me that outlandings were possible (I didn't believe them) but clearly a lot of local knowledge is required to find some of the surrounding small airstrips.

Plentiful and vigorous thermals boosted by the high ground and nearby smelting plant

The terrain around Notodden is such that ridge and wave lift can be found in nearly any wind direction. Thermals are plentiful and vigorous, boosted by the high ground and the nearby Norsk Hydro smelting plant seemed a reliable thermal source.

Monday turned out to be my best day with 8kt thermals to 7200ft which allowed me confidently to explore a very large area in the Astir. I had another enjoyable flight in the Jantar on Tuesday and when wave appeared in the evening I just managed to get a launch before the 8pm last-launch deadline. The wave seemed to be everywhere and was giving gentle 2 to 4kt climbs to 5600ft. I landed after 9pm — a very relaxing way to spend an evening and a memorable way to end my visit.

Although there is no clubhouse, facilities are more than adequate with four-berth rooms, all with fridge and cooker. There are meals at a cafeteria or, more usually, at the restaurant in the airport building which provides huge "home-cooked" meals at very reasonable prices (for Norway!) Aerotows cost Kr12/100m plus Kr35 "start fee" which works out cheaper than many British clubs. Flying fees are Kr3/min (about 27p) which is expensive and most club members opt for paying a Kr2000 lump sum at the start of the year, after which all flying is free. There is gliding every weekend throughout the year as well as weekdays in the summer. More details can be obtained from the Oslo Flyklubb Seilflygruppen, Postboks 15, 1330 Oslo Lufthavn or the gliding centre manager, Tel 036 11520.

The cost of taking a car and trailer to Norway is little more than the Channel ferries and there is not much driving to do at the other end. The site is small, well run and very friendly and they would certainly welcome more visitors. Although the area around Notodden is not the classic fjord terrain which one associates with Norway, the scenery is still very beautiful and the flying is excellent and varied — all the ingredients for a good holiday. I shall certainly be back!

IRELAND

LINDSEY ASTLE writes about the safari to Co Kerry

Every year in late September a group from the Dublin GC go on safari to Co Kerry and are joined by several members of the Ulster Club and Pat Piggott and myself from Coventry. The fortnight is organised by their CFI, Dan Begley, and his wife, the aim being to ridge and hopefully wave soar the hills and mountains in and around the Dingle peninsular.

We autotow off any one of three possible beaches using our own cars and a length of parafil. All three beaches, Fermoyle on the north of the peninsular, Inch on the south and Rossbehy on the south of Dingle Bay, have roughly two miles of hard packed sand on which to tow when the tide is out. The prevailing wind is from the west and one or other of the ridges available will work if there is an element of north or south in it.

It is possible to ridge soar from Inch the 11 miles or so east to Castlemaine in the right conditions and I am told on one occasion someone cliff soared a similar distance west to Dingle. Flying from Fermoyle can be less straight forward, as the ridge here can be affected by the one in front. Rossbehy is the least explored of the three sites but cliffs form a workable ridge in the right wind most of the way to Valencia. However, I only know of one flight made along this route.

There is a story that a Spaniard once asked an Irishman if there was an Irish equivalent for the word "manana" to which the reply came that there was nothing indicating that degree of urgency. Well, it is true that it can be slow getting people started in the morning but once flying begins it continues come hell, high water or darkness. With the runway flooding as it does every 12 hours or so, flying with a set of tide tables can be as important as flying with a map.

A few miles back from Inch there is a field that is landable and at the back of Rossbehy there is a some-time football pitch but before landing on the latter it is advisable to radio the ground crew to organise a round-up of the local cattle. Apart from these two, the fields are uniformly small, steep and surrounded by dry-stone walls.

So far as the wave goes, it seems that if there is wind there is wave, generated by either the mountains north or south of the bay. Unfortunately coastlines facing the Atlantic often have more than their fair share of cloud and only the occasional slot shows through. With cloud at 1500ft and mountains at 3400ft the slot needs to be pretty constant to go up through it. Happily the cloud is not always there and on one particular occasion two years ago glider after glider pulled off tow, turned over the bay and contacted the wave. A number of pilots got their Gold heights that day. Not bad off an autotow!

All airspace above 4000ft is controlled in Ireland but this is handled with a typical Irish flexibility. If a pilot finds himself climbing towards this ceiling, he "holds", radio's back to the beach and someone drives to the nearest phone to contact Shannon Air Traffic Control. On only one occasion that I know of has clearance to keep on climbing been refused.

There is a little used airfield at Farranfore, a few miles inland from the Bay – "Kerry County Airport". For someone with the means and initiative to organise a tug there must be great possibilities. The last Wednesday in September was a typical example. The whole of Dingle Bay was covered in low cloud and drizzle, so Pat and I took a drive to Farranfore. The sky there was beautifully clear with wave bars everywhere we looked.

To compensate when the weather fails, however, there is always excellent company, stout and food. The members of the Dublin Club are extremely hospitable and welcoming. It can be a lovely holiday and if you fancy something different why not try it.

* * *

Further praise of Ireland

Mark Thompson has also written enthusiastically about flying in Ireland having twice crossed the water last season to fly the tug on courses at the Ulster GC at Bellarena and to fly with the Dublic GC at Gowron Grange, Eire. He comments on the friendliness of the people and the flying possibilities at the Bellerana site on the shoreline of Loch Foyle at the foot of the Binevenagh hill with its 1200ft ridge.

He also visited the all Irish Nationals at the Dublin GC's site and again found a great welcome and although the flying record is good with regular wave, the weather at that time was poor. Like Lindsey, Mark recommends considering Ireland if you are thinking of a gliding holiday this year.

INTERNATIONAL GLIDING RECORDS (Correct as at 6.2.86)

SINGLE-SEATERS

Height Gain	12 894m	P. F. Bikle, USA	SGS 1-23E	25.2.1961
Absolute Altitude	14 102m	P. F. Bikle, USA	SGS 1-23E	25.2.1961
Straight Distance	1460.8km	H-W. Grosse, W. Germany	ASW-12	25.4.1972
Goal Distance	1254.26km	B. L. Drake, D. N. Speight, S. H. Georgeson, New Zealand	Nimbus 2	14.1.1978
Goal & Return Distance	1646.68km	T. L. Knauff, USA	Nimbus 3	25.4.1983
Triangular Distance	1306.85km	H-W Grosse, W. Germany (in Australia)	ASW-17	4.1.1981
100km Triangle	195.30km/h	I. Renner, Australia	Nimbus 3	14.12.1982
300km Triangle*	176.99km/h	B. Bünzli, Switzerland (in South Africa)	DG-400	14.11.1985
500km Triangle	159.64km/h	H-W. Grosse, W. Germany (in Australia)	ASW-22	20.12.1983
750km Triangle	158.40km/h	H-W. Grosse, W. Germany (in Australia)	ASW-22	8.1.1985
1000km Triangle	145.32km/h	H-W. Grosse, W. Germany (in Australia)	ASW-17	3.1.1979
1250km Triangle	133.24km/h	H-W. Grosse, W. Germany (in Australia)	ASW-17	9.12.1980

MULTI-SEATERS

Height Gain	11 680m	S. Josefczak and J. Tarczon, Poland	Bocian	5.11.1966
Absolute Altitude	13 489m	L. Edgar and H. Klieforth, USA	Pratt Read	19.3.1952
Straight Distance	993.76km	S. H. Georgeson and Helen Georgeson, New Zealand	Janus C	31.10.1982
Goal Distance	993.76km	S. H. Georgeson and Helen Georgeson, New Zealand	Janus C	31.10.1982
Goal & Return Distance	1052.74km	E. Müller and K. Senne, W. Germany (in Australia)	Janus C	26.12.1983
Triangular Distance	1112.62km	H-W. Grosse and H. Kohimeyer, W. Germany (in Australia)	SB-10	28.12.1979
100km Triangle	177.26km/h	E. Sommer and I. Andresen, W. Germany (in USA)	Janus C	26.7.1984
300km Triangle*	152.2km/h	E. Müller and O. Schäffner, W. Germany (in Australia)	AS 22-2	10.1.1986
500km Triangle	146.69km/	E. Müller and K. Senne, W. Germany (in South Africa)	MU 2	13.12.1981
750km Triangle*	138.7km/h	E. Müller and K. Senne, W. Germany (in Australia)	AS-22-2	4.1.1986
1000km Triangle	129.54km/h	H-W. Grosse and H. Kohimeyer, W. Germany (in Australia)	SB-10	21.12.1979

SINGLE-SEATERS (WOMEN)

Height Gain	9119m	Anne Burns, Gr Britain (in South Africa)	Skylark 3B	13.1.1961
Absolute Altitude	12 637m	Sabrina Jackintell, USA	Astir GS	14.2.1979
Straight Distance	949.7km	Karla Karel, Gt Britain (in Australia)	LS-3	20.1.1980
Goal Distance	748.37km	Joann Shaw, USA	Nimbus 2	17.8.1983
Goal & Return Distance	1126.68km	Doris Grove, USA	Nimbus 2	28.9.1981
Triangular Distance	847.27km	Joann Shaw, USA	Nimbus 2	5.8.1984
100km Triangle	139.45km/h	Susan Martin, Australia	LS-3	2.2.1979
300km Triangle	138.71km/h	Inge Müller, W. Germany (in SW Africa)	Ventus B	8.12.1984
500km Triangle	133.14km/h	Susan Martin, Australia	LS-3	29.1.1979
750km Triangle	110.53km/h	Pamela Hawkins, Gt Britain (in Australia)	ASW-17	17.11.1984

MULTI-SEATERS (WOMEN)

Height Gain	8430m	Adela Dankowska and M. Mateliska, Poland	Bocian	17.10.1967
Absolute Altitude	10 809m	Mary Nurr and H. Duncan, USA	SGS 2-32	5.3.1975
Straight Distance	864.85km	Tatiana Pavlova and L. Filomechkina, USSR	Blanik	3.6.1967
Goal Distance	864.86km	Isabella Gorokhova and Z. Koslova, USSR	Blanik	3.6.1967
Goal & Return Distance	617.43km	Pelagia Majewska and V. Malcher, Poland	Halny	14.5.1980
100km Triangle	126.28km/h	Adela Dankowska and E. Grzelak, Poland	Halny	1.8.1978
300km Triangle	123.33km/h	Inge Müller and C. Müller, W. Germany (in SW Africa)	Janus C	7.12.1984
500km Triangle	93.7km/h	Adela Dankowska and S. Piatek, Poland	Halny	4.5.1980

BRITISH NATIONAL RECORDS (Correct as at 6.2.86)

SINGLE-SEATERS

Height Gain	10 965m	D. Benton	Nimbus 2	18.4.1980
Absolute Altitude	11 500m	H. C. N. Goodhart (in USA)	SGS 1-23	12.5.1955
Straight Distance	949.7km	Karla Karel (in Australia)	LS-3	20.1.1980
Goal Distance	579.36km	H. C. N. Goodhart	Skylark 3	10.5.1959
Goal & Return Distance	1127.68km	M. T. A. Sands (in USA)	Nimbus 3	7.5.1985
Triangular Distance	840.2km	C. N. Varley (in Australia)	Mosquito	23.1.1982
300km Goal and Return	153.3km/h	M. T. A. Sands (in USA)	Kestrel 19	10.5.1983
500km Goal and Return	152.7km/h	M. R. Carlton (in South Africa)	ASW-17	24.12.1980
100km Triangle	143.3km/h	E. P. Hodge (in Rhodesia)	Std Cirrus	30.10.1976
300km Triangle	146.8km/h	E. Pearson (in South Africa)	Nimbus 2	30.11.1976
500km Triangle	141.3km/h	B. J. G. Pearson (in South Africa)	ASW-20	28.12.1982
750km Triangle	109.8km/h	M. R. Carlton (in South Africa)	Kestrel 19	5.1.1975

MULTI-SEATERS

Height Gain	9836m	T. J. Wills and B. Iggulden (in New Zealand)	Twin Astir	13.1.1982
Absolute Height	10 607m	T. J. Wills and B. Iggulden (in New Zealand)	Twin Astir	13.1.1982
Straight Distance	472.43km	M. R. Carlton and M. French (in South Africa)	Calif A-21	18.12.1979
Goal Distance	472.43km	M. R. Carlton and M. French (in South Africa)	Calif A-21	18.12.1979
Goal and Return Distance	692.02km	M. R. Carlton and C. Greaves (in South Africa)	Calif A-21	23.12.1978
Triangular Distance	762.72km	C. M. Greaves and C. Simpson (in South Africa)	Janus	28.12.1977
300km Goal and Return	105.44km/h	M. R. Carlton and C. Greaves (in South Africa)	Calif A-21	19.12.1978
500km Goal and Return	113.08km/h	M. R. Carlton and C. Greaves (in South Africa)	Calif A-21	23.12.1978
100km Triangle	137.22km/h	M. R. Carlton and Leonie Lawson (in South Africa)	Calif A-21	27.12.1978
300km Triangle	112.59km/h	M. R. Carlton and C. Greaves (in South Africa)	Calif A-21	17.12.1979
500km Triangle	108km/h	M. R. Carlton and C. Greaves (in South Africa)	Calif A-21	21.12.1978
750km Triangle	104.01km/h	C. M. Greaves and C. Simpson (in South Africa)	Janus	28.12.1977

SINGLE-SEATERS (WOMEN)

Height Gain	9119m	Anne Burns (in South Africa)	Skylark 3B	13.1.1961
Absolute Altitude	10 550m	Anne Burns (in South Africa)	Skylark 3B	13.1.1961
Straight Distance	949.7km	Karla Karel (in Australia)	LS-3	20.1.1980
Goal Distance	528km	Ann Welch (in Poland)	Jaskolka	20.6.1961
Goal & Return Distance	545km	Anne Burns (in South Africa)	Std Austria	6.1.1966
Triangular Distance	814.01km	Karla Karel (in Australia)	LS-3	9.1.1980
300km Goal and Return	107.5km/h	Karla Karel (in South Africa)	ASW-15B	1.1.1975
500km Goal and Return	102.6km/h	Karla Karel (in Rhodesia)	ASW-15B	16.10.1975
100km Triangle	110.8km/h	Karla Karel (in Rhodesia)	ASW-15B	2.11.1975
300km Triangle	125.87km/h	Karla Karel (in Australia)	LS-3	12.2.1980
500km Triangle	120.69km/h	Karla Karel (in Australia)	LS-3	20.2.1980
750km Triangle	110.53km/h	Pamela Hawkins (in Australia)	ASW-17	17.11.1984

UNITED KINGDOM RECORDS (Correct as at 6.2.86)

SINGLE-SEATERS

Height Gain	10 065m	D. Benton	Nimbus 2	18.4.1980
Absolute Altitude	11 031m	D. Benton	Nimbus 2	18.4.1980
Straight Distance	718km	T. J. Wills	Std Libelle	1.8.1976
Goal Distance	579.36km	H. C. N. Goodhart	Skylark 3	10.5.1959
Goal & Return Distance	801.3km	C. Garton	Kestrel 19	22.7.1976
Triangular Distance	770.5km	C. C. Rollings	Jantar 2A	28.5.1985
300km Goal & Return	114.5km/h	D. S. Watt	ASW-22	18.8.1983
500km Goal & Return	93km/h	M. B. Jefferyes	DG-202	12.5.1984
100km Triangle	123.2km/h	R. Jones	Nimbus 3	13.8.1983
200km Triangle	108.6km/h	R. Jones	Nimbus 3	14.8.1983
300km Triangle	117.14km/h	R. Jones	Nimbus 3	28.5.1985
400km Triangle	114.3km/h	R. Jones	Nimbus 3	1.8.1984
500km Triangle	106.9km/h	R. Jones	Nimbus 3	31.5.1975
600km Triangle	88.8km/h	C. Garton	Kestrel 19	10.6.1976
750km Triangle	77.98km/h	C. C. Rollings	Jantar 2A	28.5.1985
100km Goal	150km/h	T. J. Wills	LS-4	12.5.1984
200km Goal	127.1km/h	A. H. Warminger	Vega	12.5.1984
300km Goal	132.8km/h	A. H. Warminger	Kestrel 19	24.4.1976
400km Goal	73.8km/h	T. J. Wills	Std Libelle	7.6.1976
500km Goal	90.7km/h	H. C. N. Goodhart	Skylark 3	10.5.1959

STANDARD CLASS

Straight Distance	718km	T. J. Wills	Std Libelle	1.8.1976
100km Triangle	119.7km/h	T. J. Wills	LS-4	18.4.1981
200km Triangle	92.2km/h	A. J. Stone	Std Cirrus	16.8.1976
400km Triangle	91.7km/h	S. J. Redman	Std Cirrus	31.5.1975
100km Goal	150km/h	T. J. Wills	LS-4	12.5.1984
300km Goal	131.1km/h	T. J. Wills	Std Libelle	24.4.1976
400km Goal	73.8km/h	T. J. Wills	Std Libelle	7.6.1976

15m CLASS

Straight Distance	718km	T. J. Wills	Std Libelle	1.8.1976
500km Goal & Return	79.1km/h	J. D. Benoist	ASW-20	9.4.1983
100km Triangle	119.7km/h	T. J. Wills	LS-4	18.4.1981
200km Triangle	93.49km/h	B. T. Spreckley	ASW-20	14.7.1979
300km Triangle	102.2km/h	R. C. May	ASW-20	1.8.1984
400km Triangle	95.88km/h	D. S. Watt	ASW-20FL	29.5.1985
200km Goal	127.1km/h	A. H. Warminger	Vega	12.5.1984

UK 750km DIPLOMA

1. Goal & Return	801.3km	C. Garton	Kestrel 19	22.7.1976
2. Distance	761km	D. S. Watt	ASW-20L	9.5.1980
3. Triangular Distance	770.5km	C. C. Rollings	Jantar 2A	28.5.1985

MULTI-SEATERS

Height Gain	6740m	J. R. Monteith (USA) and M. Mahon	Capstan	2.11.1972
Absolute Altitude	7650m	J. R. Monteith (USA) and M. Mahon	Capston	2.11.1972
Straight Distance	421.5km	J. S. Fielden and Valerie Fielden	Bergfalke 3	14.8.1970
Goal Distance	421.5km	J. S. Fielden and Valerie Fielden	Bergfalke 3	14.8.1970
Goal & Return Distance	429.6km	M. B. Jefferyes and P. McElarney	Silene	7.7.1985
300km Goal & Return	81.91km/h	J. R. Jeffries and N. Foster	Calif A-21	17.8.1975
100km Triangle	83.5km/h	J. R. Jeffries and G. Love	Calif A-21	22.4.1974
200km Triangle	96.5km/h	R. Jones and M. Hackett	Janus C	10.8.1984
300km Triangle	85.87km/h	B. Fitchett and A. Miller	Janus	9.5.1979
400km Triangle	86.6km/h	D. S. Watt and I. Hargrove	Janus C	1.8.1984
500km Triangle	88.4km/h	J. R. Jeffries and Gillian Case	Calif A-21	31.5.1975
100km Goal	96.5km/h	D. B. James and K. O'Riley	Gull 2	27.5.1957
200km Goal	113.3km/h	R. Miller and B. Tapson	Janus C	11.5.1984
300km Goal	107.4km/h	P. R. Pentecost and A. H. Pentecost	Janus C	7.5.1984

SINGLE-SEATERS (WOMEN)

Height Gain	7833m	Alison Jordan	Astir CS	8.10.1978
Absolute Altitude	8701m	Alison Jordan	Astir CS	8.10.1978
Straight Distance	454km	Anne Burns	Skylark 3B	10.5.1959
Goal Distance	309km	Anne Burns	Skylark 3B	12.4.1958
Goal & Return Distance	334.2km	Ruth Housden	Libelle	29.5.1982
300km Goal & Return	60km/h	Anne Burns	Nimbus 2	25.7.1975
100km Triangle	80km/h	Anne Burns	Cirrus	14.6.1970
200km Triangle	69.3km/h	Anne Burns	Std Austria	22.8.1964
300km Triangle	76.8km/h	Jane Randle	Kestrel 19	18.8.1976
400km Triangle	60.6km/h	Anne Burns	SHK	5.8.1967
500km Triangle	76.1km/h	Anne Burns	Nimbus 2	31.5.1975
100km Goal	83km/h	Rika Harwood	Olympia 2B	27.5.1957
200km Goal	85.5km/h	Anne Burns	Olympia 419	2.6.1963
300km Goal	63.9km/h	Anne Burns	Skylark 3B	12.4.1958

MOTOR GLIDERS (+Also British National Record; †British National Record only)

SINGLE-SEATERS

Straight Distance†	652.7km	B. J. Willson (in Australia)	PIK-20E	10.1.1983
Goal Distance†	415.1km	B. J. Willson (in Australia)	PIK-20E	11.1.1983
100km Triangle+	76.5km/h	I. W. Strachan	PIK-20E	11.8.1984
200km Triangle	48.2km/h	I. W. Strachan	SF-27M	23.8.1976
300km Triangle+	83.1km/h	I. W. Strachan	PIK-20E	19.8.1984
500km Triangle†	71.75km/h	B. J. Willson (in Finland)	PIK-20E	22.5.1980
100km Goal	85.7km/h	I. W. Strachan	SF-27M	16.7.1971

MULTI-SEATERS (†Also BRITISH NATIONAL RECORD)

Height Gain†	4355m	R. I. Lloyd and J. Fox	SF-28A	22.10.1982
100km Triangle†	35.6km/h	P. T. Ross and H. Daniels	SF-28A	27.6.1976
100km Goal	76.2km/h	P. T. Ross and K. Winfield	SF-28A	22.8.1976
200km Goal	66.3km/h	P. T. Ross and P. Fletcher	SF-28A	18.7.1976

INTERNATIONAL MOTOR GLIDERS (Correct as at 6.2.86)

SINGLE-SEATERS

Height Gain	8923m	G. Cichon, W. Germany	Nimbus 2M	27.5.1979
Absolute Altitude	10 408m	G. Cichon, W. Germany	Nimbus 2M	27.5.1979
Straight Distance	652.68km	B. J. Willson, Gt Britain (in Australia)	PIK-20E	10.1.1983
Goal Distance	532.38km	F. T. Andersen, Denmark (in Australia)	PIK-20E	20.1.1983
Goal and Return Distance	1008.89km	F. Rueb, W. Germany (in South Africa)	Nimbus 2M	7.1.1981
Triangular Distance*	1024km	O. Wegscheider, W. Germany (in South Africa)	ASW-22M	6.1.1986
100km Triangle*	178.11km/h	B. Bünzli, Switzerland (in South Africa)	DG-400	9.12.1985
300km Triangle	165.51km/h	B. Bünzli, Switzerland (in South Africa)	DG-400	22.12.1984
500km Triangle*	159.3km/h	B. Bünzli, Switzerland (in South Africa)	DG-400	24.12.1985
750km Triangle*	162.29km/h	B. Bünzli, Switzerland (in South Africa)	DG-400	12.12.1985
1000km Triangle	139.96km/h	B. Bünzli, Switzerland (in South Africa)	DG-400	28.12.1984

MULTI-SEATERS

Height Gain	5044m	M. Niebler and G. Kraus, W. Germany	G-109	26.9.1982
Absolute Altitude*	6650m	K. Doser and J. Prasser, W. Germany	Dimona	8.11.1982
Straight Distance	952.53km	W. Binder and K. Heimann, W. Germany	Janus M	16.5.1980
Goal Distance	646.42km	G. Jacobs and G. Hüttel, W. Germany	SF-25E	28.4.1976
Goal & Return Distance	617.95km	L. de Preter (Belgium) and D. Sohn (W. Germany) (in South Africa)	Janus CM	29.12.1981
Triangular Distance	756km	W. Collee and K. Pummer, W. Germany (in South Africa)	Janus M	31.12.1979
100km Triangle	128km/h	W. Collee and E. Doerr, W. Germany (in South Africa)	Janus M	15.1.1980
300km Triangle	129.72km/h	O. Wegscheider and A. Ascher, W. Germany (in South Africa)	Janus CM	12.12.1980
500km Triangle	109.96km/h	O. Wegscheider and K. Zoulek, W. Germany (in South Africa)	Janus CM	5.12.1980
750km Triangle	98.97km/h	W. Collee and K. Pummer, W. Germany (in South Africa)	Janus M	31.12.1979

*=Subject to homologation

New records have to exceed the old ones by: Distance 10km. Heights 3%. Closed circuit speeds 2km/h. Goal speeds 5km/h.
For records, no side of a triangle may have a length less than 28% of the total distance of the course, except that for triangles of 750km or more for International and British National Records, or of 500km or more for UK Local Records, no side may have a length less than 25% or greater than 45% of the total distance.
Conversion Factors: Multiply km or km/h by 0.621 to get statute miles or mph. Multiply km by 0.54 to get nautical miles or kts. Multiply metres by 3.28 to get feet.

BGA & GENERAL NEWS

ENTERPRISING TASK WEEK

Yorkshire GC is organising a task week from August 23-31 with the task setting based on the principles of Competition Enterprise, the prime aim being to get the maximum flying time out of each day.

Scoring will be based on distance flown and enterprising flights with a bonus for landing back on site (there will be no speed points). Various TPs will be set to ensure every pilot will be stretched and have the option to fly in areas where the weather seems better.

Sutton Bank offers strong thermals, sea breeze fronts, many miles of soarable ridges and excellent wave (some of our best heights, up to 30 000ft, have been gained around this time of year).

The entry fee will be a bottle of wine and costs will be limited to normal club rates for membership and launches. For more details contact Jon Hart on 0532 401445 (weekday evenings).

MOGAS OPERATIONS

Dick Stratton, BGA chief technical officer, has issued a memorandum (TNS/1/86) which deals with the effects on aeroengines of Mogas with a small percentage (1 to 3) of alcohol added to it. Some fuel companies are threatening to produce Mogas of this type and if you experience any of the symptoms listed below you should investigate the condition of the carburettor float, which may be of a type of moulded cellular polymer based synthetic rubber which is susceptible to alcohol.

1. Flooding.
2. Rough or rich running (black exhaust).
3. High fuel consumption.

Note also that some fuel gauge transmitter floats may also be made of moulded cellular rubber.

INTER-UNIVERSITY TASK WEEK

This year Aberdeen University are the hosts for the Inter-University Task Week which will be held at Aboyne from July 12-19. It is open to University and Polytechnic teams and for further details contact Robin Cutts, secretary of Aberdeen University GC, Aberdeen University Union, Broad St, Aberdeen AB9 1AW.

STRUCTURE OF THE BGA

The membership structure of the BGA is now made up of 86 full member clubs, three of whom have affiliated clubs as follows: Army Gliding Association with two clubs, RAF Gliding and Soaring Association with 11 clubs and the Royal Naval Gliding and Soaring Association with three clubs.

Operations. During the year ending September 30, 1985 (1984 figures in brackets), member clubs (civilian and combined services) flew a total of 152 995 (145 526) hours and 1 024 357 (1 180 943) kilometres cross-country from 406 929 (457 120) launches from club sites. Club owned gliders total 487 (435) and privately owned gliders 1277 (1180).

Certificates. Certificates were issued as follows: A endorsements 1625 (1859), B endorsements 230 (243), Bronze C 419 (446), Silver C 261 (296), Gold C 75 (76), Diamond goal 100 (100), Diamond height 48 (59) and Diamond distance 61 (26).

A certificates were applied for by 839 (1000) holders of the ATC proficiency certificate.

A TOUCH OF CLASS

Imagine landing in a field and within 12 minutes enjoying a hot meal of perhaps turkey currey or chicken casserole. It isn't a fantasy. You can now buy self-heating Hotcan meals, enough for one, at £2.25 but a lower price can be arranged for clubs.

There is a choice of six menus and the cans are brought to 50°C in the can, using the reaction of limestone and water. We have tried two and been extremely impressed with the flavour and the convenience of the method. They have a shelf life of up to two years.

GLIDING CERTIFICATES

Congratulations to Jim Cook of SGU for simultaneously achieving Silver height, Gold height and Silver distance from a winch launch at Portmoak on December 15, a day when sunset at that latitude was 4pm.

Several pilots have asked how Diamond distance (500km) and Diamond goal (300km) might be achieved together under the current FAI Badge rules. Naturally a properly completed 500km triangle or goal and return meets both requirements, but what about quadrilaterals and optional TPs or TP sequence?

First of all remember that Diamond goal calls for a goal and return, or a triangle with TPs rounded in the pre-delcared sequence; departure and finish points must be the same, and you must complete the task. Secondly, **Sporting Code** rule 2.2.1 stipulates that only one declaration (*ie* the latest) is valid for each flight.

You can therefore declare a 500km quadrilateral which includes a 300km triangle or O/R, and this would count for Diamond goal provided the sequence of TPs is clearly stated in your declarations as 1st, 2nd, 3rd (not just 1, 2 and 3), and provided you complete the full task. You cannot hedge your bets by missing out any TPs to abbreviate a 500km task to 300km; even if you returned to the departure point you would not qualify for Diamond goal. In other words, if you set out to achieve both Diamond distance and goal, you won't be eligible for the latter unless you qualify for both!

Gordan Camp, *FAI certificates' officer*

Correction: *We regret that in the Silver Badge list in the October issue, p243, No. 7028 was given as P. G. Dent. It should have been P. G. Gent.*

DIAMOND DISTANCE

No.	Name	Club	1985
1/316	P. A. Swoffer	Lasham (in Spain)	12.8
1/317	J. L. Rolls	Lasham (in Spain)	8.8

DIAMOND GOAL

No.	Name	Club	1985
2/1463	R. Maskell	Cambridge Univ.	28.5
2/1464	M. A. Johnson	Two Rivers	6.9
2/1465	G. G. Szabo-Toth	Bristol & Glos.	2.8
2/1466	C. N. Wallis	Lasham	7.7
2/1467	R. R. Beezer	Pegasus (in France)	16.8
2/1468	P. J. Jewell	Booker (in Australia)	13.12

DIAMOND HEIGHT

No.	Name	Club	1985
3/712	J. E. Cruttenden	Lasham	25.10
3/713	J. P. Beardmore	Coventry (in France)	28.4

GOLD BADGE

No.	Name	Club	1985
1130	G. K. Payne	Booker	1.11
1131	D. A. J. Wylie	SGU	2.11
1132	J. W. Evans	Cabridge Univ.	30.9
1133	R. Maskell	Cambridge Univ.	28.5
1134	A. G. I. Dodds	SGU	2.11
1135	R. Dixon	Lasham	11.10
1136	J. P. Beardmore	Coventry (in France)	28.4
1137	G. G. Szabo-Toth	Bristol & Glos (in France)	2.8
1138	J. L. Rolls	Lasham (in Spain)	24.7
1139	T. W. Stoker	Ouse	15.12

GOLD HEIGHT

Name	Club	1985
G. K. Payne	Booker	1.11
E. J. Melville	SGU	2.11
J. W. Evans	Cambridge Univ.	30.9
J. E. Cruttenden	Lasham	25.10
J. N. Mills	Shalbourne	25.10
N. D. Cotterill	Avon Soaring	6.10
G. R. Brown	Booker	7.10
R. I. Hey	Bristol & Glos.	11.10
R. Dixon	Lasham	11.10
J. P. Beardmore	Coventry (in France)	28.4
R. E. Speer	East Sussex	25.10
J. L. Rolls	Lasham (in Spain)	24.7
J. C. Gibson	Blackpool & Flyde	5.9
J. D. Cook	SGU	15.12
T. W. Stoker	Ouse	15.12
P. A. Lewis	Lakes	15.12

GOLD DISTANCE

Name	Club	1985
D. A. J. Wylie	SGU	2.11
R. Maskell	Cambridge Univ.	28.5
M. A. Johnson	Two Rivers (in France)	6.9
A. G. I. Dodds	SGU	2.11
G. G. Szabo-Toth	Bristol & Glos. (in France)	2.8
G. N. Wallis	Lasham	7.7
R. R. Breezer	Pegasus (in France)	16.8
P. J. Jewell	Booker (in Australia)	13.12

SILVER BADGE

No.	Name	Club	1985
7146	A. G. Cleaver	Pegasus	14.9
7147	J. W. Courchee	in USA	9.11
7148	C. F. McCall	Fulmar	15.6
7149	J. D. Cook	SGU	15.12
7150	J. G. Paxton	Midland	15.6
7151	P. J. Jewell	Booker	11.12

Please send all contributions to S&G to the editorial office, 281 Queen Edith's Way, Cambridge CB1 4NH and not to the BGA office.

OBITUARY

Freddie Wiseman



Freddie Wiseman taught me to glide and I was very sad to learn of his death on Christmas Day.

He left Cambridge University GC to start the Ridgewell Oatley GC on the old Ridgewell wartime airfield. With endless enthusiasm and hard work he showed countless number of people how to glide – launching the gliders by his famous combine harvester.

I am sorry I have only known him over the last decade but I am pleased to have so many happy memories. The first half an hour soaring with Fred in the T-21, Fred dressed in his well worn berret and boiler suit and the pleasure we had together after a successful day's flying.

Fred was a poetic and fluent writer and during his illness wrote a book. I look forward to the time it is in print.

Dave Barker

BGA ACCIDENT SUMMARY — Compiled by KEITH MITCHELL, Chairman, BGA Safety Panel

Ref. No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew Age	Injury	Pl/Hrs	Summary
117	K-13	2830	S	22.7.85 13.45	Challock P1 P2	49 25	N M	430 0	Instructor flying approach at 65kt in turbulent conditions. Severe turbulence caused right wing to drop during round out. Wings were levelled but a heavy landing resulted.
118	Sport Vega	?	M	28.5.85 17.00	Burton on Trent	32	M	210	Unable to soar during lead and follow exercise. Poor field selection and poor circuit planning resulted in overshoot, and aircraft ran into unseen barbed wire fence. Wire ran up over canopy before breaking through at middle.
119	Ventus B	2968	S	31.7.85 14.30	Laverton	45	M	620	Pilot confused wind direction and touched down, downwind, downhill just short of a hedge with which the glider collided immediately after touchdown.
120	DG-202	2736	M	31.7.85 14.20	Twerton	50	N	475	During slightly heavy field landing underside of port wing touched down causing minor damage to the leading edge and aileron.
121	Twin Astir	3128	N	21.7.85 14.00	Bickmarsh P1 P2	67 ?	N N	90 0	Twin Astir was on final approach, flying into rain squall moving across field when a Blanik overtook from the left rear quarter and passed out of sight underneath. Astir took avoiding action and gliders landed clear of each other. Towards end of ground run left wing of Astir touched ground inducing a groundloop.
122	Mosquito H.303	2244	W/O	14.7.85 12.55	Dannstadt West Germany	47	S	155	Glider was seen to leave the ground during the winch launch at a very steep angle and 'wallowing'. The left wing dropped, was corrected, then dropped again. Glider fell to the ground from about 150ft (Starting to spin? AKM)
123	Skylark 3B	914	S	14.7.85 15.10	Stamford P1	31	N	52	After local soaring for 35 to 40min the pilot found he was low and would have to land out. A poor fast circuit was made to a field. The glider struck the ground in the undershoot field and bounced over a large ditch, striking a bush on the way and breaking the fuselage just ahead of the tailplane.
124	K-8	2260	M	6.7.85 13.30	Selbourne, Hants P1	48	N	62	Pilot was forced to groundloop glider after his first cross-country flight to avoid running into an electric fence at the end of field landing ground run.
125	Astir CS	2185	M	21.7.85 12.50	Lasham P1	38	N	58	Pilot did not realise how tired he was and bounced on landing. The second landing was heavy, and a fuselage mainframe was damaged.
126	K-18	2245	S	1.7.85 12.20	Camphill P1	60	N	450	First flight on type. Pilot did not seek briefing. Badly executed final turn with brakes open in severe wind gradient. Hit ground in steep attitude with starboard wingtip and then nose.

BGA MAIL ORDER

Sketch of BGA employee faced with an empty sheet of paper and a deadline for producing yet another advert extolling the virtues of buying books from our mail order catalogue.

Well you've heard it all before – you know it makes sense!

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Ref. No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew Age	Pilot/Crew Injury	Pilot/Crew Pl/Hrs	Summary
127	Olympia 463	1155	M	7.7.85 13.00	Desborough P1	46	N	41	Solo pilot on local flying soared with some success, but lost visual contact with the airfield and after a search, decided on a field landing. Field chosen, was thought to be hay, but was eventually discovered to be standing corn. Elevators were damaged.
128	Super Cub Tug	G-ATRG	S	23.6.85 16.15	Kingsclere P1 Gallops	53	N	Power 900	Tug struck earth bank on take-off, while attempting aerotow retrieve.
128	Jantar 19	?	S	23.6.85 16.15	Kingsclere P1 Gallops	49	N	667	Pilot abandoned launch when tug was seen to be heading for an earth bank at the left hand side of the gallops. Glider pilot attempted to bring the glider to rest on the gallops, but groundlooped.
129	ASW-20BL	3133	M	20.6.85 16.15	Mideham, P1 Nr. Newbury	45	N	546	Whilst making a field landing, glider touched down wing first and groundlooped.
130	Blanik	2009	M	2.8.85 10.25	Channel P1 Gliding Club P2	20 30	N N	270 ?	Cable back-released at about 40ft on winch launch. P1 failed to take over in time to prevent a heavy landing which collapsed the undercarriage.
131	K-8	1563	M	2.8.85 20.00	Dallachy P1	43	N	49	Pilot thought he was too high on downwind leg, and opened airbrakes on base leg. Brakes stayed open during final turn with glider sinking rapidly, tried to stretch glide by raising nose, and stalled into field short of boundary. Experienced witness thought glider was slightly low on downwind leg.
132	Std Cirrus	1617	M	3.7.85 15.34	Nympsfield P1	63	N	423	Pilot did not tighten straps before landing and landed on a rough though not prohibited part of airfield. During ground run the pilot's head struck the canopy, breaking out a hole of some 30sq in.

Sailplane & Gliding

The magazine can be obtained from most Gliding Clubs in Gt. Britain, alternatively send £9.50 postage included for an annual subscription to the British Gliding Association, Kimberley House, Vaughan Way, Leicester.

Red leather-cloth binders specially designed to take copies of the magazine and gold-blocked with the title on the spine are only available from the B.G.A.

Price £4.25 including post and packing.

OVERSEAS AGENTS

CANADA
T. R. Beasley, Soaring Supplies, PO Box 4851.
St. Laurent, P.Q. Canada, H4L 4Z5.

SOUTH AFRICA
Peter Eich, PO Box 82707, Southdale 2135, Johannesburg, Transvaal.

HOLLAND
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nine-day Soaring and Cross-country courses in May and June:
seven-day Mountain and Wave soaring courses in October.

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Field Landing, (one-day courses) – April 7-12; April 24-May 2, Various venues.
Competition Training – April 14-20, Lasham; May 5-11, Booker.
Soaring & Cross-country – May 17-25, Lasham; May 31-June 8, Husbands Bosworth; June 14-22, Sutton Bank.
Mountain & Wave Soaring – Oct 5-11; Oct 12-18; Oct 19-25; Oct 26-Nov 1, all at Feshiebridge (near Aviemore)

Hurry, for full details from BGA, Kimberley House, Vaughan Way, LEICESTER. (0533-531051)

Ref. No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew			Summary
						Age	Injury	PI/Hrs	
133	K-8	1653	M	6.8.85 15.40	Nympsfield P1	35	N	8.5	Pilot with limited solo experience, having completed a 2hr flight, noted that rough and turbulent conditions had developed since take-off and coped well with circuit and approach until during hold-off at about a foot above the ground, the glider was ballooned by a gust to 10ft. A heavy landing followed.
134	K-6ε	2411	M	21.7.85 13.37	Trevellas P1	64	N	55	Cable back-released at about 350ft. Pilot attempted to land downwind, overshot and landed in rough heather and gorse. Damage to underside of fuselage.
135	K-8	?	M	25.7.85	Carlton P1	24	N	9	After a normal approach, the glider ballooned. The pilot over-corrected, and a heavy landing followed.
136	K-23	2995	M	5.7.85 15.00	Dunstable P1	45	N	6	Prior to his first flight in the K-23, and following a 13 month lay off, the pilot had three aerotow check flights and a briefing. After a long ground run with near zero wind and at a height of less than 10ft the left wing dropped and the nose wheel struck the ground. A normal climb followed, but release was difficult as damage affected release. Instructor check flew pilot and found no fault, he then flew another K-23 and confirmed "soggy" handling of early aerotow. (It's happened before. A.K.M.)
137	Kestrel 19	1850	S	7.7.85 16.00	Dunstable P1	34	N	663	During aerotow take-off and after normal ground run, the glider swung almost 90° to right. Tow rope then began to pull nose to left and at this point the tug released the rope. Glider continued to rise and turn to left, eventually striking ground tail first and breaking rear fuselage.
138	Bocian IS-28B2	1437 2206	M M	29.7.85 19.37	Naseby, P1 Clipston P1	61 47	N N	1454 80	The dual aerotow took off on air experience flights in overcast conditions with drizzle at times. The tow continued with patchy st cu at low level increasing until sight of the ground was occasionally lost. Glider on short rope released at 1800ft and the second glider released soon after. Both gliders found their return to the airfield obstructed by cloud, so descended in clear patches until clear of cloud at about 700ft. Each landed, with very minor damage, in fields some two miles apart.
139	K-18	176?	S	22.8.85 12.25	Booker P1	51	N	52	Strong sink was encountered at 700ft one mile from airfield. Pilot attempted to reach airfield. When he realised he would not make it, he tried to land in crop. Spun in.
140	Olympia 463	1275	S	25.8.85 14.50	Enstone P1	22	M	150	Pilot returning from a cross-country flight encountered heavy sink and selected a field. Then, finding lift, he decided he could reach base. Further sink was encountered when two fields from the boundary. The aircraft struck a tree on the airfield perimeter with left wing, rotated, and struck the ground sideways.
141	Libelle	1637	N	7.7.85 16.30	North Humberside P1	53	N	2066	During short field landing pilot chose to run into standing crop to avoid possible damage from verges of a farm road. Field selection left too late.
142	Falke	?	M	21.8.85 11.35	Trevellas P1 P2	67 45	N N	55 0	At take-off speed the stick was pulled fully back. P1 failed to regain control and aircraft stalled from about 5ft. Tyre burst and propeller tip damaged.
143	DG-101	2826	S	19.8.85 15.55	Sutton Bank P1	42	M	775	Winch launch at hill top site. Pilot lowered nose and released, then cable parachute inflated and passed over starboard wing. Pilot heard cable on wing and increased speed to 80-85kt in anticipation of cable tautening. As glider dived below hill it decelerated sharply to 50-55kt, and was forced into a skidding right turn towards hill where it crashed into trees at the base of the hill. Cable had jammed in aileron slot. Winch driver had cut cable as soon as he saw parachute go over wing.
144	K-6ε	2929	M	6.8.85 14.30	Sutton Bank P1	55	N	825	After 2hrs local soaring pilot decided to land as storm was approaching. Strong turbulence encountered on circuit and approach. Pilot states gust on ground run caused weather-cock and groundloop. Senior instructor states that aircraft did not completely round out and bounced, and then dropped a wing and groundlooped.
145	SHK K-7	1623 ?	N M	21.8.85 19.00	Currock Hill P1	57	N	90	Poor circuit with insufficient speed on approach for conditions, resulted in port wingtip touching ground followed by swing into K-7 at launch point.
146	T-42 Eagle	828	S	16.8.85 15.30	1.5 miles P1 N of P2 Beaminster	25 21	N N	150 155	Field landing. No drift noticed during circuit. On approach P1 realised he was overshooting and induced a groundloop. Wind had backed 120° in sea breeze.
147	K-7	1304	M	7.7.85 16.00	Feshie- P1 bridge P2	28 34	N N	270 ?	Decided to stop flying in deteriorating weather but persuaded to do "one more". Canopy became misted and covered with rain and winch launch failed at about 30ft. Stalled and landed heavily while P1 was trying to regain runway with visibility only through clear vision panel.
148	T-21B	668	S	16.7.85 15.07	Feshie- P1 bridge P2	58 16	N N	5000+? –	Instructor failed to appreciate freshening wind and its effect on return to airfield. Heavy sink caused undershoot, wingtip touched tree top and aircraft fell to ground. Queries on validity of instructor's rating, hrs, etc.

COCKPIT ERGONOMICS

Harold, of Bartdale, Human Factor Specialists, points out the danger of confusing control levers and lists the recent accidents related to this problem

In the October 1982 issue of S&G, p211, I wrote about the problem of confusing control levers and described some research into ways of making the levers feel different. The piece did not seem to raise much interest, leaving me with the impression that most glider pilots believe themselves to be rather superior beings who are incapable of being so stupid as to pull the wrong lever.

The BGA appear to have made some move to reduce the risk of confusion by introducing a standard colour coding for airbrake, flap, undercarriage, trim and cable-release controls. This should reduce the error rate when cockpit checks are being carried out on the ground, where the lighting will be good and when the pilot is free from time-pressure. The crucial point, however, is when the pilot is in the air, with a bright sky outside and little light inside the cockpit and when time is at a premium. All controls look grey in a dark cockpit when the eyes are adapted to the light level of the sky outside. So the colour coding will be of little help when it matters most.

Scanning through the accident reports for recent years confirms that these errors do occur from time to time. The relevant reports are reproduced on this page. Fortunately none of the accidents has resulted in injury although two led to serious damage to the glider. From the hours of the pilots concerned it can be seen that such accidents are not confined to novices. As might be expected the problem appears to be related to aircraft type, the ASW-19 being involved in three cases.

The numbers of accidents related to control confusion is not high. Over this period a total of 518 accidents were recorded, so the incidence is only about 1%. The problem with accident reduction, however, is that there are many ways of having an accident, so any particular factor will only make a small contribution.

What is noteworthy about accidents due to control confusions is that they are related to cockpit design. Therefore something can be done to minimise them in advance, while on the ground and free from any pressure.

1982

Report No. 19, ASW-19, 770hrs. Damage M, injury N.

Pilot was doing cockpit check prior to making first flight on type and on reaching "airbrakes" thought to himself "The ASW-19 hasn't got a

retractable undercarriage". He then pulled the U/C lever which is mounted on the same side of cockpit as airbrake lever and undercarriage collapsed.

1983

Report No. 38, ASW-19, 195hrs. Damage S, injury N.
Second flight on type. Lowered U/C and with airbrake lever on same side, pilot selected what he thought was full airbrake but in fact raised U/C. With excess speed and the upwind boundary rapidly approaching an attempt was made to put the glider on ground. A wing dug in and the glider cartwheeled.

Report No. 56, Blanik, 152hrs. Damage N, injury N.
On approach selected half flap thinking it to be half airbrake. Attempted to open full brake and flap lever jammed by downwind (downward?) pressure normally used with airbrake lever. Assumed airbrake malfunctioning, touched down with excess speed, took off and turned through 90° to avoid hedge and landed cross-wind.

Report No. 141, ASW-19, 170hrs. Damage S, injury N.
First flight on type. Pilot briefed on possibility of confusing undercarriage and airbrake operating levers. In circuit pilot lowered undercarriage and then raised it believing he was operating airbrakes. Sideslipped, overshot landing area and landed up at high speed, groundlooping.

1984

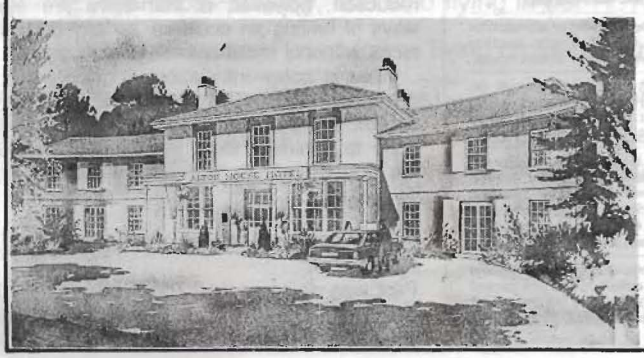
Report No. 22, Kestrel 17m, 314hrs. Damage M, injury N.
Pilot landed normally, using flaps and tail 'chute. As speed of ground run dropped off and left wing touched the ground the pilot, reaching for brake lever, pulled flap lever by mistake. Aircraft ground looped 90° and ran downhill, coming to rest with the nose against a stone wall.

Report No. 27, Pegasus, 50hrs. Damage N, injury N.
Pilot carried out normal downwind checks but took hold of U/C rather than airbrake lever. Realised her mistake but was forced to land in field adjoining airfield.

Ref. No.	Glider Type	BGA No.	Damage	Date Time	Place	Pilot/Crew			Summary
						Age	Injury	Pl/Hrs	
149	Olympia 463	1373	M	29.8.85 18.40	Lasham P1	57	N	46	Pilot was making an observed steep approach using side-slip and airbrake. The side-slip was stopped at about 75ft but the nose was not lowered, and the airbrakes were opened fully. Glider descended fully stalled, and then entered a spin, fortunately only 10-15ft from ground.
150	Foka 3	1090	M	17.8.85 14.30	Bletchington P1	31	N	148	Pilot local soaring flew out of gliding range of airfield, failed to contact lift and selected a field. A fence of posts and wire running across the middle of the field was not noticed until crossing the boundary hedge on final approach. Towards the end of the ground run the port wing hit a fence post.
151	K-13	1627	S?O	22.8.85 14.58	Usk P1 P2	27 45	N N	514 –	On instructional winch launch glider's right wing was low causing glider to drift to the right. Instructor managed to level wings after glider was airborne but starboard wing struck branches of tree on edge of airfield. Glider rolled inverted at about 15ft and sank to ground still inverted. Substantial damage to wings and fuselage.
152	K-23	2999	S	12.8.85 14.00	Holton-in-Ivinghoe P1	58	M	112	Soaring course pilot selected grass field smaller than adjacent fields of standing crop, but in setting up approach became disoriented and made final approach downwind. With high ground speed, round out was half way across the chosen field and the aircraft stalled into the standing crop of the overshoot field.
153	Ventus B	2743	M	14.9.85 15.36	Dunstable P1	37	N	150	After ridge flying for two hours the pilot decided to land, but ran into curl over and low level turbulence he had not anticipated. Glider sank into gorse on top of the ridge. Holes in fuselage and damage to wings.
154	K-8	2718	M	9.9.85 14.46	Challock P1	18	N	0.3	On first solo made good circuit and approach and rounded out correctly but dived into the ground from about 2ft. Thought glider was ballooning. (Why not solo in K-13? A.K.M.)
155	Dart 15	1268	W/O	22.9.85 17.45	North Hill P1	34	M	530	Pilot abandoned winch launch when speed decayed. Nose was lowered, but air speed did not increase due to low altitude and wind gradient. An attempt was made to round out but glider struck ground at an angle of 30°.
156	Mosquito B	2378	W/O	22.9.85 14.15	Lothersdale P1	39	M	630	Cross-country hill soaring over quite rugged terrain. Could not see way out of valley when unable to soar and below hill top height. Bottom of the valley was unlandable, so selected field on upper third of hill. Tried to soar hill up to last minute, and ended up undershooting field and stalling into the dry stone wall on downhill boundary. Wind direction affected by wave and valley. Speed perception affected by slope.
157	K-7	2223	S	27.7.85 ?	Winthorpe P1	57	N	49	Having experienced strong wind gradient on two previous flights, pilot selected approach speed of 55kt. On final approach airbrakes were opened and speed dropped suddenly. Brakes were closed and the glider was dived in an attempt to gain speed and pull up over boundary fence. Speed was insufficient and aircraft stalled onto the fence.
158	Kestrel 19	1944	M	27.7.85 17.18	Winthorpe P1	41	N	402	During pre-landing check undercarriage was lowered and locked. After a normal approach and smooth touchdown the wheel retracted during the ground run and the glider slid on its belly to a stop. Inspection revealed that the undercarriage actuating lever had fractured along a welded horn that maintains the locked down position.

S=serious; W/O=write-off; M=minor; N=nil.

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YOUR LETTERS

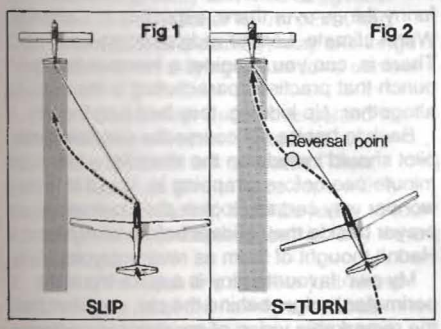
FLYING BACK INTO POSITION

Dear Editor,

"Back to Basics" by Derek Piggott contained all the OK stuff, however in the December article, p271, it appeared to be a bit sketchy as far as the main problem is concerned, namely how to fly back into position. Derek wrote: "It involves initiating a small turn towards the tug and then reversing neatly as the correct position is reached. Until you can manage the whole two unaided you will find it easier just to bring the wings level and let the glider do the rest."

May I recall another and by far easier method:

SLIP: *ie* just "think" shallow bank into the tug and use opposite rudder as a break. Thus you will slip into line astern in slow motion and upon arrival neutralise controls and Bob's your uncle. (Fig. 1)



Your suggestion to reverse neatly as the correct position is reached is a bit vague. Do you refer to a very shallow S-turn? When using this method it is important to execute the reversal before reaching the line astern position in order to prevent overshooting and having to start all over again. S-turns are for the experts and unless flown exactly they get you into that rather unpleasant and possibly dangerous pendulum motion with the student pilot always one stroke behind. (Fig. 2)

W. VENNER, *Goch, W. Germany.*

Derek Piggott replies: You are quite right. I did cover the problem rather too briefly. However, this was not entirely accidental. I find that unless the student has already done a considerable amount of normal flying, only the simplest advice is of much help in the early stages of aerotowing. Stabilising the position and allowing the glider to fly back into line must be the easiest way to stop the often violent oscilations in the early stages. Briefings and explanation have very little real value to the beginner, and it is almost a waste of time to try to get them to fly back into position with an S-turn. That requires a high degree of skill and accurate timing to get the glider back into line. Because of this, I avoided a complete description of how to get back and I agree that the text was inadequate and did not describe exactly what is required. But neither, I think, is it much good telling a beginner just to slip his way back. Unless he has a great deal of sideslipping experience, it is almost certain that he will start with a co-ordinated stick and rudder movement before stopping himself and applying the opposite rudder. This happens with almost every pilot learning to sideslip although, unlike areotowing, in normal flight he is under no abnormal stress.

In many of the gliders during even a mild sideslip the rudder loads will change as the rudder tends to overbalance and this will certainly add to his confusion. Although slipping into position is effective with most types and is easy for the skilled pilot to do, it is almost always a mistake to teach unco-ordinated flying as it can so easily lead to very ruddery habits. In the case of ruddering back into position, which is still advocated by a few misguided instructors, it definitely leads to ruddering problems in normal flight. Also it doesn't work unless the lateral stability of the type is fairly strong. The problems of towing are mastered by most students suddenly indicating that it is a "knack" – the knack of almost anticipating the movements of the towplane and immediately responding with the correct movements and without overcontrolling. Probably any student having real trouble will have solved it after another two tows using the very simple advice given in the article. Even this is quite difficult to get over to the student when he is doing an actual tow. Once the pilots have learned to tow reasonably smoothly, I find that they are able to master flying back into position correctly and this seems to me a better method than slipping back. I do hope you will accept this explanation and find it helpful.

REQUEST FOR BRITISH CALENDAR

Dear Editor,

I wonder whether other readers were, like me, disappointed to discover that the 1986 calendar on offer from the BGA was in fact American. I am sure an all British calendar could be produced; even using just the covers from S&G would make a fine calendar (October excepted!). Maybe this year . . .

LUKE CRADAN, *Stevenage, Herts.*

Barry Rolfe, BGA administrator, replies: We have previously produced British gliding calendars but unfortunately the demand has never been high enough to allow an economic print run. Therefore we were pleased to co-operate with the SSA in making available a 1986 calendar which at least featured four excellent European photographs.

PEN-FRIENDS WANTED

Dear Editor,

For the first time in my life I have been lucky enough to own a copy of S&G – December-January 1980- so would like to send my late but hearty congratulations to the BGA on its 50th anniversary (now already 55!),

I am 33 years-old and live in Poland on a little farm among the forest by the Wisla river with hills on the north side. In the summer I like to look at the blue sky where the white clouds sail and disappear beyond the horizon. There is often a sailplane making his noiseless circles under the clouds.

When I look at him, deep in my soul I hear the forgotten melody of a waltz and I think about my love of soaring and how I would like to have pen-friends so that I could discuss with them my love of clouds, the shining sky and gliders. Perhaps I will have a bit of happiness and this letter can be in your wonderful magazine. So please write to me dear friends!

MIKE NOWICKI, *87-132 Pedzewo, woj. Torun, Poland.*

THE APPROVED TALCUM POWDER

Dear Editor,

Platypus' store of gliding lore (what a felicitous phrase!) is quite extensive, but by no means as accurate as mine. He tells an apocryphal tale about the retrieve of an Olympia 463 conducted with a trailer already full of glider and goes on to say it that it actually took place earlier at the Mynd with an Olympia 2. (See the December issue p270.) Let me tell you that it really happened in 1949, so it must have been one of the original Olympia Is, and the participants were the then Lord Lieutenant of Shropshire as pilot and the then Captain of Imperial College Gliding Club as retrieve driver. Quite within living memory, the former has been flying a Vega and the latter is now employed by Lockheed Georgia, contemplating rather bigger aircraft. The writer will confirm that the "oaf in question" – just for once – did not belong to Cambridge University but to Imperial College.

You, the innocent reader, may have thought that Platypus had exhausted the pharmaceutical aspects of soaring flight. (Also in the December issue.) By no means, for in former times the chemical resources of Kirbymoorside were recruited by Fred Slingsby on at least two occasions. The story of the offer of the dye used to mark sheep as a potential water-paint for competition numbers in the days when they changed every comp is rather dull and about as tortuous as this sentence. But the tale of the talc is otherwise.

A long time ago (the mature gentle reader will recall, and see p301 of the December *S&G*) it was thought that WW3 could be won on the playing fields of England by projecting Slingsby Grasshoppers hither and yon, impelled by keen/exhausted/bored/strong pupils, hauling on bungys. Slingsby's had the contract for the Grasshoppers, which were really primary A-frames with "Cadet" wings. But what about the essential bungys?

The Air Ministry, or whoever dealt with such matters in the early 1950s, put out a specification. From now on, the tale may well be apocryphal but I seem to recall that it was told by Fred Slingsby himself; it is however just possible that the passage of about 35 years may have embroidered it a little. The bungy itself was easily come by, but the rest of the specification foresaw that it would be consigned to some MU, there to languish and perhaps even perish before being despatched

to an English playing field or perhaps even to Foreign Parts. So, the bungy was to be wound upon a drum of some specified minimum diameter – also easily come by – and, whilst being wound upon the drum, it was to be delicately sprinkled with talc. Not just any old talc, perfumed, as for babies' bottoms, but Approved Aeronautical Powdered Talc with a Release Note, a substance which no longer existed.

Nothing like this had happened since WW1, when bungy was commonplace stuff for the springing of undercarriages – as indeed it still is for the remaining Austers and suchlike. Slingsby's desired the contract and were not to be defeated by the lack of a Release Note. By devious means not revealed by Fred, they acquired a genuine WW1 Release Note for powdered talc: it looked like a Dead Sea scroll but a little photo-copying even in those pre-Xerox days produced a sufficiently convincing facsimile.

So the Approved Bungy was duly wound upon the Approved Drum, carefully sprinkled with talcum powder from the local chemist, babies' bottoms for the application to, backed up by a perfectly genuine historical Release Note.

Did any cadet come to grief because the Release Note pre-dated the talc by 35 years? A moral somewhere, perhaps.

FRANK IRVING, *London*

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SOLID CABLE WELDING

Dear Editor,

May I express my heartfelt thanks for all the replies to my request for information on solid cable welding in the December issue, p295.

I have been highly amused by the "legend of the full trailer" over the last few issues. (See October, p224 and December, p270.) I believe this has happened at every club throughout the UK with the exception of Lasham. Had it happened there Derek Piggott would of course have written a book about it.

My own variation of this is that a Skylark landed at Doncaster. The owner club (who shall be nameless) sent an Olympia trailer. The antics of the crew trying to fit a glider with a three-piece wing into a trailer designed for a two-piece wing was worthy of both Dad's Army and Basil Fawlty.

MIKE USHERWOOD, *Huntington, Yorks.*

TO ANSWER YOUR QUESTION . . .

Dear Editor,

Platypus wonders, and he's not the only one, how does a lady deal with a call of nature, miles high in a non-loo glider? (See the last issue, p16.) I did go into considerable detail on this subject last year, as the problem presented itself in a K-21 flying P2 with Wilton-Jones round a task at the Booker Regionals. The Editor, however, did not consider the subject suitable for a family magazine, and deleted the details. Platypus can get away with anything. It isn't fair!

I've always admired the elegant simplicity of the plumbing arrangement enjoyed by the opposite gender. As the little girl said, "That's a handy thing to have on a picnic." Never mind. We have advantages too, one of which is sheer endurance. And over the years, if I had any pride or modesty, I have lost them both. The last time I ended up under pressure of necessity, having entered at 800ft the smoke from a large stubble fire, the subsequent ride to 5000ft was so terrifying that I had to land at Bicester and dash to the loo. "You could have made it back to Booker" the Sergeant said, as he hitched up the K-18 for a relight. I didn't care. It cost a £6.50 launch fee to spend a penny at Bicester but it was worth it.

Best story at Booker on this theme was told by a modest chap who went to Aboyne for a Diamond height. There he was, in a sleek glass glider, oxygen mask and moon boots, serenely riding the wave to a glittering apogee in the heavenly blue. Reminded, after a time, that humble needs must be met, he neatly used and knotted up a plastic bag and cast it to the winds and thought no more about it. Some time later, he came down at last and landed. Perfectly decent landing, so why was everybody looking strangely at his glider?

"What is that funny lump on your wing?" they asked, and he realised, blushing, that the funny lump of yellow ice on the wing of the glider was a bag of frozen pee, brought back intact from 20000ft.

In the United States they advertise something handy for pilots. They call it a "Human Element Range Extender". They do some funny things over there, especially in California. Warm climate. Lots of wide open spaces. There is, can you imagine, a freedom-loving bunch that practises parachuting in the altogether. No kidding, they had it on the telly.

Back to basics. Of course the sensible glider pilot should include on the checklist a last-minute pee before strapping in. I used to wonder why certain Booker pundits knelt in prayer beside their gliders before launching. Hadn't thought of them as reverent types.

My own favourite ploy is a quick trip to the perimeter hedge, behind the car, confident that the remarkable vision of my exposed posterior will not distract the pilot on approach. The student intent on landing has eyes only for the glideslope. And I've never had any complaints from instructors either. From the perspective of the passing pilot, you may think you're big, but you're not so big. A speck with two legs, a tiny black dot on the ground, no bigger than an ant. The sky is so big and we are, despite our pride, minute bipeds. So don't worry about it.

So much for pre-flight checks on the ground. Once aloft, strapped in for a 5hr flight on a turbulent day, what can a poor girl do? In 1971, Sheila Scott flew alone over the North Pole in a Piper Aztec twin; she had to manage with Tupperware! What on earth did Amy Johnson do? And imagine arriving at last, simply bursting, to be met by twenty thousand people!

History does not record the humble details of how these brave women coped, but times have changed. If you would like to know how this particular pilot solved that particular problem, you'll just have to buy my book. £6.60 from the BGA, including postage, and they'll send it in a plain brown wrapper.

MARY MEAGHER, *Oxford*

ANOTHER TRANSLATION!

Dear Editor,

Surely both translations of the Howard family motto *"Volo non Valeo"* quoted by The Arm-Chair Pilot in the last issue p17, are wrong? I thought it meant: "I wish I didn't need tranquilisers".

TIM GODFREY, *London*

WEAK LINKS AND FLYING CABLE 'CHUTES

Dear Editor,

Following my description in the last August issue, p181, of being let off lightly when the cable 'chute fouled my tailplane after the weak link had operated (Accident Ref No. 85/16, reported in the same issue, p186), I have a couple of comments arising from subsequent correspondence/events/thoughts.

In a similar incident elsewhere (Accident Ref No. 85/56 reported in the December issue, p292) the strop/'chute again appear to have fouled the upper surface of the tailplane. We had seen such damage before but assumed it to be due to unreported ground (mis) handling (see John Stone's letter in the December issue, p294). I am now wondering how many such incidents remain undetected and therefore unrecorded.

Putting the weak link above/behind the 'chute as Messrs Batty and Mills suggest in their letters in the October issue, p224, and December, p295, respectively, may exchange "my" problem with a flying 'chute for a number of others.

1. With the weak link well above/behind the 'chute, the latter will remain attached to the cable when the weak link operates. Then, trailing as much as 10m of strop rope with a metal attachment flailing, it will be ready to foul a passing aileron or tailplane, particularly if the 'chute billows.
2. Moving the weak link down to just above the 'chute gets rid of the flailing strop rope when the weak link operates but with it goes the 'chute top-load. The untensioned 'chute will now be very volatile, prone to billowing and fouling the glider.
3. If, despite hose covering etc, the strop/cable/'chute wraps around the mainwheel, a weak link located above the 'chute will be aft of, or wound into the ensuing tangle; either way it will be rendered inoperative. A hang-up is extremely dangerous at the best of times and anyone not convinced of this should read Nigel Pringle's account (December 1983 issue, p256) and Derek Piggott's comments on the problem there and in his "Back to Basics" series (the last issue, p14). A glider launched with the cable attached at the mainwheel (or skid) tends to climb near-vertically and may be overstressed to the point where the wings fold up, unless there is a weak link to save it. If the glider does get to a safe height, and the cable released or guillotined by the tow car/winch driver, it then has to contend with several hundreds of feet of cable dragging along the ground. If this gets fouled and pulls down the glider, only a cable break is likely to save the situation so once more having a useable weak link is crucial.
4. On sites shared with powerful jets, their vacuum cleaner action requires that anything dropped on or near the runway be quickly traced and removed (for reasons of life, limb and site tenure). A 'chute attached to the strop and falling slowly, following weak link operation, can be readily tracked; a free-falling piece of rope or cable is another matter.

Over the years I recall hearing or reading of a number of accidents or hairy incidents (the difference usually being fortuitous) due to cables fouling wheels, skids, tailplanes or aileron/wing gaps. I suggest that putting the weak link above/behind the cable 'chute will increase the frequency of such occurrences and their severity. If it was ordained that I had to tangle with a cable 'chute, my preference is most definitely for the free-flying variety; please keep the weak link *below* the 'chute!

TONY GEE, *Godalming, Surrey*

PRAISE FOR MYND WINCH

Dear Editor,

Peter Salisbury's letter in the last issue, p36, failed to stress the really superb turn-round time of the Midland GC's winching set-up.

I was introduced to it in 1962 when it was in its infancy and it was astonishing how quickly beginners picked up the system. Where else can a system offer two K-21s pretty well non-stop launching on a five minute circuit day?

No multi-drum set-up is going to compare with the launch rate over the Mynd's terrain and I'm convinced that on airfield sites it would also show a more rapid launch-rate. There is no possibility of cable over-lays which can happen on the multi-cable set-up if the retrieve tractor doesn't steer a dead straight course, The Mynd system will also reduce the wear to the grass in wet conditions.

The clever use of a VW car engine currently run on LP gas driven through a standard VW transmission into a cable winding gear has been mechanically proved for over 20yrs – what surprises me is that more clubs haven't also adopted this highly effective system.

I only wish I could get to the Mynd more often to appreciate the "fastest in the West!"

M. J. WILSHERE, *Watford, Herts.*

HANG GLIDERS

Dear Editor,

I liked the opening to Harold Dales' item about hang gliders in the February issue, p35. He managed to include a surprising amount of valuable data in a single column. We all need to know about the flying characteristics of those we share the air with.

I've taken S&G for a number of years because it helps me understand cockpit glider characteristics. It's also enjoyable and has often helped to improve my hang gliding skills. There is much in common between the two forms of aviation.

Both forms of glider are flown by pilots attempting to understand and use the elements to fly, whereas other aviators put their faith in power and seek to avoid the very conditions we enjoy and exploit. In my experience, this generates considerable kinship between us, and makes for very interesting conversations. I have never met a glider pilot whose company I didn't enjoy.

Harold has had to simplify his description of hang glider characteristics. There are a lot of different hang gliders flying today, so generalisations are difficult. Almost as difficult as generalising about cockpit gliders! Most modern high performance hang gliders begin to go into "mush mode" at 18mph. (They do not stall radically if slowed down gently, as there is no tail to continue flying when the main wing is begining to go.) They are capable of speeds of more than 50mph, but the glide angle at this sort of speed is poor – still useful for getting out of those excessive areas of sink though! The sink rate and handling qualities are much better in the mid 20s, and the air slips pleasantly by. At more than 50mph you can begin to wish for a cockpit!

There is an area above our heads that restricts vision. It's not much of a handicap, as when we are thermalling upwards we are circling with enough bank to reveal where we are going. I doubt that even another hang glider could remain hidden above for long.

The comparative speed of a cockpit glider is such that it would not be able to stay in our blind area for a significant time. A hang glider can only outclimb a cockpit glider where there is rising air that only the hang glider can get into. It may be the more powerful part of a larger thermal, of course. When both gliders enter the same big thermal (they must be due soon!) the lighter craft has less inertia and will respond to the rising air more quickly. That is a brief advantage. Superior sink rate soon makes up this difference.

There is no blind spot to a hang glider pilot's rear, except during the landing flair. A positive effort is required to turn and look back. I suspect this is another similarity between the two sports?

DAVID BEDDING, *Chalfont St. Giles, Bucks*

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CLUB NEWS

Copy and photographs for the June-July issue of S&G should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, telephone 0223 247725, to arrive not later than April 8 and for the August-September issue to arrive not later than June 10.

GILLIAN BRYCE-SMITH
February 12

ANGUS (Arbroath)

Mike McGreavey was thanked at the AGM for his hard work as chairman. Our annual dinner-dance was a great success thanks to Norma's organisation. Awards were presented by our new chairman, Mike Davidson, as follows: club ladder, Ron Smith, with Martin Davis as runner-up, and best up and coming pilot, Karen Rodgers.

Mike Davidson and Ron Smith had good wave flights in December reaching 9500ft and 7500ft respectively.
M.K.

AQUILA (Hinton-in-the-Hedges Airfield)

Our overriding concern at the moment is the proposed Upper Heyford special rules zone which threatens a number of local clubs directly and practically every cross-country pilot to some degree.

However we struggle on giving our winch a refurbished pay-on gear on one side and hopefully weatherproofing the cab. Our second K-7 is being re-covered and our hangar workshop security is improved with a new door.
R.D.

AVON (Bidford on Avon)

Our membership has doubled in a year and with course bookings looking healthy a mega year is in prospect. We have another autumn expedition to Feshiebridge from October 4 to November 2.

The arrival of our pool table in the clubhouse was celebrated with a tournament. We look forward to seeing old friends from other clubs during the year and welcoming new ones.

Finally, congratulations to John Jones our first solo pilot in 1986.
D.D.

BANNERDOWN (RAF Hullavington)

We had a successful Christmas party and kept our tradition of flying on Christmas Day.

At the AGM in January trophies were awarded as follows: Navigation trophy, Ben Bennett; Best Flight trophy, Colin Masters for his 300km in the Skylark 3; Best *Ab-initio*, Rachel Barns; Most Progress trophy, Derek Findlay who became an assistant Cat, did a lot of instructing and flew a 300km and Club Member of the Year was Pete Butt for groundwork and instructing. John Burn was presented with a RAFGSA Certificate of Merit for ten years' continuous service to the RAFGSA. The Aspirants' trophy went to the RAF Locking contingent, whose *ab-initios* are trained at Bannerdown, for being the station with the greatest number of solos in the year.

We had a successful week in January when a contingent from Cranwell flew with us. On December 24 Geoff Stinchcomb stayed up for 35min for a Bronze leg and congratulations also to John Charlett-Green, CFI, on going solo in the Motor Falke. We welcome Martin and Wendy Durham.

Mel Dawson, John Joiner, Trevor Hope and Colin Masters have completed a RT licence course and aroused so much interest, another course is being organised. We are installing CB radios in the retrieve trucks to give us winch/bus/retrieve communication.
V.R.D.

BICESTER (RAFGSA Centre)

For the first time for years we flew on Christmas Day and had a party and fireworks display to see in the New Year.

Congratulations to Duncan Smith, Wolfran Kahl, John May and Liz Tabor on going solo and to Bob Birkett who has soloed in the Chipmunk to become our newest tug pilot.

At a lively AGM, the Novice trophy was presented to Paul "Muppet" Welch; the Delafield trophy to Gary Buckner and the Daniels' trophy to Bruno Brown for his unselfish and unceasing work on the new airfield bus.
S. & J.

BLACK MOUNTAINS (Talgarth)

An important recent event was the formal hearing in December into the planning restrictions imposed on our operations by the Brecon Beacons' National Park. We are still waiting for the outcome but thank the BGA for its help and Bill Scull in particular.

Despite some very wet weather we fly whenever possible and Sunday, January 12, was the best day with strong westerly wave. Numerous pilots stopped their climbs at 14 000ft through lack of oxygen. Mike Costin had the best climb to 20 000ft and Johnathan Kingerlee the most enterprising, collecting a Diamond height and then flying downwind to Enstone. (See also Enstone report.)
W.D.M

BLACKPOOL & FYLDE (Chipping)

We have had three rare events during the last six months. Bob Pettifer, CFI, gained Gold height recently over the site, which was just reward for the many months of patient negotiations between us and NATS, and our grateful thanks to Bill Scull for his help. Happily, in theory, we may now get Silver height at any time – a phone call to Manchester ATC (who have been most co-operative) will open up AI to FL140.

Then we were presented with a plaque by the Scouting movement in thanks for the air experience flights given over the years to scouts and guides who attend nearby Wadicor camp.

The third event was the arrival of a Nimbus 2B – the most expensive glider we've ever had. The syndicate is now saving up for the insurance.
V.H.

BOOKER (Wycombe Air Park)

After an exhausting 1985 which saw the new hangar and new clubhouse sorted out to accommodate the bigger fleet and worse weather, respectively, we look forward to the odd foreign trip such as Aboyne.

By the end of January the postal barrage of MPs in the battle for Upper Heyford resulted in over 120 members expending nearly a quarter of a million words, with 40 personal visits and some 200 stamps.

Our courses are nearly full, so if interested write soon.
M.F.C.

BORDERS (Milfield)

A new hangar is top of the shopping list for our new Galewood site. At present mains water and electricity are being installed and drainage problems are still being tackled. Permission has been granted for a small caravan for club members.

We continue to put a great deal of effort, both practical and financial, into the project and hope to be using the site this summer, so anyone passing to and from Scotland will be welcome to sample this excellent soaring area.
T.P.

BRISTOL & GLOUCESTERSHIRE (Nympsfield)

We flew during the February snow on some lovely clear scenic days. The Cs of A are progressing well and the new winch is being fitted with Tost parts to give it two drums.

We have a summer expedition to Gap, France, are making preparations for the 15 Metre Class Nationals in June and our new manager, Gordon Bishop, has made a good start.
M.B.

BUCKMINSTER (Saltby Airfield)

It's about two years since our last report. Last season wasn't good but six pilots went solo and Hamish McDonald and Peter Coleman completed their Silver Cs. Our pilots also did well in Regionals but our Inter-Club League performance can only improve.

Rob Cook took over from Bruce Cooper as CFI. Our thanks to Bruce, whose job took him away, for all his efforts.

A group of keen new members are converting a bus for launch point use, fettling the club Skylark 3 and helping with the new winch. Three of them have bought a K-6E which is our first new syndicate for several years.

Another group have taken the club's Astir to Sutton Bank for an extended stay in the hope of finding wave.

There is a renewed interest in winch launching and Bill Munns is supervising the building of a new twin-drum winch. An important aim is to provide cheap, efficient launching for novices

and early solo pilots. The cross-country pundits will still launch behind the Scout and we hope they will also fly in the Saltby Regionals from August 2-10. Frank Cox and the comp committee have put a lot of work into this week and we would like to see you here!
R.N.C.

CHANNEL (Waldershare Park, Nr Dover)

We are pleased to have gained planning consent for Waldershare Park as a permanent gliding site.

We have nine new members since Christmas. Winter projects have included completing the first Falke hangar, giving one of our ex-RAF Wilde winches a Daimler engine and doing the new three year Cs of A on both the motor gliders.
L.S.

CHILTERNS (RAF Halton)

Wave has been contacted and there have been extended soaring flights on our ridge. Roger Ellwood Wade and Trev Sadler have their 5hrs, Roger in the K-7, and congratulations also to Les Fellows on his full Cat rating.

The informal winter lectures, covering a wide range of subjects from ground handling to cross-country flying, have been most successful. Our newest private glider is John Allison's T-21 which is eagerly anticipated by us all.

We welcome Jerry Neild from Germany and Sam Edwards "on loan" from Fenlands and say farewell to Tim Dickinson, our DCFI, posted to Cyprus. Tim has given us much enthusiasm and experience and will be greatly missed.
T.S.

COTSWOLD (Aston Down)

At the AGM in January, Larry Bleaken retired as chairman after three years. Larry has been with the club since the mid 1960s and was responsible primarily for the acquisition of our site. We owe him a great debt of gratitude and at our dinner-dance we showed our appreciation by presenting him with a painting by John Coleman of himself flying a Dagling when he went solo by mistake in Germany in 1950 after one ground hop. We have a new committee under the chairmanship of Ken Lloyd.

We are nearing completion of the last round of transactions to rationalise our land holdings and have started erecting the hangar (12 000sq ft) that has been in bits for four years.

Last year we had more than 200 cross-countries with Jonathan Beard and Steven Ferguson collecting Diamond goals; Dave Mayo flew Silver distance in September and cross-countries and Bronze legs were flown in November. Congratulations to Derek Darlow, Mike Levitt and Mike Gribble on going solo and to David and Vanessa Mayo on their Bronze Cs.
D.G.R. & L.M.B.

COVENTRY (Husbands Bosworth)

To provide more winter activity, mid-week flying is encouraged, particularly Tuesday-Thursday, and we have cheaper flying rates for members working on the airfield before 8.30, which has brought new enthusiasm and earlier starts!

Our holiday courses, which start in March, include aerotows and winch launches at a fixed price. The task week is May 24-June 1.

New arrivals include a K-13 and a recently qualified instructor called "Slasher" – we are sure they will both be assets. For those who want to keep their feet on the ground, we have an aerobics class in the clubhouse on Sunday.
D.L.S.

CRANWELL (RAFGSA)

After our AGM in November the chairman's wife, Penny Smith, presented the trophies.

We held a fund raising auction in the clubhouse when members donated various items.

Julia Shearwood and Dave Montgomery have gone solo and Graham Pitchfork resoloed. We welcome back Liam McErlean who is now secretary.
S.J.H.

DARTMOOR (Brentor)

We had an interesting winter talk on the locally designed SAH 1 light aircraft by the designer, Syd Holloway, and test pilot, AVM Geoff Cairns. It is hoped to start a production line in Plymouth within the year.

With our site deep in mud we have been flying from other club fields such as North Hill and Perranporth.

As soon as the winter rains ease we will be hard at work doubling the width of our landing area which should improve the launch rate.

Our dinner-dance was a great success.
F.G.M

DEESIDE (Aboyne Airfield)

Annual awards included Steve Walker (distance), Chris Marren (height) and Dave Stewart (best novice, including night rating – but that's another story!). The height of 22 000ft was quite mediocre, achieved by chance north of the Cairngorms during a cross-country in southerly wave. Many experienced pilots climb only as necessary to achieve the task, often leaving 2-3kt even though this could take them several thousand feet higher. Several pilots, Chris included, have agreed that the cup cannot in future be won for a mere 22 000ft, so will have to devote at least some flying to the (tedious?) business of going high.

Winter flying has been less curtailed than usual and we have operated off snow on several occasions. There has been plenty of wave, though often mid-week. (In the depths of winter we fly mainly weekends only.) How about a 220km triangle on December 22, the day after the shortest day? Can any other club match this?
K.A.H.

DEVON & SOMERSET (North Hill)

Cold and sun conspired to pop thermals like champagne corks on January 25 when many gliders were launched to 1500 to 2000ft by our new winch, showing a 50% improvement in the launch rate.

Hedging and ditching for the NE extension is underway; a Sports Council grant decision is imminent. A small extension to the main hangar for improved hangar packing is progressing.

Dennis Gosling, John Middleton, Frank Smith and Carolyn Garnham have soloed; Eddie Bromwell, Dave Brummitt and John Pursey have their Bronze Cs and Chris Davison Silver C.

At the December AGM, John Fielden presented "Pop's Pot" for the second task week in memory of his father who had a long association with the club including 24yrs as vice-president; the first holder is Phil Hogarth. Other awards were: progress, Stephen Fitzgerald and Jonathan Smith; height gain, Simon Minson and Ian Mitchell (Eagle); best cross-country and first task week, Tim Gardner; club ladder, Dave Reilly (who else?); best competition, Gordon Peters and Tony Price and two-seater challenge, John Barrow and Ian Mitchell (Eagle). Last year's "Wily Old Bird" was tugmaster Ken Jenkins.
I.D.K.

DORSET (Old Sarum)

There is still winter flying at the weekends and we've even had a "soaring" day caused by a frontal wave sitting bang over the airfield.

Congratulations to Barry Thomas and John Goddard on attaining their full Cats.
J.B.

Obituary – Jim Linegar

Sadly I must report the untimely death last autumn of our secretary, Jim Linegar, Jim was a member of the club for four years and was quick to involve himself in all the jobs that keep a club going from painting our assorted vehicles and caravans to glider maintenance, and for the past two years as secretary. We will miss him. Our sincere condolences to his family, particularly to his wife Win.
Jill Burry (chairman)

EAST SUSSEX (Ringmer)

We have had some good winter flying days with Steve Riley and Malcolm Sheppard completing their Bronze Cs, Godfrey Herrin has treated himself to a DG-300, Alan Hall a Ventus and a L-Spatz syndicate has joined us.

Due to a shortage of funds we have put off our plans for a new clubhouse but have planning consent to convert our workshop into a temporary one to replace the caravan. Our thanks to Margaret Batchelor, Joyce Head and helpers who are raising funds for the clubhouse. The New Year's party was a terrific success.

We hope to have more courses this year and air experience evenings. We have two expeditions to Talgarth, the first in April.
J.S.

ENSTONE (Enstone Airfield)

We have suddenly found ourselves amongst the fortunate (?) few with our airfield up for sale. The committee is working feverishly to



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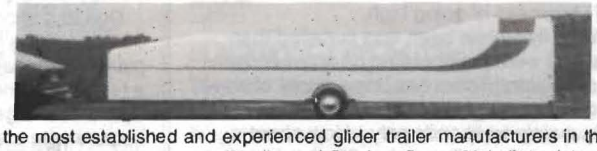
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raise the required cash in the short time available.

On January 12 Jonathan Kingerlee gained Diamond height at Talgarth and flew downwind back to Enstone, arriving with plenty of height. The two Talgarth expeditions were also rewarded with a Gold height for Tony Cox.

Jane Nash completed her full Cat rating to become the youngest woman to do so and she also found Gold height at Dishforth.

A new look committee was elected at our AGM with Ken Sparkes as chairman. Our thanks to Eric Giles who retired from the post after many years on the committee.

Our new introductory course has produced a number of *ab-initios* and the Regionals' bookings are more advanced than ever before.
G.D. & R.J.P.B.

ESSEX (North Weald)

Our expedition to the Long Mynd in December produced some excellent flying including wave. Mark Newland-Smith landed at RAF Shawbury, after turning Ludlow!

Geoff Lynch completed his 5hrs at Dunstable on January 12 and Ariane Dearden her Bronze C a year to the day she joined the club. Tony Hookway, Alec Malyon and Mike Stringer now have their SLMG PPLs.

I'm told that if I want a C of A on my glider I must retrospectively mention that Pete Manley (DG-202) and Tony Manwaring (DG-200) flew Diamond distances during 1985.

Sid Smith has moved away and is instructing at Nympsfield and John Buckles has retired from instructing after nearly 20 years.

We are replacing our aged club K-8 with a new single-seater.
P.B.

ESSEX & SUFFOLK (Whatfield)

Congratulations to our new solo pilots, Wally King and Peter Cross.

With two operational tugs again we are able to loan one to Rattlesden on a regular basis to give them aerotow experience from their site.
R.C.A.

FULMAR (RAF Kinloss)

We have a new winch which has allowed our bus winch a well deserved service. We have enjoyed new hangar facilities this winter now being ensconced with the car club.

Alan Clarke is still CFI and Carol Simmonds the deputy. We are having a bonus – an airfield shut down for four months from July for runway repairs.
W.G.

HAMBLETONS (RAF Dishforth)

We had some varied weather during our extended flying over Christmas and the New Year. Congratulations to Mick Bowman, Gold height, Peter Wilson, Silver height and Bronze leg, Damian Leroux, on going solo, and Mandy Walker on her marginal Diamond.

We had a successful western evening and a splendid Christmas dinner. We are pleased to welcome Leeds University's smartly painted T-21 which we look forward to flying when the snow stops.
J.P.

HERON (RNGSA Yeovilton)

We stopped gliding for two months to wait for a new hangar access road. With an Easter task week at Merryfield, Ilminster we hope to make up for lost time. At least we had the opportunity to work on the gliders and have gained two more glass-fibre experts.

We aim to continue the spurt of cross-country and badge flights which began last summer and to organise two expeditions to encourage our growing enthusiasm.
W.W.

HIGHLAND (Dalfachy)



Robert Tait of Highland GC, who went solo on his 16th birthday and then converted to the K-8, is photographed with his father, Jim Tait, an instructor, by the *Northern Scot*.

HUMBER (RAF Scampton)

We congratulate Vince and Deanna Rooke on going solo, Deanna beating Vince by a week – she has now graduated to the K-8, hotly pursued by Vince.

At the AGM in November trophies were presented to Tony Smith (hardest worker); Andy Gibson (*ab-initio* to achieve the highest standard) who was awarded the tray and the Vicar's pot for the first completed Bronze C of the year and Chris Gildea (for the fastest 100km) gained the CFI's trophy.

Kev Atkinson has taken over as treasurer from Dave Cockburn who has disappeared overseas. Our thanks to Dave for doing such a good job. We are hoping to arrange passenger evenings and an expedition to Portmoak.
T.J.

IMPERIAL COLLEGE (Lasham Airfield)

Despite a long absence from *S&G* we continue to flourish. Last October's intake of "freshers" is one of the keenest for a long time and they are even helping out with trailer fettling. Our instructors have been busy with a succession of weekend courses.

We had a successful expedition to Sutton Bank before Christmas, taking the K-8 and ASW-19. The ASW-19 is back at Talgarth but we can't find anyone brave enough to go there and fly it.
M.B.J.

INKPEN (Airfield)

As if the weather hasn't done enough, leaving us well down on launches last year, strong winds lifted the Blanik against its picket ropes so hard the wings were written off and a new fin and rudder have had to be fitted.

We have booked an extra tug and K-21 for a large air experience party in April. Course bookings are going well and the task week starts in late July to which other clubs are invited.

There has been an expedition to Talgarth and congratulations to Bill Murray on completing his Gold C with a height gain at Aboyne in October, also to Andy Durbin, an expatriate in the USA, who completed all three Diamonds with a distance flight.

We hope to have a Motor Falke for a week in July for the benefit of the Bronze candidates.
I.D.

KENT (Challock)

Our Christmas party at the clubhouse was a huge success – our thanks to Jean Austen and her staff for the excellent meal.

Some took advantage of the strong south-westerly winds in December to fly the standard ridge run to Rochester and back, both single and two-seaters achieving the flight.

Plans are underway to celebrate our 30th birthday this year. The club in its present form was founded in April 1956 at Detling prior to its move to the present site at Challock.

Finally congratulations go to Richard Davies on going solo.
J.W.

KESTREL (RAF Odiham)

Our chairman, Brigadier Peter Swinhoe, is retiring from the Services and we welcome our new chairman, Major Alan Thompson. Many thanks to Peter for all he has done on our behalf during his term of office.

The autumn expedition to Aboyne resulted in a Gold height for Terry Jaggers.

In December we ran a very successful "in-house" instructors' course resulting in seven gaining their Assistant rating.

In January the K-23 was damaged on landing and the pilot, "Andy" Causer, was taken to hospital; we hope she will soon recover.

The bad weather and other factors have so affected our income our charges must be raised to recover the deficit.

The K-6CR (Echo Echo Whisky) syndicate has disbanded but the aircraft remains at Odiham having been purchased by Ramsay Brown.
P.W.A.

LAKES (Walney Airfield)

Our new clubhouse was completed in time to ensure the success of the summer courses last year. Our thanks as ever to the course cook, Pauline Reeve.

Peter Lewis gained Gold height, Michael Sadler went solo and Rod Murfitt won the club ladder trophy.

We welcome Jim Cook and friends with their Skylark 4 and congratulate Chris Dobson for his achievements in his lovely Dimona. Bookings for the courses organised by Peter Lewis are going well.
M.S.

LASHAM (Lasham Airfield)

Despite the bad season, our flying results were almost as good as in 1984. For example, full flying members are up by 50 to 770 (including colleges), launches nearly the same at 32 200 (including 13 100 aerotows) and club cross-countries only slightly down at 95 000km compared with 102 000km in 1984 with four flights of over 600km.

Despite the weather we've had a crop of solos, notably Derek Trice (Hilary Stewart's father) after a very short period of instruction. A number of members have been on expeditions including Sam Mummery who sampled gliding in India.

We miss Pete Disdale, a full-time instructor for eight years and the last few as deputy CFI, who left in the autumn. Our best wishes also to Bob Bickers on a speedy recovery from motor accident injuries.
A. J. R.

Obituary – George Truscott

It is with great sadness we record the death of George Truscott at Lasham at the end of 1985. George will long be remembered for his floral creations in the clubhouse as well as for numerous other contributions to club life.

He was a member for many years and flew such exotic things as Swallows and hot-air balloons. He will be sadly missed and we offer our condolences to his sister, Frances.
A. J. Robertson

LONDON (Dunstable)

Our van Gelder winch arrived with the snow, thus preventing its Dutch chaperones from giving us any instruction. The next weekend, even without full power, it hurled a K-21 to previously unheard of heights. We are now re-educating ourselves in the new launch technique required for this powerful beast.

We have a new tug pilot, John Edwards from Bicester. We have been visited by members from Duxford, Lasham and Booker for winter hill soaring as well as one hardy North Weald type who did his 5hrs, and Frank Pozerskis whose ASW-22 has been wintering with us.

We have instituted PI training courses and received over 4000 inquiries about *ab-initio* courses following a national advertising campaign, so will experiment with 15 man courses.

Congratulations to Derek Sear on becoming a regional examiner and to Roy Wall, Martin Meyers and Warren Gibbs on first solos.
D.S.

MARCHINGTON (Marchington Airfield)

The atrocious weather in 1985 is reflected in our returns with launches well down on 1984.

Our congratulations to John Skinner on going solo.

The January gales worked the upper bolts loose on our hangar doors but fortunately Don Stevenson was passing and spent an hour getting them closed.

Christmas present flight vouchers went like hot cakes and gave a boost to our winter income.
P.A.W.

MENDIP (Weston-Super-Mare)

Hilary Perry gained her Silver height on a BGA course and Derek Halkyard his Bronze legs. Our height record was broken in October when Chris Crabb and Bob Merritt exceeded 10 000ft from a winch launch, both without a barograph, Bob making 11 600ft.

A PIK 20B recently joined our syndicate fleet. February started well with our north ridge giving many Bronze legs.

When Phil Hogarth landed in a field he met the farmer's daughter, Gill Coles, and they have become engaged.
R.P.

MIDLAND (Long Mynd)

Despite "Tuggy" Bradley's continuing efforts to level the airfield to a billiard table like surface, this is not the reason why the next edition of the South of England 1:500 000 chart will show the Long Mynd as being 100ft lower than it used to be!

Present charts show our airfield as 1500ft but it's clear from large scale maps this is inaccurate. This has been pointed out to the CCA who have determined the site is 1411ft amsl.

The difference isn't large but it could mean that aspiring Silver distance pilots now need to fly 2.5km less under the 1% rule from this site!

We flew a record number of hours in 1985. Our task week is from July 19-27.

Congratulations to Mike Morris, Stefan Ratayak, Scott Mansell and Tom Jurdison on going solo.
N.B.

NENE VALLEY (RAF Upwood)

At our AGM in December we welcomed two new committee members, Jim Rignall and Mike Haddock, and thanked Lee Parker, PR, who is leaving for the USA. We hope to update our club fleet with a glass-fibre glider and another K-7.

We want to improve our facilities and have hopes of getting offices and classrooms for ground school studies.

Six have gone solo, Tim Wiltshire, Bill Barnum, Mike Haddock, Launce Fox, Mike Chandler and Paul. Our only female *ab-initio*, Sara Haddock, is progressing nicely.
W.B.

NORFOLK (Tibenham Airfield)

After winter planning, it appears the race is on for the first 500km flight from our site. Tony Walsh and Brendan Sargeant have re-equipped with an ASW-20FLP and ASW-20L respectively and Norman Clowes hopes to organise a 20 strong syndicate to buy a T-31 for fun flying.

Our dinner-dance in February was a great success as usual. Our task weeks will be May 26-31 and August 25-31 when visiting pilots will be welcome. The combination of competitive but fun tasks, low launch fees, a small daily entry fee and no airspace restrictions make our weeks enjoyable. We have camping and caravan facilities and some clubhouse accommodation. To reserve your place please write to the CFI, Tibenham Airfield, Long Stratton, Norfolk.
B.S.

NORTHUMBRIA (Currock Hill)



When David Moss started gliding at the Northumbria GC as an eight year-old his grandmother promised that as soon as he was allowed to carry passengers she would be one of the first. And in November David, now 19 years-old, took his 85 year-old grandmother, Mrs Jeanie Anderson, for a flight in the club K-7 despite the fact she now has two artificial hips. The photograph was taken after the flight by David's father, Tony.

The weather has given us very few flying days this winter. We are therefore eagerly awaiting spring with Wednesday flying and instruction courses beginning again in April.

Martin Davies and Keith Macgreggor have soloed and Norman Crawford has re-soloed with Bronze flights by Ian Blackie and Bruce Grant.
S.M.H.

OUSE (Rufforth)

At our lively annual dinner, complete with Morris dancers, the awards were presented as follows: Club Ladder and Wilf Coulsey trophy (longest handicapped distance), Mark Thompson; Novices Ladder, David Jones; Anthony Foster memorial for most promising young pilot, Moray and Meg Stark; Alan Simpson trophy (longest Silver distance), Neil Ashworth; Buck trophy (best gain of height), George Broadhead; Spanner award (for two cross-countries of 5 and 1 mile), Alan Meredith and Chairman's award, Richard Challand.

Andrew Batters has taken over as CFI from John Mawson. Our thanks to John who has served two terms as CFI and has been our chairman.

Tom Stoker completed his Gold C with a height gain in mid December when there were several other good flights including Gold height for Bryan Taylor. Chris Edghill, Roy Nuza, Brian Robertson and Jenny Webster have gone solo. Sadly Jaroslav Nyc, who was ready to go solo but had been delayed for medical reasons, collapsed and died from a heart attack while on a skiing holiday in France. He will be missed by many members and our sympathies go to his wife, Carol.
R.T.

OXFORD (Weston on the Green)

Our original proposal to erect a hangar was submitted nearly two years ago and after numerous meetings and the consideration of four different locations, work has at last started and should be finished by the spring with a grand opening planned. Our thanks go to Norman Machin and John Giddins for their work on the project, with Jane Randle assisting in the politics of the situation.

We had a successful AGM followed by a disco. We have a new committee led by Chris Emson as chairman, John Giddins retiring after four years and several years on the committee.

Since the autumn we have had to rig our gliders daily which has affected our launches but not our enthusiasm. Four gliders were taken on an expedition to Talgarth but there were a number of non flying days.

We have been writing to MPs regarding the Upper Heyford zone which is the thin edge of the wedge and must be fought.
H.J.S.

PEGASUS (RAF Gütersloh)

We have flown during the winter with quite a few launches on Christmas Day. Congratulations to Denise Ford on going solo.

Terry Ackerman and Richard Hill had enjoyable leaving parties and we are also sad to say goodbye to Ian Smith and Mark Grace. Our sympathy goes to Bob Bicker who is in hospital.
R.D.G.H.

PHOENIX (RAF Brüggen)

After long winter flying our Tost winch is being serviced. We have a mini expedition to Bisperode, W. Germany from April 1-11.

Congratulations to Frank Lindop, Paddy Young and Pete Smart on going solo and to Sue Cavener and Andy Hyslop on flying 50km in September for their Silver Cs.
P.M.

SHALBOURNE (Rivar Hill, Nr Hungerford)

Mark Flower had three flights on the morning of his marriage to Jeanette in the New Year.

The new quarterly review system shows that in the first quarter from October 1 the launch rate has increased by nearly 80% compared with the same period last year. As well as better weather, a big factor is improved ground handling. The cash position is correspondingly healthier.
R.S.

SOUTHDOWN (Parham Airfield)

For the last two years we have successfully used a Honda three-wheel ATC (All Terrain Cycle), for towing gliders about our field and have just added another one to the fleet; less damage to the field and safer than tractors. We are purchasing a second Pawnee and may end up with a Pawnee only tug fleet.

The club gliders have been given Cs of A by members in groups. Our red K-13 fuselage has been re-covered with excellent spray work by John Ward.

Congratulations to Henry McGuinness and John Brandhuber on going solo, also to Paul White for his 5hrs on a very cold north wind ridge day. The year started very well with wave days (over 5000ft), thermal conditions and very good ridge days, one of these producing the fastest time yet for our Harry Harting ridge run of 128km in just under one hour.
R.W.

SOUTH WALES (Usk)

The mountains gave some autumn flying with steady 8kt thermals off the Brecon Beacons.

A small hardworking band have been upgrading the clubhouse, installing a bar and wood-burning stove. Now we own our airfield it has become worthwhile improving our facilities and we hope for an improvement in the quality of our flying this year. One encouraging fact is that we have a larger than usual group of keen new pilots.

We have a K-10 coming to bring our training fleet back to two two-seaters.
J.D.S.

SURREY & HANTS (Lasham Airfield)

There have been various winter expeditions in search of ridge and wave soaring. In November Ken Stewart and Andy Lincoln visited the South Downs for trips to Devil's Dyke and Lewes while October 7 and 11 were the best days for the Portmoak pilgrimage with Gold heights for Cynthia Chambers and John McCullagh and Diamonds for Vernon Spencer and Paul Davis. Of course no Portmoak report would be complete without an epic cross-country by Alan Purnell – this time a 459km tour of the Highlands on the 11th.

Talgarth now vies with Portmoak in popularity and numerous groups have sampled the long ridge runs. Badge heights are harder to come by there, even so Dave Sawdon gained a Gold and John Cruttenden a Diamond in late October.

We have sold a Sport Vega and replaced it with a Grob G102 which has proved a delight to fly and an ideal first glass machine.

We are sorry to lose the valuable services of Keith Lines after many years as technical officer. We thank him for all his efforts and welcome his successor, John Bastin.
C.G.S.

SWINDON (Sandhill Farm)

After a year in the wilderness, we are at last established on a site which we can call home. The field is half a mile NW of Shrivenham, on the B4000. It is only rented at present but we hope to follow the example of East Essex GC and buy the site in due course.

We are very familiar with the area as we are less than three miles from our old base at South Marston. We are rapidly adapting to winch launching techniques, after years of launches from a 6000ft runway – we now have two Dodge F100 towcars and a reel of Parafil for sale.

Visitors are welcome at Sandhill Farm, with the exception of powered aircraft, as we have yet to obtain planning consent for power operations. If landing from the south, beware of the power wires 30ft above ground on the southern field boundary.
P.M.

TRENT VALLEY (Kirton-in-Lindsey)

Roger Mills has retired as chairman and Derek Housey as secretary and we thank them both for their services. Dick Hannigan is now deputy CFI.

Belated congratulations to Ruth Flint, our flying granny, Brian Hodgson, Richard Kemp and Len Leonard on going solo; to Val Carter on her 5hrs and Steve Crust, Roy Dell and Dave Collins on gaining their Bronze Cs.

We thank Vin Marchant who, with helpers, has spent many hours building a new winch and coping with the problems of lifting a 2 ton engine and gearbox.

Our annual dinner-dance is on April 11 at the Four Seasons at Dunholme and our flying weeks are May 26-30 and August 4-8.
L.W.

TWO RIVERS (RAF Laarbruch)

At the RAF Germany Gliding Association AGM we were presented with the NATO challenge trophy for members' efforts to keep the club in top position for the third successive year.

Our fleet is immaculate, thanks to John Armstrong, and the gliders no longer look out of place in our shiny new Cobra trailers. Our radio controlled shuttle retrieve winch launching system is giving a fast and efficient launch rate.

Expeditions have been planned to Sisteron and Romorantin in France and our Friday evening air experience trips are again popular.

We say goodbye to Trevor Brown, Scott Napier, Hymie Stevens and "Spike" Shead who return to the UK and Roland who has returned to Phoenix and welcome "Porky" Conyers and Martin Pengally from Fenlands.
P.J.S.

ULSTER (Bellarena)

The maiden flight of the Monerai – the first to fly in the UK and, we believe, in Europe too – was in mid-week privacy on January 16, Mervyn Farrell soaring for an hour watched only by co-builder Louden Blair, tug pilot Laurence McKelvie and photographer Alan Sands. "It's very light and highly controllable" test pilot Farrell reported on landing. (An article on the Monerai will be in the next issue.)

Two days later the aircraft was rigged, on a non-flying day for Bill Scull's inspection when he flew over as guest of honour at our annual dinner which Maire McKillen arranged. So minute is the diminutive Monerai's trailer it

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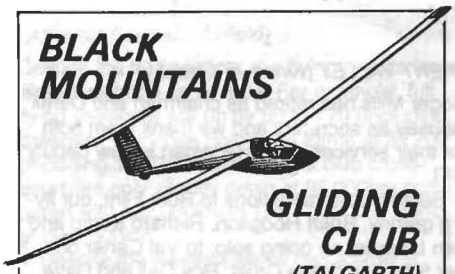
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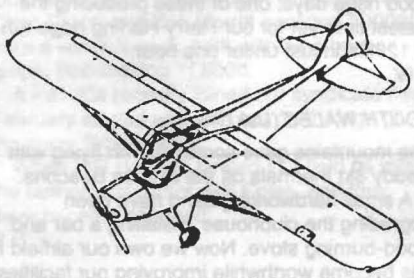
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cannot be seen from in front of the towing Fiesta.

Other new arrivals are a PIK-20B, replacing the syndicate Libelle, and William McNair's DG-400 which he collected from the Maker's plant and which is the second on the field.

A major C of A bash began in February, including the tug which is down for a three-year refit. All equipment should be back on line for our traditional Nine Days at Easter. All are welcome – call 0232 790666 if you'd like to join in. A club presence at the BGA conference at Harrogate is planned; Mike Miskimmin and Harry Boyle are swotting up for an instructors' course in April at Bidford while Ken Bell and Ron Lapsley have gone solo.

R.R.R.

WEST WALES (Templeton Airfield)

We stopped for part of the winter due to a huge backlog of minor repairs, Cs of A etc. The only problem is that four-fifths of our members hibernate and no number of phone calls will wake them. If other clubs have this problem we would like to know what they do about it short of imposing a military regime.

Two instructors are going on a course at Usk in February to get their full rating.

M.J.G.

WOLDS (Pocklington)

The dismal winter has at least resulted in many good ideas from members and a high activity level. The Falke has a new engine and its wings refurbished. (The Falke is used for *ab-initios'* first two hours which cuts down training time.) Two of our three K-7s have been converted to the K-13 type.

Another winch is being built and we hope to soon have four cables. There are plans to extend the hangar and provide a vehicle pit and our engineering workshop will soon be delivered.

We now have a resident manager and properly equipped office so we can be contacted at all times.

Our task week starts on Monday, May 26 (why not come and join us) and the two-seater competition on August 11. You can bring your own glider and fly alongside our holiday courses on an informal basis and we shall be pleased to see visitors at our memorial dance on May 16 – bring a tent and stay the weekend.

D.B.

WYVERN (RAF Upavon)

Several postings have brought changes to the committee. Phil Wood has gone to Germany and Roger Holliday takes over as treasurer; Bob Lloyd, bar member and keen worker on glider maintenance, has returned to Kinloss and been replaced in the bar by Ephy Darnbrook and our chairman, Alan Thompson, whom we congratulate on becoming a full Cat, has become chairman of Odiham and Pat Hemsley has taken over at Wyvern.

John Ashcroft and "Stormy" Fairweather gained Gold heights at Aboyne and Pete Howarth and Steve Welsh are now instructors. Congratulations also to Pat Hemsley, Bob Preston and Marc LeGresley on going solo and thanks to Pat for his invaluable MT help.

P.A.S.

YORKSHIRE (Sutton Bank)

On one of our better days during the long hard winter Derek Taylor gained 19 000ft for Diamond height.

A new DG-101 has been added to the club fleet and our equipment is in good shape. In addition to the Northern Regionals, we have a task week, run on Competition Enterprise principles, at the end of August. (See BGA News.)

We are pleased to be hosting the BGA Conference in March and hope everyone enjoys their stay in Yorkshire. Our thanks to Helen Hayes for her organisation.

P.L.



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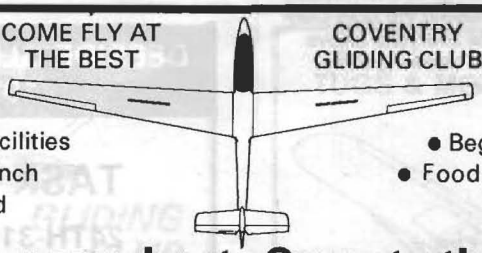
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OVERSEAS NEWS

AUSTRAGLIDE

Six of the British team squad competed in Australide 1986, held at Benalla, site of the 1987 World Championships, from January 19-31 to get some experience of flying in the area. And considering they hired the gliders available, not what they would choose to fly, they did remarkably well with Dave Watt 5th and 6th place for Ralph Jones (15 Metre) and Justin Wills (Standard Class).

Pam Hawkins, who claimed her 750km triangle World and British National feminine records in Australia the year before and was on a return visit, did extremely well by coming 4th in the Open Class.

It wasn't classic Australian weather with mostly blue conditions, though there were ten contest days with tasks mainly falling between 300-400km. Sadly the Frenchman, Eric Siaudeau, flying an LS-4, hit some power cables on the approach to the airfield and was killed but a mid-air collision resulted in both pilots landing safely.

Leading results: Open Class, 1 I. Renner (Australia) Nimbus 3, 8262pts; 2 W. Grosskinsky (Germany) Nimbus 3, 6961; 3 M. Giles/T. Talbot (Australia) ASW-22, 5571 and 4 Pam Hawkins (Gt Britain) ASW-17, 4772pts. 15 Metre Class, 1 K. Musters (Holland) Ventus, 8662; 2 A. Pettersson (Sweden) LS-3, 7571; 3 J. Kursten (Germany) Ventus, 7566; 5 D. Watt (Gt Britain) Mini Nimbus, 6722; 6 Ralph Jones (Gt Britain) Ventus, 6545pts. Standard Class, 1 B. Brockhoff (Australia) Discus, 9024; 2 B. Gantenbrink (Germany) Discus, 8765; 3 H. Schramme (Germany) Discus, 8632; 6 J. Wills (Gt Britain) LS-4, 8013; 8 J. Delafield (Gt Britain) Discus, 7866; 13 B. Spreckley (Gt Britain) Cirrus, 6747; 18 M, Wells (Gt Britain) Jantar, 6005pts.

TRANS-EUROPEAN RALLY

This year's Rally, from June 29 to July 13, starts at Colmar, France and follows the route, Wasserkuppe, W. Germany, Grenoble, France, Huesca, Spain and ending in France at Angers, a distance of 2200km. It is an endurance test, a qualification for the French Nationals and a rally demanding a full range of skills.

The closing date for entries is April 15. For further details write to J. C. Penaud, Association Vélivole Anjou Transeuropeénne, 10 Ave de la grande Grée, F-49240 Avrille, France, Tel 41345986.

NEW RECORDS CLAIMED

The Swiss pilot, Beat Bünzli, has claimed four world records, one in the single-seater gliding section the others in the single-seater Motor Glider catagory. All flights took place from Bitterwasser in South Africa.

On November 14 he flew a 300km triangle, with his DG-400 in the gliding configuration, at a speed of 176.99km/h. This was followed on December 9 by a 100km triangle at 178.11km/h. Then on December 24 a 500km triangle was flown at 159.3km/h and a 750km triangle (date not stated) at 162.29km/h.

All flights are subject to homologation.

Please send news and exchange copies of journals to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, England

SOVIET NEWS

The 47th Nationals, organised by the Kaunas Sport Club in Lithuania, was decided from only three tasks. In the Open Class 11 of the 15 men flew the LAK 12 "Lietuva", while the rest flew Jantar 2B. In the Standard Class the 13 women and 13 men flew Std Jantars except for V. Machioolis who flew the new Nida.

V. Shevchenko was the overall winner followed by the Ukranians, B. Dombrovski and Y. Rudienski. A. Xarak (Tartar Republic) finished first among the women.

* * *

The LAK 11 "Lida" is a flapped 15m glass-fibre glider with max L/D of 40-42, produced at the Prenaisk Experimental Factory by a group under the direction of Ionas Bankaiuskas. It was first flown last July and is now in production. It has a monocoque fuselage, a high mounted tailplane and is very manoeuvrable.

Crossword solutions:
***Down** – 1 Purple; 2 Rudder; 3 Cloud; 4 Undershoot; 5 Scheibe; 6 Wingtip; 10 East; 14 Solo; 16 Lapse; 17 Astir; 18 Straps; 21 Tors; 23 Pal; 24 ETA; 26 Holt; 27 Air; 28 Sea. **Across** – 1 Parachute; 5 Sew; 7 Radio; 8 Dolphin; 9 Lee; 11 Dart; 12 Lift; 13 Ears; 15 SHK; 16 Leap; 18 Stall; 19 Cockpit; 20 Rat; 22 Open; 25 Shears; 29 Pirat; 30 Slack; 31 Torva.*

GLIDER GAMES

Glider Pilot 2 – Apex Software

I have been trying to fly **Glider Pilot 2**, a recent program for the 32K BBC Micro.

It is certainly different from three other programs I enjoy flying. These are **Aviator** by Acornsoft, **Cross-Country** by Ricardo and **Aerotow** by P. Dinsdale. These are all very good indeed, each in its specialised way.

Aviator is easy for an experienced glider pilot to fly, and I have even succeeded in giving some dual to non-flying friends. Landing is difficult at first, as you need to learn a completely new technique – I found myself landing by using the altimeter, not a good trick!

Cross-Country is my favourite. It assumes you fly and centre perfectly and you are left with the real armchair pilot's problems of which thermals to use and what speed to fly. The graphics are admirable, and life is not made too easy for you.

Aerotow gives you a rough ride on aerotow and is well suited for training in this important part of gliding.

Glider Pilot 2 has made an valiant attempt to do everything. It gives you a winch tow, a chance to do a circuit of the airfield and also provides thermals and TPs for short cross-country flights. As the graphics are only barely adequate when at height, it was a good idea to introduce a final approach on request for beginners. I found it difficult to fly and it was several days before I had the thrill of completing my first circuit and landing on the airfield. I still have not managed to make a good climb in a thermal as my lifetime technique of centering is disappointingly unsuccessful!

This program is advertised as an instructional simulator and suggests we should enjoy flying it all the winter. I have my doubts of its value as a serious flight trainer, in spite of its (in my case repeated) displays of "Broken" and "Bloody" and even the lowering of the Red Curtain of Death. However I believe many glider pilots at all stages will find this program much more worth while than zapping aliens, or even than shepherding young frogs across a motorway and past crocodiles. I think they will enjoy trying to master this rather tricky aircraft, and I look forward to hearing league results for O/R flights!

JOHN SIMPSON

Glider Pilot 2 is available from Apex Software, Station Rd, New Penshaw, Houghton-le-Spring, Tyne & Wear DH4 7PE. The cassette is £6.95, 5¼in disc £8.95, 3in disc £11.50 and upgrade version £2.00 (send old copy). (See also S&G June 1984, p131).

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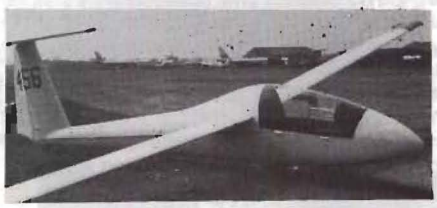
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