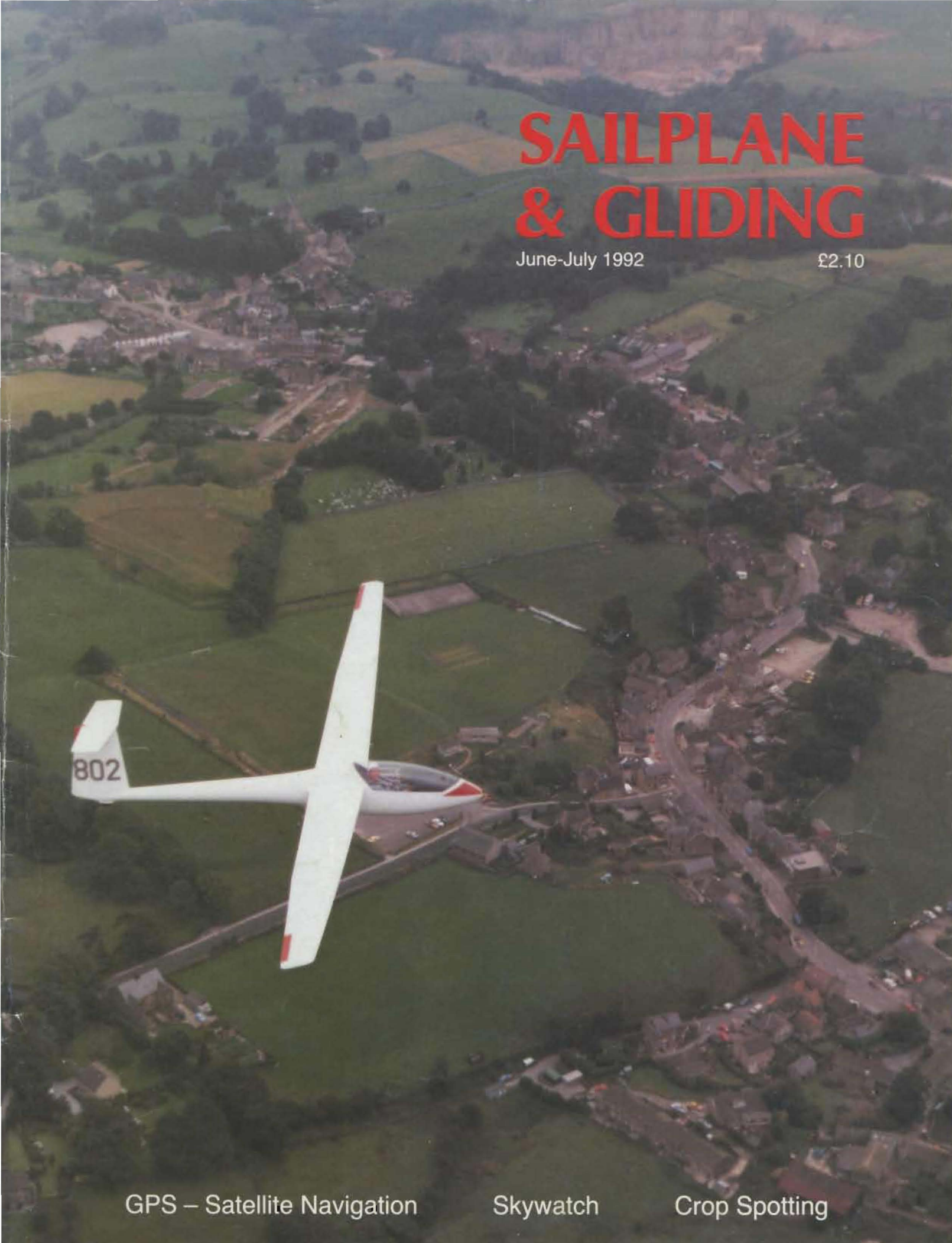


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June-July 1992
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129 YOUR LETTERS
A. Moss, T. M. Holloway, J. Goodenough (reply by W. G. Scull), H. G. Peters

130 GPS – SATELLITE NAVIGATION FOR GLIDERS?
R. J. H. Fack

131 FAREWELL HANGAR CAT
Jill Povall

132 SHORT TRIPS ABOUT CONNEL
A. Shelton

134 THE DAY OF THE DECADE
Brenda Horsfield

136 SKYWATCH – PART 3
T. A. M. Bradbury

140 BETTER LATE THAN NEVER
Ann Edwards

141 SAFETY IN POWERED SAILPLANES
I. W. Strachan

142 TAIL FEATHERS
Platypus

144 S&G CLASSIC
A. J. Deane-Drummond

147 TWO RETRIEVE STORIES
G. Holland, A. Self
OVERSEAS NEWS

148 THE UNBREAKABLE HAWK
T. A. Hurley

149 BURN GC'S WINCH 3
T. Flannery

150 GET OFF MY LAND
J. Staley & M. F. Cuming

154 MAKING THE MOST OF A GOOD DAY
D. le Roux

156 BGA & GENERAL NEWS

157 OBITUARY – H. REICHMANN
by F. W. Weinholtz

159 GLIDING CERTIFICATES

160 BGA ACCIDENT SUMMARY
J. Shipley, D. A. Wright

163 INTERNATIONAL GLIDING COMMISSION
T. S. Zealley

164 CLUB NEWS

174 WAY OFF TRACK
Penguin

175 FIRST FIELD LANDING
M. Clegg

176 BEGINNING GLIDING
Val Penny

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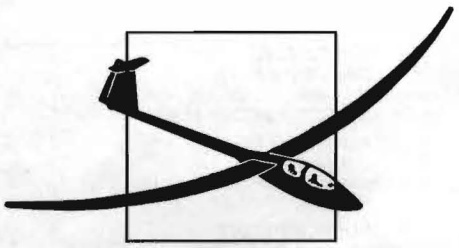
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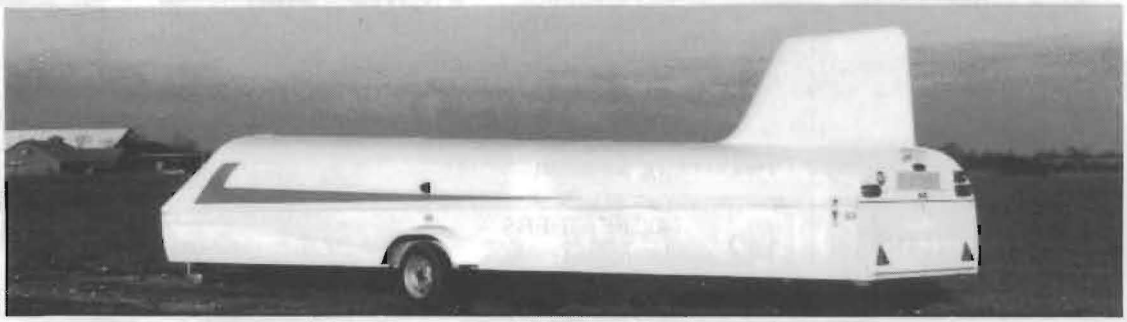


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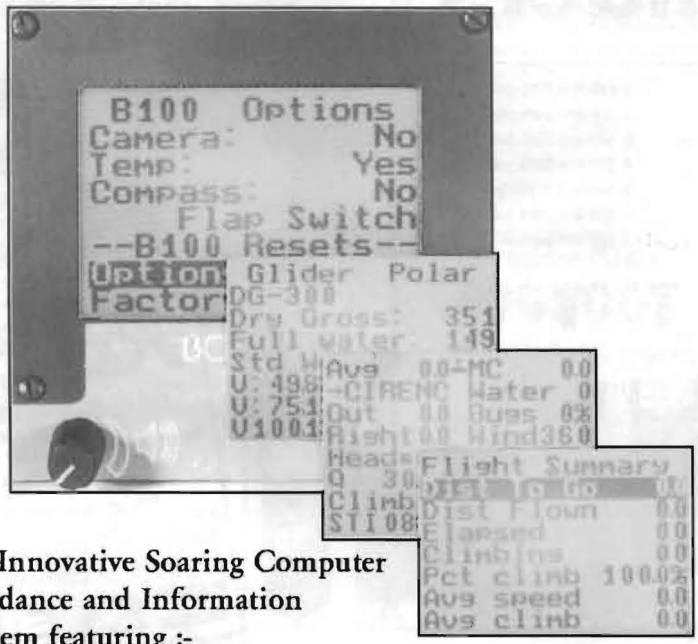
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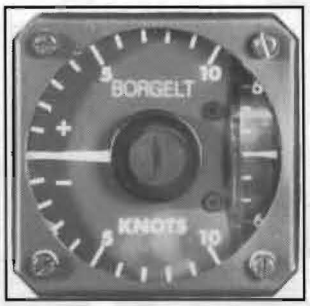
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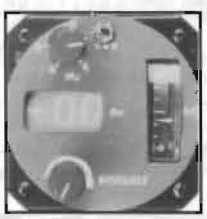
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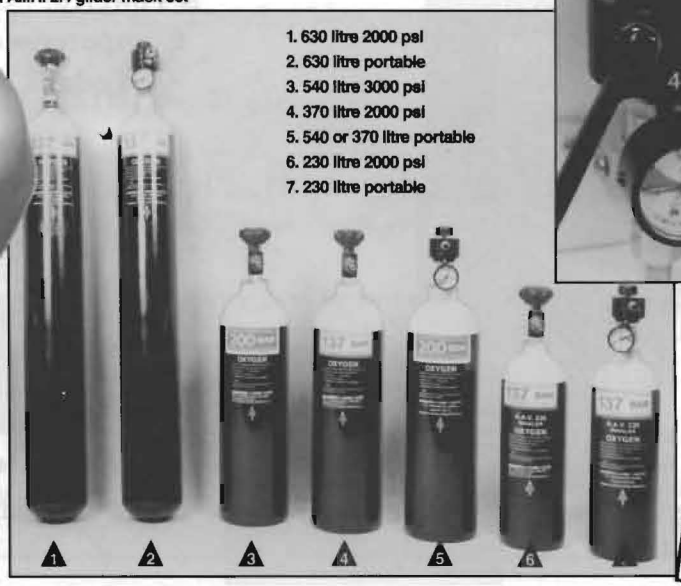
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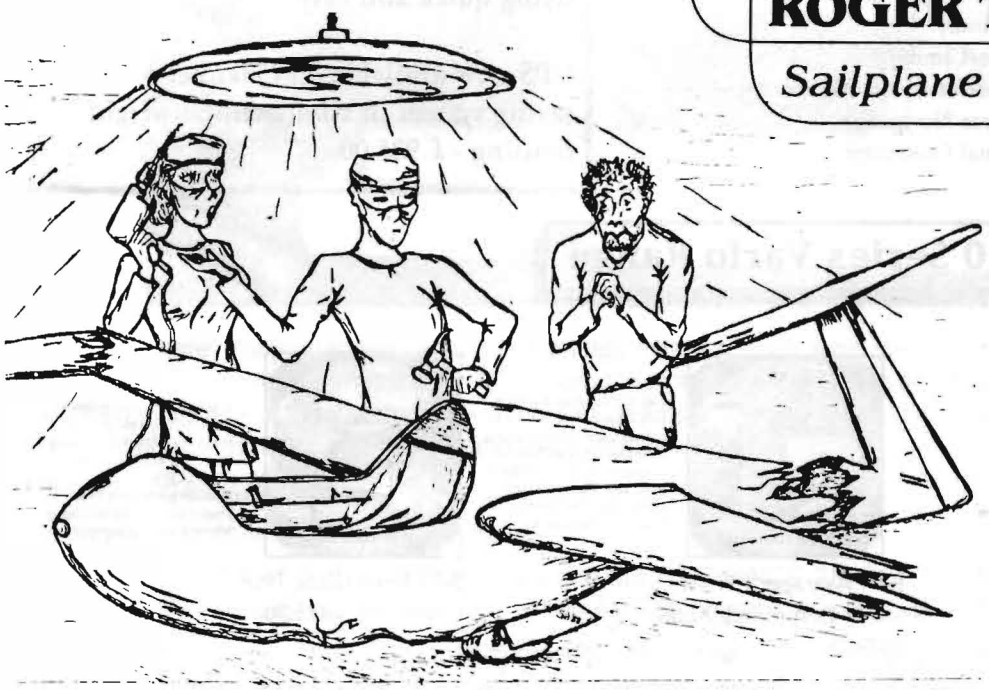
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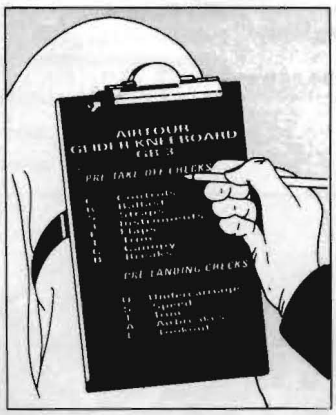
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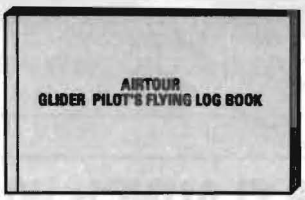
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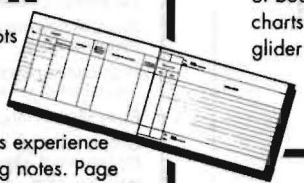




The Glider Pilots'

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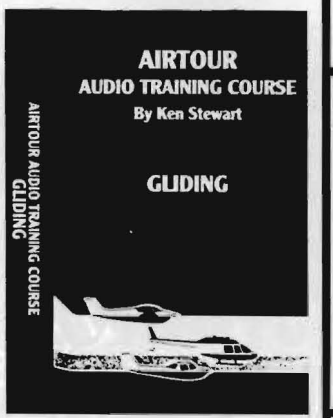
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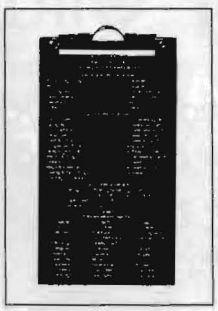


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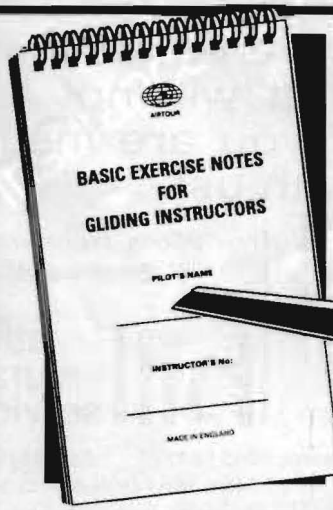
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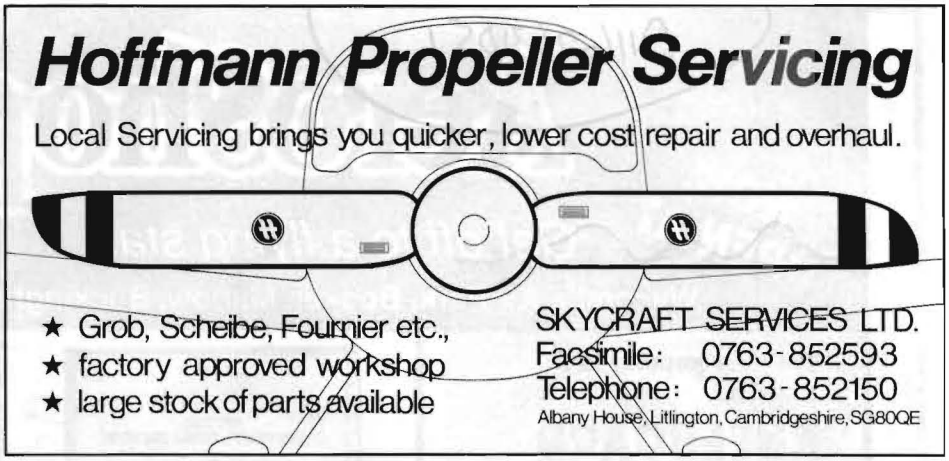
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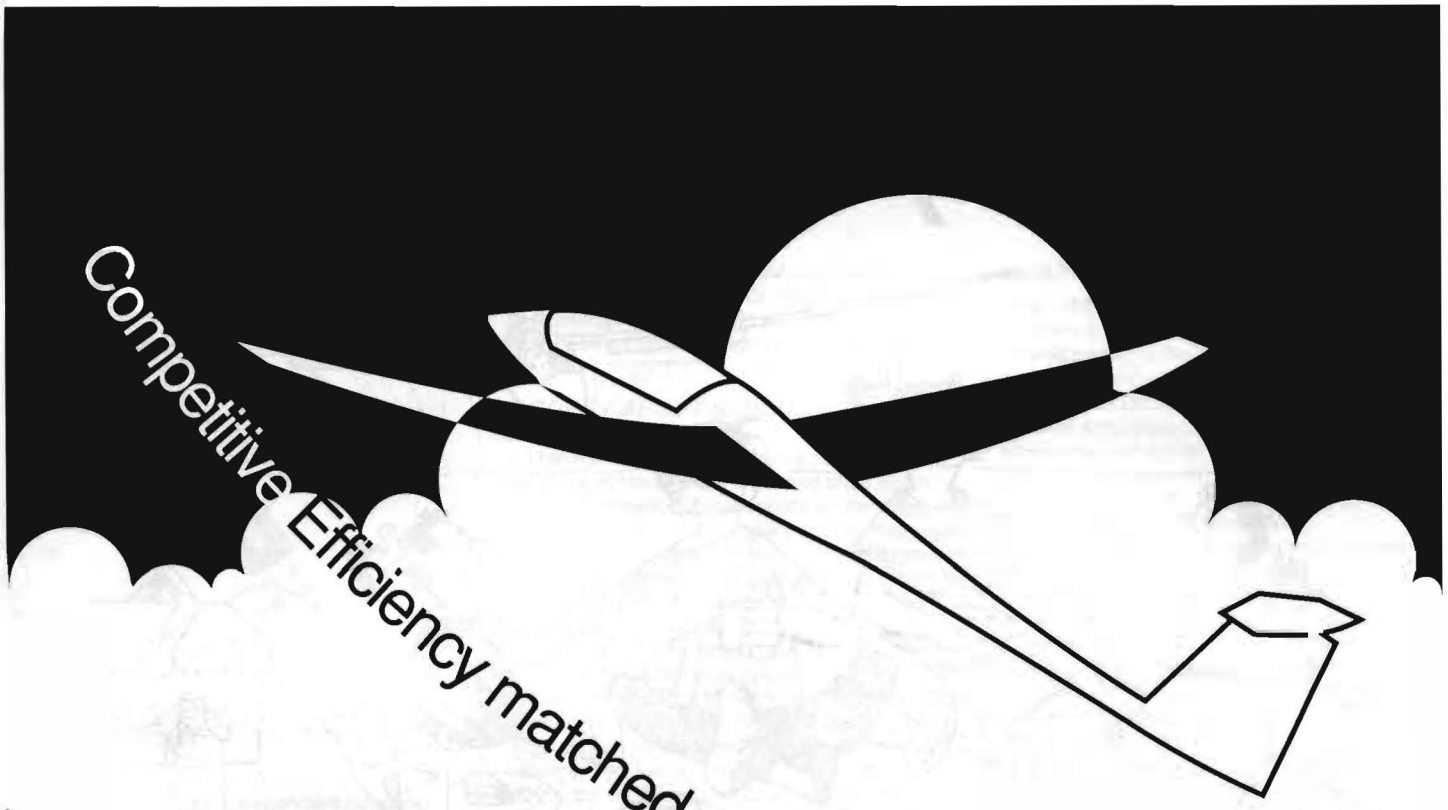
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YOUR LETTERS

SCOTTISH GLIDING ASSOCIATION!



Dear Editor,

The possibility of an independant Scotland may give rise to issues which few have considered. In anticipation of one such I offer a possible logo for the body to replace the BGA north of the border – or would that become a frontier?

TONY MOSS, *Bedlington, Northumberland*

129.97

Dear Editor,

A clear sign of spring must be the inability to get a word in edgeways on 129.97 between the "how you doing chat". However, I propose as "entertainer of the year" the Scots motor glider instructor who managed to transmit for an entire hour long sortie on March 31 which blanked out most of southern England.

His inane prattle (sorry I meant "patter") was an inspiration to us all, (!) and his personal recollections of gliding were interesting and highly amusing. Most of all I enjoyed hearing what he said about Chris Pullen, who is clearly a more interesting person than most people realise, as well as having too much money and an ASH-25! Nothing wrong with that!!

TERRY HOLLOWAY, *High Wycombe, Bucks*

A QUERY ABOUT SIGNALLING

Dear Editor,

I have undertaken to design a new light signalling system for my club, and once again this has provoked a lively debate on the interpretation of clause 5.7 in **Laws and Rules**.

What exactly does "dashes of one second duration and three seconds interval" mean? "One second on, three seconds off", or "one second on, two seconds off"?

What does "quick dots at one second interval" mean? The designer of our current box of tricks interpreted this to mean "one second on, one second off", but this is clearly wrong, and "All out" is given using the Stop button. Perhaps it means "half second on, half second off", or maybe the on period should be shorter, though of course long enough for the lamps to illuminate fully.

For a publication which devotes two whole pages to specifying to the millimetre the placement of lights and reflectors on glider trailers, perhaps it would be possible to spare a little more space to make clause 5.7 less ambiguous.

JEFFERY GOODENOUGH, *Newbury, Berks*

Bill Scull, BGA director of operations, replies: The light signals for take up slack are as given. For take up slack the dash should be one second and the interval three seconds. In morse code a dot is shorter than a dash by half so "All out" is light on for half a second with one second intervals. Interval is defined as "intervening time or space; pause; break, gap." So far as the glider trailer law is concerned perhaps Mr Goodenough would prefer to find his way through all the Road Traffic regulations when building a trailer.

MEASURING CABLE LOADS

Dear Editor,

Howard Torode in responding to Chris Riddell's letter in the last issue, p71, suggested that measuring cable loads was difficult and probably not desirable.

Quite fortuitously Supacat's unique design allows the load applied to and the load in the cable to be measured accurately. We have been recording both simultaneously for a variety of gliders and conditions.

In the established climb the readings are identical but are they of any use?

As the designer does not want his glider to break up I have always assumed that it was wise to follow his advice on weak links and speeds. One obvious use of an indicator is not to exceed the weak link rating. Applying a maximum of 75% stops the buffeting of average turbulence breaking or stressing the link.

Applying less gives a lower launch but we are not yet using the indicator to guide the driver. We are simply measuring the loads applied by experienced drivers with traditional briefing.

There have been clear differences between drivers launching the same gliders on the same day. A tracing is almost a thumb print of the driver and they can not all be giving optimum launches.

The tracings for the critical first 100ft are interesting. At first the two lines move apart, then move in opposite directions and cross before walking the same path. The load applied to the cable looks the more useful particularly in strong wind gradients.

More work is required but I have no doubt that a good load indicator will be a boon to winch drivers. Winch launching is relatively safe. Tomorrow we will remove the rare mishap.

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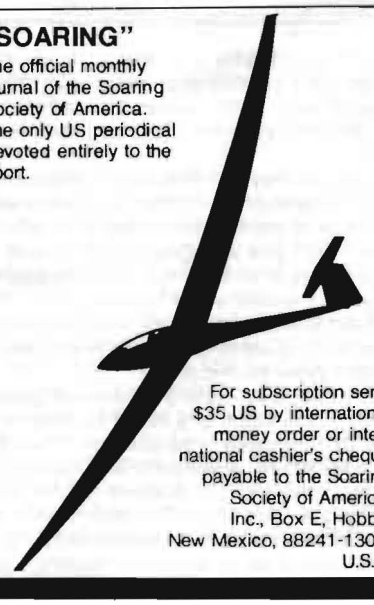
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GPS – SATELLITE NAVIGATION FOR GLIDERS?

With more and more technology promising to help glider pilots, Julian Fack explains the possibilities of the Global Positioning System

The good news is that accurate electronic navigation is available, easy to use, and almost affordable now. The bad news is that it will be better, cheaper, easier and smaller tomorrow, as is always the case with electronics.

GPS was mentioned at least three times in the December issue of *S&G*, but what is it and what can it do for glider pilots? GPS stands for the Global Positioning System and is one of the systems whereby the cruise missiles were able to "turn left at the traffic lights in Baghdad" as reported during the Gulf war. It is a very accurate world-wide system of positioning and navigation, rumoured to have cost the US Department of Defense (and therefore the US taxpayer) about $10 billion.

They have generously allowed the rest of us to use their signals, in a slightly degraded form, for free, even though it probably costs $1 billion a year to maintain the system. This means that we can now navigate to an accuracy of 100 metres at the very worst, whether we are in cars, boats, on foot or in the air, merely by buying a GPS navigator.

In January 1991 these units cost £3000 and satellite coverage was far from complete, but a crash programme of launches before the Gulf war made coverage in 2D mode better than 22hrs a day. The system when complete, will comprise 24 satellites, including three spares, circling 20000km above the earth.

Three are required for a 2D fix, and four for 3D, which obviously gives altitude as well as position. The system is incredibly sophisticated and will tell you the position and availability of the satellites for any time during the next few months. So even though the whole system is not complete, you should not be caught out without coverage unexpectedly.

They will give a magnetic bearing and distance to any of at least 100 waypoints

In August 1991 I was able to buy a hand portable at a London boat store for £1100 and today (March 1992), faster, smaller sets are available for less than £750, all prices before VAT.

What can they do? They will all give your position in lat and long to 1/100th of a minute, which is not a lot of use for a busy glider pilot in the air, but will also give a magnetic bearing and distance to any of at least 100 named waypoints stored by the user in the memory, and will tell you your true groundspeed, estimated time of arrival and adjustments required to your course, updated every second or so.

They can also store your current position merely at the touch of a key. This feature will allow GPS systems to be used for TP verification in the future. Apparently GPS black boxes will be used for this purpose in the World Championships in New Zealand in 1995, and tested at the Worlds in Sweden in 1993. For the moment it is a handy feature for marking a good lift position in wave flying, although its normal use is in marking a "man overboard" from a boat. Most of the available units are capable of communication with other electronic systems, such as radars or autopilots on boats, so in future they may talk to suitable data storage systems, for example an electronic barograph.



Julian, an engineering consultant, started gliding in 1985, flies a Discus BT based at the Mynd and has 300hrs with two Diamonds.

This would allow proper policing of airspace infringements in Comps for the first time, and final results could be available immediately after landing if GPS based TP verification was also used.

Vario manufacturers like Cambridge and Peschges have already announced GPS add-ons for their top-line systems, but at high prices, around £2000, in addition to the £2000+ that the varios cost in the first place.

As an example of the operation of GPS, I had an enjoyable wave flight from the Mynd late in September, after a 4.30pm take-off into weak ridge lift. The short west winch launch only gave 200ft and the wave suppressed ridge lift topped out at 800 or so. Some weak autumn thermals triggered by the ridge allowed a struggle to 2000 when ½kt of wave lift appeared. This got up to 2 or 3kt at times and took the Discus through a large hole in the cloud layer to 6000ft. I set out upwind above cloud, which was well perforated, towards Wales. Losing 1000ft or so per bar, which was easily regained, I hopped several bars until I reached the Newtown area where I decided to turn back downwind.

As a test for my new toy, I pressed the ROUTE key, and the display showed "Lastfix to . . .". Pressing the 6 key, also marked MNO, brought up the first M waypoint, which happened to be "Mynd", and the ENTER key selected "Lastfix to Mynd" as the route. Now pressing the NAV key brought up the magnetic heading to steer, the distance to run and a left or right adjustment needed to remain on course.

Following the instructions on screen, I saw the distance counter click down as I sped downwind. As it approached zero, I looked down through a convenient hole in the cloud and, just as it said, there was the roof of the clubhouse 5000ft below. It was not approximately right, the roof was exactly below me. Tests on the ground have shown that the system at present is accurate to about a wingspan.

This accuracy may not be available in the future, as the signal for civilian use can be deliberately degraded to 100m, but this feature was switched off during the Gulf war and seems not to have been reinstated. It is a shame that this superb system is to be deliberately spiked.

What hardware is available, and what does it cost? GPS add-ons for Peschges and Cambridge varios have been mentioned and the possibilities opened up by the alliance of accurate position and height information with sophisticated variometry and final glide computation are almost limitless.

There are cheaper hand held units designed mainly for boats or even walkers. Lower cost units available from mail order chandleries which may be suitable for gliders include the Sony Pyxis at £800, the Garmin 50 at £750, and the Magellan 5000 at £800, (see photos). These prices exclude VAT and are the lowest discount figures available in March 1992. There are many others and prices will probably continue to fall and specifications to improve for some time.

All three can be operated on internal batteries, or external power, and with integral or remote aerials. The Magellan is the largest (222mm high, 89mm wide and 55mm thick). It is fast, easy to use, and has the longest battery life, 10hrs. It is too big for panel mounting, and even bigger when fitted into its holder which allows the connection of an external aerial.

The Garmin is much smaller (159 x 82 x 37), and has a really clear LCD display. It has a de-



Sony Pyxis.



Garmin.



Magellan.

tachable battery compartment, like an Icom handheld, making it even smaller (123 x 82 x 37) when external power is used, and a detachable aerial, so the optional remote one can be easily added. But the battery life is quite short and it is limited to 90kt groundspeed, unlike the others; a fact not mentioned in the brochure!

The Sony has a separate aerial dish, which can be used attached to the main unit or removed on a 7M lead which is supplied with the kit. The whole thing is small, 175 x 100 x 39, but with the aerial removed it is tiny, just 100 x 63 x 39. It has a very short battery life, but could easily be panel mounted and powered by the glider battery. The aerial could be fitted on top of, or recessed into the panel coaming, as it is a flat disk 100mm diameter and 39mm thick. One disadvantage of the small size is the display, which could be difficult to read at a distance, and the small multi-function keys.

In my Discus, the Magellan works perfectly strapped to my left leg, using its integral aerial, but I believe that a carbon fibre fuselage can cause reception problems which may require a remote (external) aerial mounting.

Whilst GPS will give your position accurately in lat and long, and will direct you to any pre-entered waypoint, it will not tell you in any meaningful way where you are. However, a recent development by the British company Skyforce, who produced the Skyforce Navigator automatic VOR, is a small box, 130 x 70 x 28, which will take data from any GPS with a NEMA interface (Magellan & Garmin, but not Sony) and convert lat and long into a position in words, such as "4.5 (NM) WSW Church Stretton." It refers to the nearest airfields and towns on the 1/2 million air maps for Britain and Europe, and is powered by an internal battery with a life of 100hrs.

I have not tried it but if it works as well as the database in the Skyforce Navigator it will be excellent. The only obvious snag lies in that it is yet another loose piece of kit. A GPS the size of the Garmin, but which used its superb display to tell you exactly where you were in words, and which could use it's aerial either integral or detached, would be ideal, as well as a further reduction in price. I would not bet against all that happening during 1992, such is the pace of change in the world of electronics.

Looking further ahead, it is technically feasible that an integrated air traffic control system, based on GPS transponders which automatically report all aircraft positions and heights to a central computer, could become a mandatory fitment on all aircraft so that tragedies like last year's collision between a civilian and a military plane at Carno near Newtown do not go on happening in the future. It is all a bit "big brother" and not quite in the spirit of gliding, but I was low in that vicinity during 1991, and had jets screaming under me at high speed. It makes you think. From my limited experience of it, I believe that GPS has a great future in gliding as in many other sports.

FAREWELL, HANGAR CAT



Anyone who has flown from Dishforth at any time over the past twenty years would have known our Hangar Cat. Maybe just as a shadow among the many shadows in the hangar; maybe as a perpetrator of mischief (derigged hares in the club rooms, a litter of kittens in the bar . . .); maybe, in her later years, as a shabby, deaf and rather cantankerous old lady. Her body gradually wore out, but her spirit never changed. This is her story.

As a young cat, she was brought to the club by CFI Barry Nowell. The hangar suited her – plenty of rats and mice, with rabbits on the doorstep and the odd visiting pigeon. She decided to stay. A formidable hunter, she was well able to take care of herself, and she shrugged off the Yorkshire winters with a dense and glossy coat of fur. Through the lonely weekdays she patrolled among the gliders, yet when the weekend came she was always pleased to welcome human visitors. Never fully wild, she delighted in a little attention, and though well able to vigorously defend her rights and dignity when necessary, she was remarkably tolerant of children.

She survived many possible catastrophes, the most remarkable being when she fell in the oil. How she managed this is a mystery. She was already well into her teens at the time, and appeared to be slowly declining. Covered with oil but still hissing defiance, she was washed in the sink, dried with a hair-dryer and bundled off to the vet. Whether it was the medication he gave her or the oil itself, over the following weeks she rallied miraculously and took on a new lease of life.

She saw many changes over the years – different people, different gliders, but she still tended to favour the ones she knew. As her joints stiffened, she accepted more supplementary feeding and the occasional holiday at someone's home; she even accepted some help around the hangar, when her heir Blackie arrived from nowhere and was allowed to stay.

We reckoned she would have been twenty this year, and prepared for a party in May. Sadly, she didn't quite make it. She died on the first day of spring, surrounded by her friends, and was laid to rest under the spot where she used to sit in the sun, guarding the hangar door.

She left an empty hangar, but a proud record of service to the club. She must surely have been one of the longest lived "working" cats – do any other clubs have a contender for the title?

JILL POVALL

SHORT TRIPS ABOUT CONNEL

Tony Shelton, who runs the Argyll and Highland GC on a professional basis, gives a poetic insight into the possibilities of flying in this area

Being about 500 miles north of Watford and five miles west of the Lizard we may be thought of as being remote and far removed from mainstream gliding. But we do offer something different for the enthusiastic pilot.

Our airfield has more of the characteristics of a dedicated aviating business than a gliding club which allows for a flexibility and efficiency not normally found in out of the way places. It also allows us to take advantage of the windows of opportunity that occur as a result of our special local geography.

We experience the effects of the somewhat complex mix of moist oceanic and polar maritime airmasses which, together with a near Alpine topography, combine to create conditions that surprise the experienced pilot versed in the thermals, sea breezes and other atmospheric phenomena found over the flatter lands to the south and east

The standard meteorological themes seem to have infinite variations

Understanding the ongoings when this atmosphere is shaken and stirred by the highest mountains in the country is difficult enough. but also intersecting these mountain ranges are the large, clear cool masses of the mountain and sea lochs and across the Atlantic flows the warmth of the gulf stream A combination of all this is guaranteed to undermine the confidence of the most experienced gliding meterologist as the standard meteorological themes seem to have infinite variations.

On blue days when high pressure puts a firm lid on normal convection, lower trapped stable air flow is constrained by the valley geometry. However, columns of hot air are to be found, chimneying up the 1000ft rock-faced gulleys to blast through the inversion. Larger chunks of local geography stick their hot rocky faces into unstable air above, and if the determined pilot climbs this tortured air column through the stable layer he will discover a whole new world of wind shears, wave convergence and convection in wonderous cacophony

Simple wave systems when associated with large geographic features also develop slightly odd characteristics, as do the sea breeze "back to fronts" where the sea air is warmer than the katabatic descent of air from the local snow covered mountains.

More predictable are the soaring adventures to be had in the pre-warm frontal air as a warm sector tracks up from the south. The preceding low level airmass is usually well stratified and the clouds produced give clear and easily interpreted visual clues. As these airmasses are driven northwards into our local mountains they generate waves and give us what may be loosely described as stimulating, educating and adrenalin-making soaring.

These south-easterly winds blow across the Argyll hills and lochs before crossing the Awe and the Etive into Lorn. The moist layers of air are diverted up and around the Dracula's teeth of Cruachan and Stob Diamh and the lesser mounds of the Benderloch, Ben Lora, Na Maoilean, Ben Duirinnis and Ben Meean.

As the wind freshens and backs, an autotow will loft the glider into the orographic lift of Ben Lora. From there, in the rotor, shear turbulence, convection and weak wave found along the southern shore of Loch Etive one is able to track eastwards up the Etive.

With judicious conservation of height, a continual up-dating of the contingency plan and a vigilant eye for the adversity of rapidly changing Met, it is possible to arrive safely over the cliffs of Bonawe. From here, a short sharp climb leads into the fitfully rising air diverted around the western flank of Ben Cruachan and up the precipice of Ben Meean .

Given the pilot is assured by his altimeter, he steps off tentatively into whatever is happening in the lee space of Ben Cruachan and over the corries that fall sheer into the Glens of Noe, Liever and Kinglass.

The stratified pre-warm frontal air with its layers of varied humidity produces multiple layers of cloud. Given the correct mix and levels of stratification, the pilot will be rewarded with the rare and dramatic sight of the now visible atmosphere flowing around and over ranges of mountains. Orographic clouds will build against the windward slopes of the larger mountains and the river of air will be seen flowing over and between the high splintered peaks, to tumble like some gigantic version of the Victoria Falls into the clear air of the lee corries and glens.

In the clear air behind the leeward faces, and over the wind streaked waters of the mountain lochs, will appear the disarmingly fluffy little rotor clouds. Above, the midstratus layer will be cut by the lower level wave system to a dark grey edge that moves fitfully with the lower rotor clouds as they form and disolve. Further above, the lighter shaded stratus heralds the approaching warm front, casting a deepening gloom over this now visible torrent.

To the west, the evening sun fires huge nickel shafts of light though the soft watery cumulus to reflect silver from the Sound of Mull and the waters around the limestone sliver of Lismore. Island. To the south-west, regular lenticular patterns point with slender charcoal fingers outwards under the deepening gloom, across the Firth of Lorn and towards the totally inhospitable Atlantic. To the east, the overcast deepens to shadow and blurs, the unenthusiastic wave markers promising little.

The pilot will now be busy pretending to enjoy what feels like a boat ride up the Colorado river. The steady clatter of the control stops and the wild swings of ASI and vario needles accompany the shrieking and descending tunes of tormented airflow. The alarms ring as the airbrakes snatch a recovery from a near vertical pitch down followed by the sudden acceleration to off the clock lift and a demonstration of the totally inadequate rate of roll.

The paranoia of rough air limit diminishes as the control smooths to the easily manageable. A quiet but slow climb develops up the front face of the ragged wave marker and over the unbelievable cascading below.

So onwards at speed to the goal of Loch Tulla and The Black Mount. For a while that is.

Time enough for a long easy slide down over the ocean and high speed final glide

As the variometer becomes more reluctant to indicate up, and the wave marker becomes an ill defined blur under the frontal gloom, the veering winds below change the pattern of the atmospheric Niagara, and the pilot wonders."What if?" and "How long?" A glimpse though closing cloud at the terrain around Loch Dochard below answers the "What if?", and tempered experience the "How long?" Perhaps an hour is probably all that remains of the second warm frontal wave system – time enough for a long easy slide down over the ocean, a high speed final glide home and tie down before the rain starts.

The gloom deepens.The damp, narrowing slot of the wave marker threatens closure and prompts the turning from an unachieved goal. Back-tracking Glen Kinglass at a hard won 12000ft, the "elbow" of Loch Etive is sighted through a narrow misty gap in the thickening lower stratus. From here penetrating upwind dives are made to the windward faces of the thin weak lenticulars that point south-west, sliding rapidly across the wind. Overhead is Loch Scamadale and Loch Melfort. Onwards and outwards, over Lunga and the eastern edge of the Atlantic as the first spatters of the inevitable rain diamond the canopy. "Go to your home", is the clear message.



1. ↑

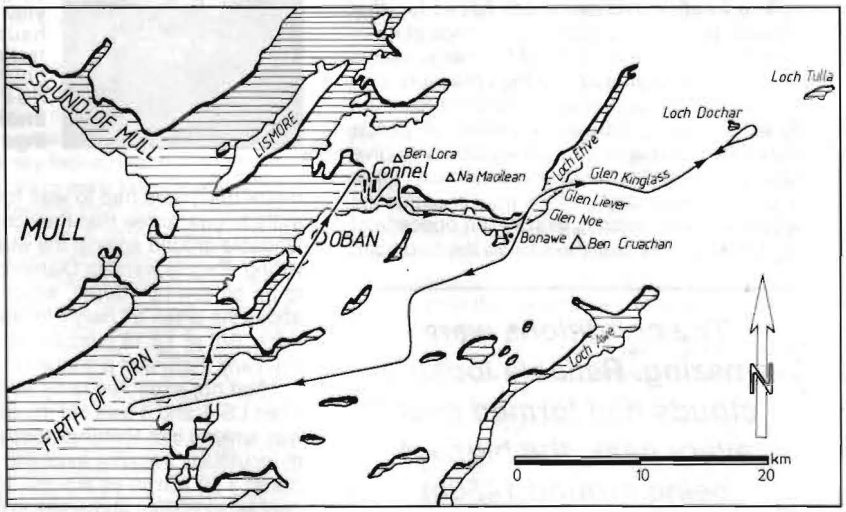
1. A rare cloud free picture of Ben Nevis from 12 000ft. 2. Glen Kinglass looking east towards Black Mount. 3. Eastwards is Loch Etive with Cruachan to the right in cloud. 4. Connel Airfield. Photos by Tony.

2. ↓





3. ↑



The map was drawn by Steve Longland.

4. ↓



THE DAY OF THE DECADE

Brenda Horsfield describes flying a 500km at Fuentemilanos last August on the best of five days of exceptional weather that yielded 18 1000km flights, 20 flights well in excess of 500km and 31 flights of 500km

Saturday, August 3 1991, is laying claim to legendary status for the greatest number of 1000km flights achieved in the history of a site which has been in use every day between May and October during the last ten years. This does not mean that some other "day of days" would not have produced similar results if enough high performance machines and experienced pilots had been gathered together, but Fuentemilanos is not a competition site and it has not happened. As I was lucky enough to be flying on this very special occasion I shall try to report on the conditions that gave so many people the flight of a lifetime.

In Spain the last week of July and the first week of August are the height of the high season. The crops have been harvested so there are large flat fields for landing in the plains; the days are long enough for flying to continue until 9pm, even if the thermals do not start until lunchtime, and in recent years the weather then has been less disturbed by thunderstorms than in the earlier, hotter weeks of July.

The weather that everybody hopes for, that induces pilots to trail gliders thousands of miles from their clubs in Britain and Germany, seems to come at the tail-end of a high pressure system before the arrival of a cold front from the Atlantic. This produces a period of gentle northerly winds and enough instability to give strong thermals and raise the cloudbase higher and higher each day until the front changes the whole airmass which is exactly the opposite of the UK where the best days follow the cold front.

The conditions were amazing. Reliable looking clouds had formed over every peak, the highest being around 1450m

August 1 to 5 was a run of just this kind of weather. On Thursday, the 1st, there was a lowish cloudbase and enough wind to drive the convergence line of clouds from the mountain thermals so far south that they were effectively out of reach of anyone without huge wings or an engine. But there were four 1000kms including one, undeclared, by Wilfried Grosskinsky (ASW-22BE). He did another, declared, on the 2nd, a day with strongish west winds that started late and ended early.

On Saturday, the 3rd, the Met man Johannes Fischer announced at 9.30 that it was a "supertag" and anyone who wanted any kind of badge flight had better get going. Although it would be a more or less blue day there would be thermals everywhere, rising in the mountains to 2900 metres (above site) and the north-west wind would not be too strong. The overnight ground inversion was shallow and would burn off by midmorning so there would be an early start and, with no fear of over-development, a late finish.

From just before 11am the big ships, full of water, were being towed out downhill and downwind for remote starts in the mountains. The 15 metre machines had to wait for stronger thermals to guarantee that they could get back to landable ground against the wind if things went wrong. People wanting Diamond distances had to be off tow by 1000m, which was not much above the break-off height for leaving the mountains. But at 12.15 cumulus blossomed in the plain and there was a queue for aerotows.



Brenda learned to glide and power fly at Redhill. She is a member of the Surrey & Hants GC and, for the last five years, at Oerlinghausen, concentrating on cross-country flying at Fuentemilanos under the eye of Ingo Renner.

I had not expected to fly as I was sharing a hired LS-4 and it was not my day. But just as I was sinking into terminal despair a "free" LS-4 miraculously became available. I hurriedly declared a 500km yo-yo triangle, took off at 12.45, climbed to 2000m above site in my release thermal and headed for the mountains and my first TP to the SE. The conditions were amazing. Reliable looking clouds had formed over every peak, the highest of which are around 1450m above the 1001m asl field altitude. In lightish wind the thermals were undistorted and gave a solid 3m up all the way round every circle.

I had expected to use a best operating height band around 1700m, as the last few hundred metres below cloud would be a waste of time. But as I got higher my first thermal took on a new lease of life, first to 5m and then off the clock. I tightened the straps, hauled back the stick to control the speed and after only half-a-dozen turns standing on a wingtip had to put the nose down sharply to avoid being sucked into cloud at 2800m. I stayed up under the clouds and lost almost no height in a fast 50km run along the front of the range until I crossed the cloudless Pass of Somosierra with the main road from Madrid to Santander – a treacherous thermal desert that in north winds causes many cross-countries to end abruptly at Santo Tomé airfield.

I picked up 600m from the high peak across the pass and set off along a spur to my TP behind the main range. I had chosen it carefully to compensate for the northerly forecast wind but I had never seen it because it was normally out of range of 15m machines. I had marked my map, looked at photographs and drawn a sketch and when I reached the spot there it wasn't!

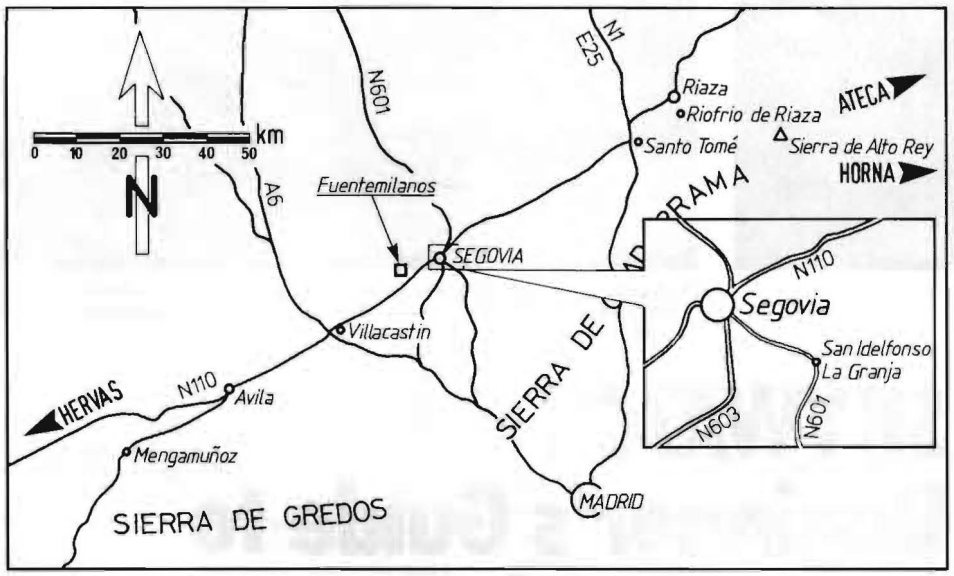
I was looking for the "unmissable" TV antennae on top of a peak called the Sierra de Alto Rey, framed in a distinctive pattern of reservoirs. After searching round over ghastly terrain for 45min I used the radio to see if anyone else was near the place. A Spanish airline captain answered to say that thanks to EC money all the reservoirs were now different and the maps were out of date. I had flown over the "peak" without recognising it because in fact it was a mere hillock of 700m.

Guessing wildly at the sector angle I took one picture before being chased out of position and into serious sink by the only glider I had seen all day. I should have gone back for another photograph but I badly needed a thermal; the sharp rocks below were getting uncomfortably close and the nearest flat ground was 35km away. I fled north-west, into wind, to the comparative safety of the front range.

I thought about that photograph for the rest of the flight and about the folly of picking unknown TPs. Because the day was better than forecast and the wind less strong I could have reached one I knew well without going so far south. Now I was an hour behind people who had not tried to be so clever and I would have to work hard to catch up. The new danger was over-development of all this unexpected cloud and an early end to the day, with or without thunderstorms.

My next TP was now about 150km away and I covered about 70km of it as fast as possible on the ridge, climbing under clouds over peaks and ignoring everything else. Near Segovia I took a legal climb to cloudbase, now at 3200m, then left the mountains and struck out towards Avila, taking the short cut across the broad valley rather than follow the range as it swept away to the south. In the plain the clouds were lower and the thermals only half as good but people were already talking on the radio about the deteriorating conditions as I cloud-hopped my way to Mengamuñoz, a tiny village below a sharp zigzag of road leading up to the high sierra behind the valley's southern rim. To my delight the featureless grey clouds above the village marked a huge area of strong lift and allowed me to retrace my track across the plain where the clouds now seemed to be dying.

I crossed the bad ground to Villacastin and



Map of the area drawn by Steve Longland.

climbed up again in a good thermal. After that there was nothing ahead but a big blue gap 15km wide where once again the northerly wind was killing the lift as it funnelled into a pass – the Pass of Gaudarrama and the A6 motorway. What was worse the mountains I needed to reach beyond it were now in deep cloud shadow and if I reached them low I knew I would be in trouble. I slowed down to best gliding speed (about 110km/h) and with the help of the wind managed to reach a patch of sunlit ground at San Ildefonso village on the wooded slopes leading up to La Granja, an old summer palace of the Spanish kings.

It never produced good thermals and I scratched round in between ½ and 1½m up for nearly 20min before the wings bit into real rising air and I could claw my way back on to the mountain. I had started at 1100m, a perfectly acceptable cross-country height in Hampshire but a don't-turn-your-back-on-the-airfield height at San Ildefonso.

As I climbed my heart slowed down and I got brave enough to set off for my last TP 45km away. I could not see it but I could see the curve in the mountains where it lay. It was now 6.30 and although the sky looked black and overcast and discouraging there were still unmarked thermals powering upwards from the cooling peaks and the foothills below. A convenient patch of strong lift directly behind the tiny hamlet of Rio Frio de Riaza let me take my last pictures without losing any height, so I flew off the range and out into the valley where someone said they were "climbing well at 2500m". I could not resist one last cloudbase climb to 3600 in strong, quiet lift before pointing towards home with 77km to go.

It was a beautiful evening and I was flying westwards into golden light. The whole ancient range was spread out below on my left in shades of mauve and grey with a string of reservoirs glittering in the valleys. But although there was time and energy available for much more distance I did not want to take any chances – I had done 500km before and fouled up the photographs. I dolphined gently downhill under flat high clouds, arriving back at Segovia with a ridiculous 2000m to burn off before landing at 8.11pm – not a record breaking performance for the best day I had ever seen.

Throughout the rest of the evening news trickled in of the number of extraordinary flights that had been achieved and the observers worked flat out on declarations and barographs. The distances were reported the following morning at briefing but it was only when everything was sorted out and added up that the computer revealed the true magnificence of our day. There were nine 1000km flights, mainly by Open Class ships but including a Ventus and two LS-6s. There were six declared 500km flights in "school" LS-4s and an Astir and eight more in private machines of various kinds. There were also 13 flights in privately owned gliders of more than 500km but less than 1000km, including Julian West's third FAI triangle in three days, (this one 809km at 100km/h) in his Nimbus 3.

Four pilots landed out. One was an unlucky Ventus that did 970km before falling into the dreaded Santo Tomé at 9.30pm. Another was Vernon Spencer in his Nimbus 2c. He took off at 11.11am and declared a 1000km triangle that was a giant version of my own – Ateca, Hervas and Horna. All went well until about 5.30 when the whole sky SE of the range became badly over-developed. If you were high the clouds would keep you up but if you got low nothing worked. After throwing out the water at the Horna TP and struggling for hours he landed at 9.22. By the time he phoned for a retrieve there was too much celebration for anyone to be fit to go and get him, and he did not get back until the following evening. Nothing daunted he set off again the next day and did 1050km on a different triangle just before the weather collapsed. By then I was back in London still wondering about that dodgy photograph at Sierra de Alto Rey.



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(A) First signs of spreadout.



(B) Large cu reaching up to a layer of high stratocu. The wind was from right to left, the cu growing on the right and decaying to a tall on the left.

SKYWATCH – A Beginner's Guide to Some Clouds

Part 3

TOM BRADBURY

The first two articles were concerned chiefly with describing thermals and suggesting where to find the best lift. This describes unhelpful clouds and some areas to avoid if you want to keep clear of strong sink

One of the commonest kinds of development is the spreading out of cumulus to form an almost total layer of stratocu. It frequently happens on days which would otherwise provide magnificent soaring conditions. Fig 1 shows three stages in the spreadout process: A illustrates an unstable airmass with relatively dry air aloft and no inversion. Here the cumulus tops are very irregular, some high, some low. Each tower displaces some of the dry air aloft and brings it down amongst the cumuli. This reduces the humidity in the cumulus layer and as a result clouds tend to evaporate more readily once the thermals inside have ended. In these conditions clouds remain well broken, a fair amount of sun reaches the ground and thermals are evenly distributed.

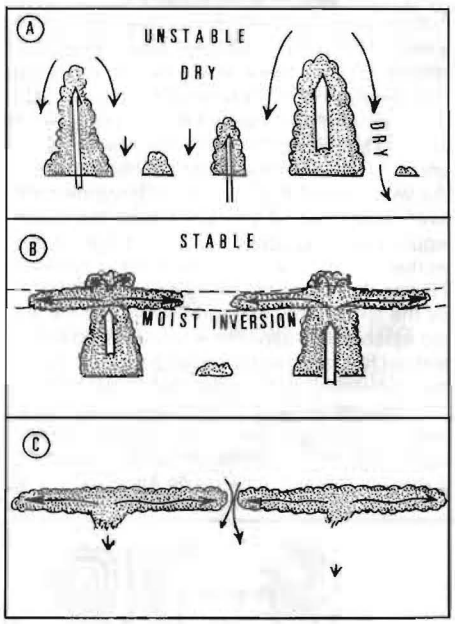


Fig 1

Below: (C) Under 7/8 spreadout when thermals were still active.

B shows what happens when the cloud tops are limited by a moist inversion. The inversion checks the growth of the cumuli so that all the cloud tops are much the same level. The upcurrents are diverted sideways when they reach the inversion and the moisture they bring up from below is spread out horizontally. If the air in and above the inversion layer is very dry the cloud usually evaporates before forming a complete layer.

When strong thermals bump into the inversion they produce turbulence which draws dry air down from aloft. This reduces the humidity under the inversion and may prevent the spreadout from becoming total. Over the oceans

Below: (D) and (E) are successive views of collapse at the left hand end of a cloud bank.







(E)



(F) Short tail on the left end of a cloud.

weaker but more prolonged convection gradually brings up so much moisture to the inversion layer that eventually the flattened cumuli join up to form a huge area of stratocu. This kind of cloud layer is very common over the sea and coasts on the eastern side of large anticyclones.

C shows how the spreading layer of stratocu cuts off further heating so that the thermals die out overland. The stratocu often forms large cells of 50-100km diameter. Narrow cracks separate the cells. A line of sink can come down through long lived cracks.

How old fronts cause spreadout

Active fronts have a great depth of cloud; when the front weakens and dies it is usually because some major system has made the air subside over a large area. For example the development of a ridge or new anticyclone usually weakens a front so much that nothing is left except a band of very moist air tucked underneath the subsidence inversion. The analysts at major Met centres usually drop such fronts from their charts so you will not find them on the TV or press weather maps.

Sometimes you can guess where they should be by mentally extending the fronts which are shown. These dead fronts are a menace to good soaring. The invisible moisture is just what is needed to encourage the growth of a stratocu layer a few hours after the first cu have formed.

Cycling

Over the sea one sees little sign of a cyclic change in these stratocu layers but overland the cloud layer often breaks up when there are no more thermals to maintain a supply of moisture. Then the sun comes through again, more thermals develop, and the new gaps are quickly filled in. The length of these cycles seems unpredictable; it may be only an hour but too often the spreadout lasts till sunset.

Photo A shows the earliest stage of spreadout. An inversion had just begun to develop above a moderately deep convective layer. This restricted the height of the cu which began to spread laterally rather than grow taller. In photo B a decaying front had left a layer of high stratocu which was being maintained by cumuli which grew up into it. In this photo the wind was blowing from right to left; new cells had been forming on the upwind side and decaying on the downwind (left) side. The long tail of cloud on the left marks the decaying side.

Photo C shows the underside of a ⅞ spreadout while it was still active. The small step and tendrils in the middle distance show where the next thermal was feeding the layer.

When stratocu become self supporting

A layer of stratocu formed by cumulus spreadout does not always break up when there are no longer thermals underneath. If the layer becomes thick enough a new process takes over which can keep the layer intact for several days.

All objects radiate heat; at night the ground cools by radiating heat away into space. Clouds radiate heat too; the base radiates heat back to the ground (which is why the ground does not cool so much on a cloudy night). The tops of cloud radiate heat away into space and become cooler in the process. The cloud top cools more by night than by day but even on a summer afternoon the top loses heat.

Cooling the cloud top has two results: first it makes the inversion stronger and second it makes the cloud slightly unstable. This is because the temperature hardly alters at cloudbase but the cloud top becomes steadily cooler. The process is illustrated in Fig 2.

A is the early stage before a complete cloud cover had developed. The curve on the left represents the temperature with a gentle inversion at cloud top. The shaded bit shows where the cloud fits in.

B shows almost total cover of stratocu with the top radiating heat away to space. The cloudbase also radiates heat but this downward radiation is more or less balanced by upward radiation from the ground. Cloud top cooling has made the inversion sharper.

C shows the final stage when the layer of stratocu has become unstable. The new instability is very slight but it does produce a gentle stirring through the whole cloud layer. This keeps

Below: (G) Sloping cloud tail.



Below: (H) Collapsing cloud. All the photos were taken by Tom. ➡



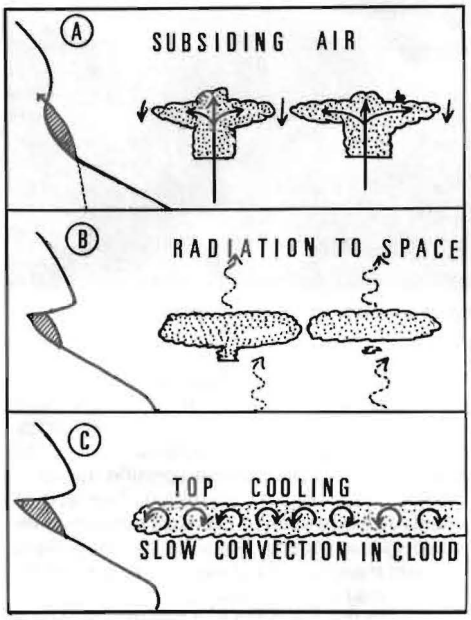


Fig 2

taking moist air up to the inversion to maintain the cloud cover. Most stratocu layers have a billowy top showing the result of this convective stirring. This internal convection maintains the cloud layer without any help from thermals rising from the surface. Flight above such a layer is usually very smooth but it becomes slightly turbulent if you let down into it.

Early morning signs of spreadout

Many potentially good soaring days start with cloudless skies and very good visibility. The signs of spreadout are:

1. Unusually early appearance of the first cumulus clouds. This shows that very little heat is needed to set off thermals.
2. The cu tops go shooting up quickly instead of growing gradually. This shows the air is particularly unstable, at least in the lower layers.
3. The rising cu form narrow towers, the tops are well rounded but the bases do not stay flat for long. This suggests that although there is lots of energy available it is badly distributed. On good days the cu grow less rapidly and have broader longer lasting bases.
4. Little lenticular caps (pileus clouds) appear over the cu tops and are soon absorbed into the rising towers. Pileus are produced by air pushed up ahead of a rising thermal. They may even show up above a blue thermal. They are a good indication of very moist air aloft, air which needs little lifting to reach its condensation level.
5. If the clear visibility allows you to see developments over hilly regions watch how things go over the mountains. Spreadout often develops first over mountains. The layer of clag extends over the plains a few hours later.

Coping with spreadout

I have never been successful on a spreadout day; it is my usual excuse for landing out. However, the better pilots keep going for astonishing distances but they often make large diversions from the direct track. If the cloud cover is not total one can:

1. Try the sunny edge. There is often good lift under the boundary clouds where the slanting rays of sun warm the ground under the edge of the sheet.
2. While following this edge divert to any little puffs just off the main sheet. Surprising good lift occurs under rather scruffy bits of cloud within a mile of the main edge.
3. If the route goes anywhere near a coastline or estuary try diverting nearer the sea. Approaching the coast is rather like going back in time; one finds conditions as they were earlier in the day before the spreadout developed.
4. Take any opportunity for a cloud climb. Strong thermals take cu tops well through the inversion and you may come out into dazzling blue skies several hundred feet above the cloud layer. This doesn't last long of course but such a climb can add many minutes to the glide.
5. When down below the cloud sheet look out for any darker patches, especially if there are cloud fragments below the main base. In the very unstable air below spreadout one may encounter unsuspected thermals. These are easier to work higher up so it pays to take any lift available while still fairly high.

Staying out of sink

Avoiding sink is almost as important as finding good lift. If on a particular day most clouds give their best lift on the upwind and/or sunny side, then it is worth making a diversion to avoid the opposite end. Some pundits make a habit of curving round the dud bits when approaching a good looking cloud. Thus they get round Murphy's law which says that the direct track to the next lift shall always pass through sink.

Here are some items to look for:

1. Look at the cloudbase, especially at the downwind end of a cloud. Photos D and E were taken about one minute apart. They show rapid decay at the left hand (downwind) end of a bank of cumulus. See how the cloudbase has become ragged with straggly bits hanging down. That section of cloud changed from looking good to total dispersal in less than five minutes.
2. If you see tendrils hanging down compare their level with the general cloudbase. Tendrils which go well down below the main base are usually good signs. Bad signs are tendrils which start far above the main base. These are just the remnants of a dying cu. See Fig 3. A shows tendrils below the main base; these are usually a good sign of lift. Sea breeze fronts and other convergence lines often look like this. B shows tendrils formed from a decaying cloud; they are mostly above the main cloudbase and almost invariably indicate sink.

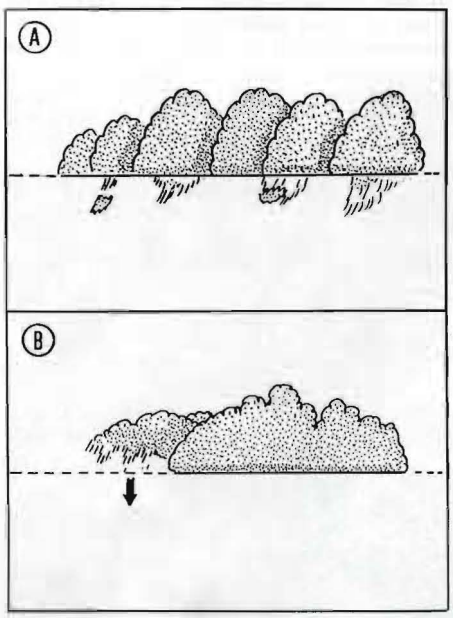


Fig 3

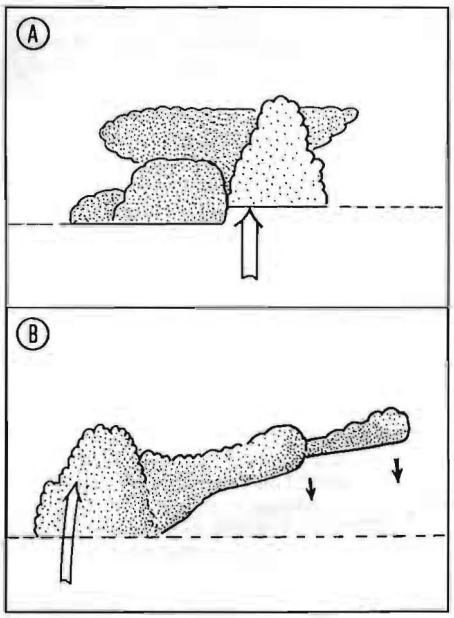


Fig 4

Fig 4 shows two kind of cloud step. A is the kind which has its best lift close to the step and under the higher base. Steps like this are caused by the conjunction of moister and drier patches of air. Dry air gives a higher cloudbase and better lift.

In B the steps have been caused by the top of the cloud being blown sideways by stronger winds aloft. When this happens the displaced top loses its lift and one must go to the main base to find the active thermals. This sounds confusing but one can usually spot the difference between a step due to drier air and a step caused by the cloud top being blown sideways.

Clouds with tails

Horizontal tails to a cumulus cloud often show which end is subsiding. Photo B is one example of a cloud tail marking the declining side of a large cumulus. Fig 5(A) is a diagram of this cloud showing where a succession of cells were building the right hand side but descent of air was suppressing the left side. Fig 5(B) is a sketch of photo F. Here there is a much shorter tail on the left where the cloud is dying. In the middle and towards the right there is a nice flat base with little tendrils suggesting lift.

Sloping (not horizontal) cloud tails can be an indication of cloud formed in rather strong winds

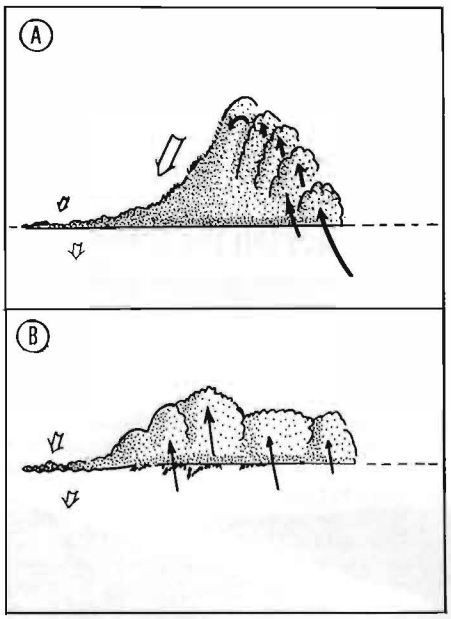


Fig 5

when a narrow thermal is torn away from the surface before it is big enough to produce a decent sized cumulus. This is illustrated in photo G which shows ragged cu marking the top of a thermal pulled off the ground before it was big enough to produce a good sized cloud.

Photo H shows what happened when a turret of cumulus shot up too fast and started to evaporate and fall back. See how the originally level cloudbase has been totally destroyed leaving only straggly bits. This photo was taken when the decay was almost complete but four minutes earlier the cloud had looked active and might have deceived many pilots.

Blue holes

It is apt to be disconcerting when one discovers that all the clouds in front have vanished leaving a great blue hole. There may be several reasons for such a gap:

1. The area ahead may be low lying and too damp for thermals. Broader parts of the Severn or Thames valleys and the notorious Somerset Levels are examples of such dead areas. They are particularly bad after a wet spell.
2. Sea air may have moved in from the coast.
3. There may be a boundary between the moist cumulus filled air and much drier air which has a condensation level too high for cu. In this case it should still be soarable in the blue.
4. The inversion may have come down below the condensation level. There will probably be thermals in the blue but the lift will be weaker since the depth of convection is less. If the tops of cumuli have been getting steadily lower it probably means the inversion has been coming down.
5. The area may have been under fog in the early morning and the temperature has been slow to rise. It is risky to head out into such an area. Thermals form much later in areas which have been under fog at dawn.
6. There may be a local area of unusually strong subsidence aloft inhibiting thermals. This is rather uncommon and is described in the next paragraph.

Localised subsidence

Subsidence, the slow descent of air from aloft, is common when anticyclones and ridges are developing. The process is important because it produces a stable layer or inversion a few thousand feet above the surface. It is usually assumed that anticyclonic subsidence is seldom more than 3000ft/day. I believe subsidence can behave like sink between clouds. Sink is usually very gentle when averaged over a wide area but one may encounter small regions of much stronger sink. In the same way anticyclonic subsidence is normally far too gradual to be noticed by an aircraft but there may be places where it is concentrated into a smaller area and then the sink is much more powerful.

"Double Eagle", the first helium filled balloon to cross the Atlantic, encountered something of this sort when still west of Ireland. The crew saw a large circular hole in the solid stratocu sheet below. When the balloon (which had been above 20000ft) passed over this blue hole it began a descent which could not be checked till it was down to 4000ft. They lost 15000ft in under an hour despite dropping ballast.

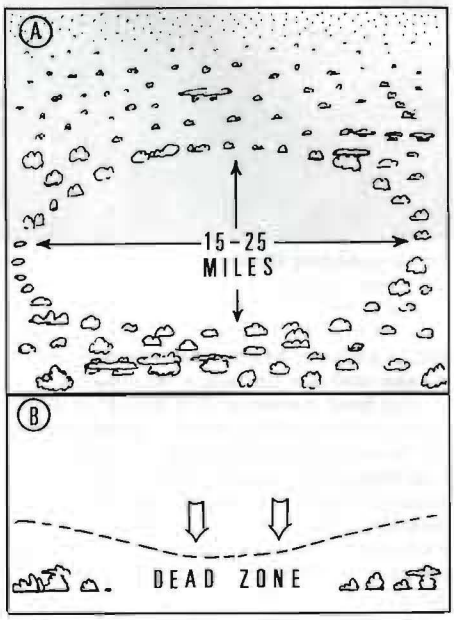


Fig 6

A similar kind of subsidence may occur overland too producing a blue hole in the field of cumulus. Fig 6A is a sketch from high up looking down on such a blue hole. 6B shows a cross-section. If you arrive at the edge of a big blue hole ringed with cumuli think twice before pressing on into the gap. Flying round the perimeter under lots of active clouds is quicker than heading out into the dead bit where you may become stuck low down in very weak lift.

Since one rarely knows just what has produced a blue hole it frequently pays to divert round it if at all possible. I have known a pundit detour round three sides of a square rather than head out to an almost certain field landing in the blue.

Closing thoughts

Drawing lines on maps is a most valuable aid to navigation but one should not feel bound to fly rigidly along these lines. I suspect that one reason for the failure of early cross-country flights is that the pilot felt impelled to stick to the direct line. It is much more important to follow lines of energy and divert to the good looking clouds and avoid the decaying bits. Try to stay high and take any strong lift you fly through even if you do not need a climb just then.

Look at the cloudbase rather than the top as you approach it. The nicely domed top of a cumulus may be offset from the place the next thermal enters the cloudbase. The lift you hope to find may not yet have produced its own dome. If you are already high look at the shadows on the ground. If the cloud shadow looks full of holes you are more likely to find sink than lift underneath it.

Pundits who hurtle round triangles at speeds in excess of 100km/h know when they can safely ignore these kindergarten rules. They can nearly always retrieve an error by scraping up again from a low point. Speed is a secondary consideration on early cross-countries and for these it pays to fly a winding track following the energy and staying high as long as possible.

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BETTER LATE THAN NEVER

Ann Edwards was a gliding club child, enjoying the freedom and friendships of the airfield, but never in danger of being hooked . . . that is until some years later

I grew up round gliding, as both my parents are glider pilots, and early on concluded that one had to have the bug to fly, and that I did not have it. I gave up learning to glide at the age of 15, after a few training flights, while my brother went on to solo on his 16th birthday (sent by our instructor mother). However, I always enjoyed the gliding world, and would sometimes crew for my parents, and have the occasional flight.

Fifteen years later I decided to find out whether I could learn to glide. I booked a course, expecting to have an interesting week, at the end of which I would conclude it was not for me.

So what got hold of me? I wish I knew. All I know is that on my second flight of a strangely deserted midsummer course at Sutton Bank I began enjoying the flying. Partly it was the realisation that the beautiful K-21 would fly herself in the still morning air. Years ago I had given up after a flight when I felt too much was demanded of me, had become tense and anxious and then felt airsick for the first time. During the course week I did feel queasy on one soaring flight, but managed to control it by relaxing and remembering to breathe. It was a marvellous week, my enthusiasm being shared by the only other course member.

I went straight from Sutton Bank to the Long Mynd and joined the Midland GC, having recently moved to Shropshire. Two years later it seems I have the bug after all, spending most of my spare time and money on gliding.

First there was the aim of going solo, to prove to myself that I could do it. This took almost a year and 99 launches. It took a long time to build up my confidence and believe that I could do this amazing thing.

Eventually I was sent off alone in the K-13 on a hazy Sunday evening in May, after most members had gone home. Nobody remembered to mention that I would get a higher launch on my own, so I was surprised by having to use up a 1000ft before starting the circuit. It took a dreadfully long time. On the second flight I had time to enjoy the view before getting nervous again. I am glad I did the third flight, as I think I may have given up otherwise. The elation came later that evening.

Now that I had gone solo I found that the goal posts had moved. I knew that I was at the beginning of learning, of wanting to fly well, to dance in the air alone. The Mynd is a beautiful place to fly, to be. I carried on, managing to fly solo every fortnight or so. Each flight felt a huge achievement, as I still did not really believe I could do it. Sometimes it felt right.

The day I was cleared to fly the K-8 for the first time I refused to go. It was late, I was tired and not in the mood. It was another month before I flew the K-8, after several flights with a patient instructor. He would have sent me after one flight, but I asked for another during which I made a mess of things so had to have two more. By the time I did fly that afternoon I was happy and knew I could do it.

The Mynd training system meant I was still on daily check flights, which I would sometimes fail. Gradually I learnt that if I expected to fail, then I would, so I began trying to change my attitude. Also I realised that I was the only one demanding perfection, and giving myself a bad time for inaccurate flying. If I fretted about that poor turn, my attention was distracted from the next moment of flying. I reflected on this over the winter, when I carried on flying but was usually "staged out" by the weather conditions, so could only fly dual. How come I was still only stage two after soloing in May? Still, I had known it would take me a long time to learn, and I received a lot of encouragement. I decided to be more pragmatic and positive. After all, I now had 23 solos to my name.



Ann at the Long Mynd.

Last year was glorious for me, as I was not working during the summer and able to fly frequently. Moving from the frustations of stage two to stage three in March made all the difference, giving me more opportunity to fly solo. I was now able to enjoy the first day I flew solo without flying dual first. This included dealing with two circuit changes.

I started monopolising the K-8s, having worked out that I would stay in one until forcibly removed. The circuits began clocking up. Then I began staying up, the first time as I was starting my fourth circuit and we stepped into a huge thermal. I could not get down from that flight and eventually had to use the airbrakes with determination. Other firsts followed.

My first solo wave flight was on a cloudless, golden evening with all the Welsh mountains clearly visible. My special delight was being alone, climbing gently towards the Stiperstones while the other gliders and hang gliders were ridge bound below me. I had only gone that way to avoid the huge gaggle, not feeling able to mix with them, and was about to head for home when I realised I was in reduced sink, similar in pattern to the narrow band further south, which had kept me airborne for half-an-hour until somebody else tried to join me. Why did I come down, while in cloudless wave with a working barograph? I wondered about Silver height. But I was cold and tired after an earlier failed 5hr attempt.

My first strong thermals tried to throw me out. I was happy to see that my automatic reaction was to bank the K-8 back in and keep her there. Then came the first longings to break the cord attaching me to the airfield, pointing away one day and knowing that I could do it. Soon after that I went – my first cross-country and field landing south of Ludlow (at least it was one thermal away).

I was interested at how rapidly the overconvected area I had flown into cleared - it was sunny with lovely clouds again by the time I climbed out of the glider. So if I had hung around in that last bit of lift instead of pressing on . . . I had not understood the helpful hint over the radio from a friendly K-21. I looked at the glider in the field on a now perfectly soarable afternoon and did not mind a bit. After all the retrieves I have been on I was about to cause one to fetch me.

SAFETY IN POWERED SAILPLANES

Ian Strachan has written this to complement Terry Holloway's article on turbo operations in the last issue, p74, and spells out his vital actions for field landings and engine starts

Terry Holloway's article is a timely reminder that adding what our sailing friends would call an outboard motor may save you from a field landing miles from base, but gives you a set of trickier decisions compared to a non-motorised glider, which you would have to land in that field. I agree with Terry that if you intend to use the motor to rescue you from a field landing you should not scratch down to low level. I would go further and suggest that if you look like falling out of the sky you should alter course to stay over larger rather than smaller fields (airfields, landing strips and club sites are even better), because if you really do have to give up, you have to concentrate on two things at once, both starting the motor *and* maintaining a safe field landing pattern.

For starting the engine I always carry a check list in the cockpit (even more important with self-launchers). Not that you should slavishly use the list when starting to the detriment of flying the glider, but at least you can refresh your memory before the critical moment if you wish; there is, of course, no substitute for memorising the actions. I divide the checks into two parts.

If the engine does not start, a sensible circuit to the field must be continued as a first priority

Part 1 is the "May have to land but I'm still trying to get away" bit. Here I carry out all of the pre-start checks it is possible to do before the stage that drag has to be added. These checks will include confirming that master switches and circuit breakers are on, fuel on, prime and, in the later turbos, ignition on (in earlier ones, ignition unfortunately inhibited pylon erection). If you have a machine where the fuel syphons with the pylon down, you may then have to turn the fuel off again unless you are going to start pretty soon, but at least you will have primed.

With a good long field selected and a position on the downwind leg higher than normal (or higher than this – you may have pushed under 8/8 and it may be clear that it hasn't worked; you can then start straight away if you can't reach lift), you take the decision to start and launch into the second set of checks. These start with lowering the gear to avoid a panic later if you have trouble starting. In Schempp's turbo, a flick of the "erect" switch then starts the engine sequence, and as the engine is coming up you lower the nose to maintain speed and continue to concentrate on the field. I normally say to myself at this stage "Ignition, Fuel" and double check that they are really on.

When the green "pylon up" light comes on (a bleeper would be better) you pull the decompressor handle, increase speed to 70kt, release the handle and you should hear a healthy roar from behind you. You slowly climb away, raise the gear, keeping your field (or at least a field) within landing range at all times. *You should be soaring again in 5-10min instead of sitting on the ground.*

If the engine does not start or, even worse, runs roughly, a sensible circuit to the field must be continued *as a first priority* while you do brief checks for cock-ups such as ignition or fuel. If in any doubt, you must go for the field and not keep fiddling with the engine; your life may depend on it. I never try and retract the engine unless I am very high (say above 1500ft), and this is even more important with single-seater self-launchers such as the PIK 20E and DG-400 since you have to fiddle to get the prop vertical. It follows that you must have practised this regularly; the first time you land with the engine out and dead should not be in a field!

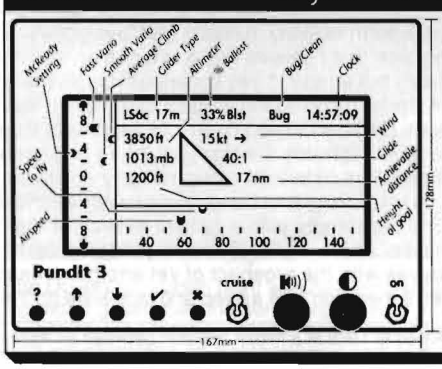
Practise, practise, practise, both normal starts *and* circuits and landings with the engine out, having simulated a start failure. Safety starts with keeping a close monitor on engine matters. Find out why your partner had difficulty in starting; was it a failure to switch something on, or should the plugs be replaced? Pay attention at the DI. People have taken off with fuel vents taped up or, in one case, with the propeller blades taped together after a long trailer journey! I always like a lot of fuel in the tank; no sense in worrying if you have enough (remember the adage about old pilots or bold pilots). Also, with turbos, before setting off from base, if you can run the engine for a short time (I use 1min) it sharpens up your checks, primes the fuel lines and validates the system.

Unfortunately, flight manual information often does not help, since it seems to be designed around tests at height in smooth air. Typically the manual tells you to erect the engine and only then turn on the fuel and ignition and then prime. What a waste of valuable time and height in a high-drag configuration! Often flight manual approach speeds are too low for turbulent conditions at low level, particularly if your machine has an ASI pressure error in the wrong sense. When did you last stall your machine with the engine out? Does it drop a wing, and is the stall masked by turbulence from a dead motor? You ought to know. And a few knots more (within reason) before you release the decompressor will give you a better chance of starting a turbo; remember that kinetic energy is a speed squared function so the difference between 60 and 70kt gives you 36% more windmill starting energy.

Of course Terry is right to encourage manufacturers to introduce single-action starting; I have been pushing this for years for self-launchers but industry seems to be pretty obtuse. To be fair, it's not as straightforward as it sounds but a special "auto-start" switch should be possible in addition to the normal system. Maybe the certification agencies (LBA, FAA, CAA, and bodies such as OSTIV and the BGA Safety Panel) should take a hand. Perhaps pilots and syndicates ordering such machines should insist, too.

Purists like JJ may not approve of all this (see the last issue, p69), but those fortunate enough to have a powered sailplane will be able to *extend their soaring compared to what they would have achieved before.* And I always thought that soaring was the prime aim of our sport. Perhaps I'm a purist after all!

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TAIL FEATHERS

A Classical Classic – Thoughts Arising

In the arts, what we call classicism (*eg* Mozart's formal, controlled, impeccable taste) gave way to romanticism (*eg* Tchaikovsky's unrestrained imagination and self-expression). In cross-country gliding it has been the other way round: the glory of the undeclared, improvised, downwind dash, often along a rugged coastline to an unknown destination, has given way to the highly organised – detractors would say regimented – closed circuit. I chose a 1957 piece by Tony Deane-Drummond (See *S&G Classic* in this issue) because, in describing not one but four new closed circuit records in a short period, it was a bugle call announcing the beginning of a new era.

The 18 metre Skylark 3 had only been around for little over a year, its predecessor the 15 metre Skylark 2 a little longer. Their laminar flow wings represented a great leap forward from the 1930s Olympia and Weihe and their British post war derivatives, the Gull 4 and the Sky. Immense cruising speeds like 60kt were now possible – though at that speed the glide angle was less than half what modern gliders achieve.

DD's speeds and distances should be seen in the context of a handicap rating of 84 for the Skylark 3 compared with 94 for the K-23, in which Dunstable pilots nowadays do their first solo. (The Olympia is rated 70, Weihe and Sky 76.)

By the way, DD was himself instrumental in creating the basis of the present handicapping system, about which there is currently some controversy in this magazine – as there always will be. I wrote a limerick for *S&G* that would be regarded today as unacceptably sexist:

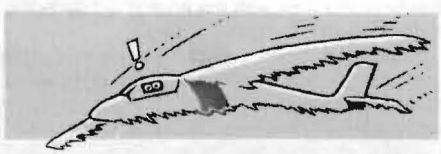


I wrote a limerick.

A wily old buzzard called DD
has balanced the slow and the speedy
I say do it for girls
and give diamonds and pearls
to the plain and the fat and the weedy

Nevertheless, gliders were no longer balloons. A farsighted article in the London Gliding Club Gazette by Frank Foster[1], who took the 100km triangular speed record to 37mph shortly after DD's record, flying from Dunstable in his Skylark 2, exhorted his fellow-members to learn to fly into wind. But they would have to give up that ingrained habit of hanging on to lift until it turned into sink, and learn to fight. As DD's article exhorts, you must always look for better lift. The members shuddered with horror at the hard work and the risk of landing out entailed by such bold tactics, and continued to draw lines from Houghton Regis cement works to Plymouth, the exact requirement for a Diamond goal, while waiting for the Scandinavians to bend the isobars our way.

Nearly all the great romantic howldunits of the 1950s involved massive climbs in cu-nims. By contrast only one of DD's four record flights depended on cloud flying, this on a very still day. Flying in cloud was enormously popular in the 1950s and 1960s. One felt that people treated the choice of artificial horizon as much more important than getting the right vario. Rates of climb in cloud were better, and you got seven-league boots to cross big gaps – provided you didn't ice up. However cloud flying is another romantic activity, best suited to downwind flights in unrestricted airspace. It's much less use when you are butting into wind, since as we all know wind increases with height; and it's a nuisance when you need to make precision approaches to turning points.



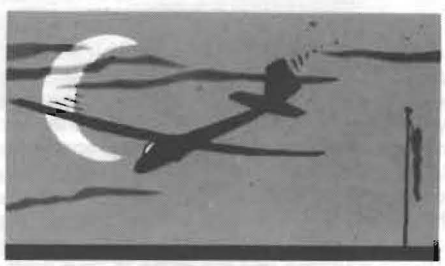
Provided you didn't ice up.

Deaf to the clarion

One might have expected competitions and badge flying from 1957 onwards to have been utterly transformed by Tony Deane-Drummond's achievements. Not a bit of it. Amongst 99% of the fraternity the bugle call fell on cloth ears. Everyone still wanted to balloon to Cornwall in a brisk north-easterly. (I nearly said "everyone and his wife" but I believe that it was the wives who finally put an end to free distance flying as a way of life, by rationing the amount of retrieving they were prepared to do.) Even four years later little progress towards the classical future had been made. The notorious though hugely enjoyable 1961 Nationals sent bleary pilots towards Land's End repeatedly with a helpful breeze at their backs, and exhausted crews consoled themselves with the prospect of yet another cream tea if they didn't fall asleep and jack-knife on the way. Finding Land's End was easy: the most important navigational skill involved in was knowing the precise location of all-night garages between Dartmoor and Stonehenge during the long drive back. British task-setters were the world's most sophisticated (they had to be) so why did they allow it?

Well, lots of reasons, really. First, many pilots entering the Nationals in those days had never achieved 300kms. One important function of a championships in those days was to help people get their badges, and there was no doubt that the chance of their getting badges was a lot easier if you just let them wander off downwind. Secondly, petrol used on retrieves was subsidised by a tax rebate (the equivalent for glider pilots of a similar subsidy on fuel for light aviation) so cost was not the deterrent that it would otherwise have been. Thirdly, the into-wind soaring capabilities of many pilots, even in Skylark 3s, were not highly thought of, and quite rightly. From the times taken to complete downwind tasks, subtracting the wind component, one can see that many people barely achieved 15kt in still air. Their hopes of going very far into any reasonable wind were clearly slim.

However 1961 led to a backlash. "We wanna come home!" cried the pilots and crews. So in 1962 at Aston Down we saw the first 300km triangle task in a Nationals, and almost every pilot completed it, even if some took ten hours and arrived after the finish line had been rolled up.[2] The classical revolution had finally reached the masses.



Some took ten hours.

But that was five long years after DD showed the way.

Getting it up and Pullen

I can confidently predict that this current debate about motors in gliders started by Chris Pullen will run and run (which is more than you can say

[1]Killed in 1958 in a midair collision between an Italian fighter and the Viscount airliner which he was piloting.

[2]Astonishingly, but I feel significantly too, Philip Wills was amongst the few who landed out on that great day. He then, from near to bottom on day two, fought his way up to 3rd place at the end of the Champs. On a free distance day when many of his rivals had chosen to go north-west into Wales, he threaded his way down the north Devon coast in an inspired gamble – there was simply more land in that direction and more to play for – and at a stroke regained several hundred points. It was a very popular result. Everyone loves a romantic.

Of course it simply would not be possible these days to fly a single Nationals speed task so brilliantly as to gain hundreds of points and wipe out the effect of an outlanding. Winning by not losing (George Moffat) epitomises the classical age. Out of Philip Wills's awareness of how the spirit of championship flying was changing was born Competition Enterprise.

about the engines upon which some pilots have staked their life savings, not to mention their lives) until Madame Editor calls a halt. The John Jeffries school of thought, now publicly mooted, is that is that a bit of risk and fear is essential to the pleasure of the whole gliding experience.

After much philosophical discussion on this issue, helped along with rice wine, my Chinese soaring friend Lao Tao, distantly related to Confucius, said to me enigmatically one evening:

"Going cross-country with engine is like making love with condom; is only exciting if gadget fails at critical moment"

Puzzled, I said "Sorry, but I don't get it."

"Ah so. If you no get it you no need to worry."

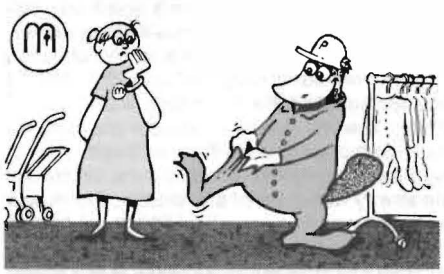
Inscrutable, these wise men of the East.

Fine Feathers Make Fine Birds: who says?

Damn. I have been meaning for years to expatiate in this column on the subject of gliding clothes but have never got around to it, and now in the last issue, p90, Terry Hurley has gone and done a splendid job. Indeed he has uttered what one could call the last word on the topic, except that Platypus can always use his privileged position to have the last word. (Rubbish, the *editor* has the last word and don't you forget it. Ed.) Anyway Terry has provoked me into unburdening myself of some gripes that have been accumulating in my wardrobe for years on the dearth of decent gliding clobber.

The Babygro solution

An Australian pilot who had done 1000km recommended to me the idea of donning a one-



A one-piece garment.

piece garment for very long flights, since a belt, or any waistband tight enough to hold up the trousers in vertical mode, is bad for circulation, ventilation and comfort generally. I'm sure he was right. So the next season back in Blighty I decided to buy some neat overalls. The trouble is, either they look military (and the British, though proud of their armed services when they need them, don't care for civilians dressing up in quasi-military gear, unlike middle European countries where citizens who wish to get any respect dress like field-marshals) or, worse still, you look as if you are delivering heating oil. I haven't worn my very practical dark green Millett's overalls since the time I wandered into the bar and a national coach, whose foghorn voice makes 720 channel radio redundant, bellowed that the man from Dynarod drain-clearing service had just arrived in his Noddy suit. He's lucky I *wasn't* the man from Dynarod, I thought behind clenched teeth . . .

That's the problem – any attempt to break the dress code, which is pure scruff (re-read T Hurley Esq for a vivid and accurate portrayal) – is sabotaged by ridicule and coarse laughter. Under a deluge of sneers one reverts to the standard uniform, which is to say, anything so long as it doesn't look like a uniform, and on no account looks as if any intentional style or dress consciousness had gone into it.

Air pockets

So I gave up wearing overalls, except for fettling, of which everybody knows I do the absolute minimum, and instead reverted to jeans; for the top half I bought from one of our foremost aviation suppliers a quilt-lined jacket – so smart that my tall, beautiful and elegant daughter has asked me for one the next time I may be feeling generous and paternal. But the silly garment has side pockets that are small and shallow, and the pocket openings are almost vertical, so they are not fit for any purpose than to stuff one's hands in, like a union picket trying to keep warm during a strike vigil. The moment you sit in a modern glider – or get under the wing to do a bit of tap



Got under the wing.

ing – your keys, money, and Swiss army knife all spill out, as does a fair amount of bad language. Gliding clothes need *real* pockets for containing things, not trendy, stylish gashes. They should be large, zippable, easy to get at in the air and plentiful, both on the inside and outside of the garment. Yes, I know the RAF flying-suit is ideal, but I've already mentioned the cultural reasons why that is a no-no.

The style that conceals style

I have found a mail order firm in Scotland that makes clothes, mainly weatherproof outdoor stuff, both lightweight and heavy, to any specification, and will try sending them my measurements (which should be good for a laugh) and a list of *desiderata*, like the patent Platypockets,



Revolution in gliding attire.

not to mention easy-access two-way flies, which I won't go into, not here anyway. The bit that will puzzle them is when I specify that, to save me the embarrassment of entering the bar in this getup for the first time, they should a) ensure that it is a very bad fit – which is no problem, just make it a good fit for someone of normal shape; b) tear and repair it in various places and finally c) cover it in little black rings to simulate the effect of greasy wing-root fittings after a hamfisted derig. These rings, cunningly overlapping , could well look like the Olympic Games motif or an Audi badge, but they would have to look accidental, which demands real skill. *Ars celare artem*, as they are always saying in the Highlands, which means, we knew the English were crazy and don't forget to add 100% to the bill, Hamish.

It will be a long, uphill struggle, but I will know that I have effected a revolution in gliding attire when people sidle up to me and ask, without a trace of a snigger, for the name of my tailor. That'll be the day.

MAIDEN FLIGHT OF THE DG-800



The DG-800's maiden flight was by Gerhard Glaser, president of Glaser-Dirks. This 18m self-launching motor glider uses the same engine as the DG-400 with such noise level modifications as a glass-fibre reinforced plastic propeller and a noise damping fairing around the engine. The powerful engine ensures short take-off distances and high climb rates.

S & G CLASSIC

CHOSEN BY PLATYPUS

Tony Deane-Drummond (alias DD or D-squared) is a remarkable man who appears to have had his nerves surgically removed at birth. His book *Return Ticket* describes, amongst other wartime adventures, two escapes after being captured: one scene that particularly sticks in my mind describes how he edged his way along the narrow, crumbling stone parapet of an Italian hospital several floors up. The tricky bit, he says, was getting around the corner . . . He also became famous for having lived undetected in a German officer's cupboard for nine days during an escape following the battle of Arnhem.

Some 25 years after this I was about to take my Dart 17 into the last usable cloud one soggy Nationals day, looked down and saw a very asymmetrical K-6E about to enter the same cloud. "There's a K-6 below me with half a wing missing " I told the world, only slightly exaggerating, as I spiralled up into the murk. "Don't worry, old boy, I'm quite OK" came Deane-Drummond's reassuring voice as he followed me in. From the tops of our respective cloud climbs he got further down track than I did, and I do not care to remember at what point he overtook me. He had had one mid air in cloud that day already and Fate had clearly decided that one was enough to be going on with.

"Return Ticket" is out of print but Tony's autobiography "Arrow of Fortune" is published by Leo Cooper.

(This article is from S&G, August 1957, p206.)

FOUR FLIGHTS FROM LASHAM

Lt Col Tony Deane-Drummond describes how he broke four UK records in four flights from Lasham within a few weeks in his Skylark 3. The first was a 300km triangle at an average speed of 32mph, and the others a 100km triangle at 32mph, an O/R of 197km at 33mph to Kidderminster and a 200km triangle at 37.84mph



Anna Deane-Drummond, aged 23 months, is as glider-minded as her parents, who hold five UK gliding records between them.

The problem of selecting triangles to glide round in southern England is quite difficult. Experience has shown that the sea breeze effect may completely clamp down unstable air within 30 to 40 miles of the coast by 6pm. From Lasham this means it is unwise to go south of a line east and west through Salisbury after 4pm. For a 300km triangle the same effect from the Bristol Channel deadens the air as far east as Cirencester, as I have found to my cost on two or three previous occasions.

The other two main factors are the airways and the excellent thermals usually found over Salisbury Plain and the Marlborough Downs. There is no difficulty about a 100km triangle, but the 200 and 300km triangles both probably involve crossing the airway between London Airport and Bristol.

Good Friday was a glider pilot's dream day. Well spaced summer cumulus were forming all over the sky by 8.30am. The forecast was excellent and included a slackening wind, and this persuaded me to try the 300km triangle. I had planned many of these beforehand, but the 15kt north-west wind made me shorten the northern leg as much as possible. I declared Kingham junction (near Stow-on-the-Wold) and Castle Cary, and was towed off at 10.32am.

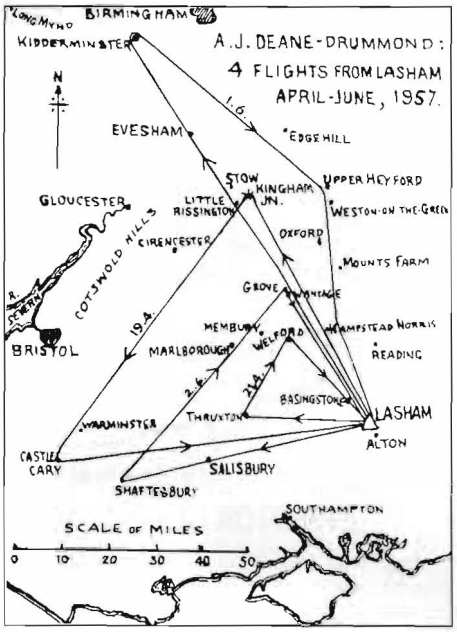
It was soon obvious that we had started too early, although the conditions had looked so wonderful from the ground. It was quite difficult to stay aloft at all, and at one point, while north of Basingstoke, I decided to return to Lasham and start again. On the way back we hit a strong thermal about half a mile from Lasham at about 400ft which soon pushed us up to cloudbase over the airfield at 11am. From here it was moderately easy to keep going slowly north and it was 1220 when we were just north of Wantage. This was an average of only 15mph, but from this point conditions rapidly improved and it was quite easy to average about 40mph for the rest of the trip. Thermals were not very strong but built up to about 8-10ft/sec near cloudbase at about 5000ft during the latter part of the flight. Visibility was stupendous and the clouds were obligingly arranged at three to five mile intervals all along the course.

Easter Sunday also looked a good day, although the sky was over full with cumulus. After some playful banter at the launch point, I declared a 100km triangle, Thruxton, Welford. A rather low cartow put us in rather a bad place and it took 10min to get up to 1000ft. From then on it was plain sailing (soaring?) and all the clouds downwind of the patches of sunshine proved workable. The speed from take-off to landing was 32mph.

The air was dead still on Saturday, June 1, and the forecast included well-spaced cumulus to 12000ft, although the first puffs were not expected to start forming before 11.30am. In spite of this late start it looked like a good long distance O/R day and I declared Kidderminster. The take-off was at 1218 into a sky full of cumulus, all formed during the previous 30min. Already some of the cloud tops were up to 8-9000ft. The first quarter of an hour after release was a bit tricky, but soon the clouds were speeding me on my way, and enabled me to fly through the airway well clear of any clouds. Cloudbase was rising and was now about 5000ft asl, but unfortunately cloud tops were also coming down, and by Little Rissington Airfield the sky ahead appeared completely blue. The lower levels below about 3000ft were extremely hazy and limited visibility to about five miles. At this stage I thought that I had overcalled my hand and so did David Carrow who had declared the same task. David made sure of his Gold badge by photographing Edgehill and then flying to Great Yarmouth.

The saving grace during this part of the flight were the thermals which continued to blow up to 5500ft at a maximum of about 5ft/sec. Near the top of the climb a small cap of cumulus formed for a few minutes before dissolving.

Over Evesham the sky cleared completely and visibility was now at least 20-30 miles. In the distance about 20 miles away and as far beyond as I could see, the sky was studded with fair-weather cumulus. Fortunately the edge of this



line passed right over Kidderminster. There was a west wind blowing at about 10kt between Evesham and Kidderminster and may have accounted for the clearing of the haze. Having climbed up to 5500 again we had to go back across the 20 mile cloudless strip to reach the occasional puff which was forming over the edge of the Cotswolds. Once again visibility came down to about five miles and somehow I failed to allow for the wind until I saw a factory chimney near Upper Heyford with the smoke streaming off horizontally. The base of the puffs of clouds was now up to 6000ft and I could see the gliders of the Oxford Club apparently stationary in the middle of Weston-on-the-Green airfield.

All the way back from Kidderminster I rather expected that my last glide was about to take place and this particularly applied from Weston to the south. A thermal from Mount Farm pushed me up again and gave me enough height to get to Hampstead Norris. From here two more thermals enabled me to reach Lasham at 6.15pm. The average speed for 197 miles was about 33mph.

Sunday, June 2, was another very hazy and still day, although cloud tops were predicted to go higher after starting to form at 11am. By noon, large cumulus was seen all over the sky, and I declared a 200km triangle with Shaftesbury and Grove Airfield (near Wantage) as the TPs. The aerotow queue was very long, so I took winch launches instead, the second of which proved successful. At 1228 I was observed over the airfield and soon climbed to 9000ft in a large cumulus three miles to the west. Over Salisbury I wasted nearly 30min trying one cloud after another, until a really good one pushed me up to 12000ft. We arrived over Shaftesbury at 9000ft and completed the photography from between two clouds, losing 1500ft in the process. One more cloud took us up to 9000ft near Warminster, and this enabled me to glide to Marlborough, which I reached at 5000ft. The cloud here went to nearly 10000ft and the flight across the airway to Grove was then easy. After doing the photography again I climbed up to nearly 9000ft north of the airfield. This was more than necessary to get back, but there was a large cloud between Wantage and Lasham in the middle of the airway which would mean a diversion to get round. In the end I had to fly back along my original course to Membury Airfield where a wide strip of clear air led back to Lasham. The course was 140 miles round and the diversion added another ten miles to this.

The speed on this flight was about 38mph. But for the hold-up at Salisbury and the diversion, the speed would have been about 45mph, which perhaps demonstrates the value of cloud flying.

It is interesting to reflect what speeds are possible for triangular courses on good days in England. Provided all goes well, a speed approaching 50mph should be possible for 100km, something like 45 for 200km and 40mph for a 300km triangle. There are plenty of pilots well able to match these performances and I hope I will be forgiven if I end on a note of advice. Any cross-country flight must be regarded as a hunt for the strongest thermals. Provided you have the height, it is well worth while trying several clouds in turn until the strong thermal turns up. Flying the glider at its best speed naturally helps, but the aim must be to make the best use of the strongest possible thermals. Experience will tell you when you have gone low enough. Otherwise you will land – which will be a pity – but not my fault.

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TWO RETRIEVE STORIES

Has anyone seen my glider?



John with the replica of his trailer.

A group of intrepid Glyndwr Soaring Club pilots were on the annual expedition/task week at Aston Down and for John Dean the aim was Silver distance.

The promising day arrived when the thermals were bubbling and every piece of wood and glass that resembled a glider took to the air. This included John in his Pirat who could be seen climbing steadily under a large cloud in the vicinity of Cirencester.

With nothing else to fly the syndicate partners, Dave Horgan and Roy Francis, set about the serious task of sunbathing whilst awaiting the return of their aircraft complete with John's happy smiling face. Their peace was shattered by a member saying that John had phoned through directions for a retrieve.

The duo set off in the direction of Cirencester and soon arrived at the location. This would normally have been the end of the tale except they were in a thick wood at the end of a private drive.

They went back to the main road and continued the search, eventually finding John running towards them along the A419. "Come on, it's just along this road" he said. What he didn't admit was that he had gone cross-country to find a phone and by now his bearing had become a little confused.

After a long time driving around the outskirts of Cirencester during the rush hour, their patience running out, Dave and Roy headed to the nearest farm building in the direction of Cirencester and at last the plane was found.

Since it was about two miles from Aston Down everyone taking a late launch had probably marvelled at a white car and trailer weaving its way round the countryside carefully avoiding the field with the glider.

Im memorium to this frequently recited tale at the club, John was presented with a replica of his trailer complete with recovery aids such as Sat-Nav, night flares, radar, flashing beacons and emergency food rations.

GEOFF HOLLAND

A Ticket To Land

Long Mynd pilot Simon Adlard landed in trouble with the police when he got a motoring ticket . . . for making a field landing.

Stunned Simon, 24, who was attempting an early season cross-country O/R to Sleap had landed his LS-4 near Shrewsbury, when a passing police car drove into the field.

The police constable handed Simon a HO/RT1 road traffic ticket to produce his flying documents at his local police station within seven days. But because the PC did not know what documents a pilot should have, he had to ask Simon what documents he could produce.

"I couldn't believe it. It was so funny. He asked me what documents I should have, then gave me a normal motoring ticket and told me to produce it with my flying documents within the next seven days", said Simon.



Simon Adlard.

"A retrieve crew had dismantled the glider when the police car arrived. I landed about three hours earlier when the February soaring conditions died.

"I had told the farmer what had happened, and he was happy, but apparently someone had seen the glider come down and contacted the police. When I went to the police station they thought the whole thing was very funny. They were roaring with laughter", he added.

A spokesman for West Mercia Police at Shrewsbury said "I think the PC was probably doing a belt and braces job. There was no need to issue a ticket. We would normally request verbally to see any document carried by a pilot who has to make an emergency landing in a field."

ALISTAIR SELF

OVERSEAS NEWS

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

SEBRING SOARING CENTRE

Derek and Elsie Johnson from the UK are reopening the Sebring Soaring Centre on Sebring Airport, Florida, USA, starting with a Grob 103 and a K-6E and hopes to expand the fleet.

They have two 5000 by 300ft runways and a lot of open space. To start with they will autotow but have plans for aerotowing in the near future.

Sebring started in 1978 and became quite an international site with a good mix of badges being claimed. Since then the area has developed rapidly with many good hotels and restaurants. Orlando attractions are some 80 miles to the north.

The soaring season is a split affair. Conditions become consistently good in late September until mid-June with mainly colder, blue days around December. Summer tends to become too convective, although there are some good days.

For further details write to Derek and Elsie at Sebring Soaring Centre Inc, 124 Authority Lane, Sebring, Florida 33870, USA, tel (813) 655 1060. But remember they are five hours behind the UK.

GLIDING IN ISRAEL

There are four gliding clubs in Israel. Their locations are: south of the town of Ein Shemer; near Hadera; near the old town of Megido; and the northernmost, on the shores of Lake Galilee.

GLIDING IN PORTUGAL

Gliding is beginning to take off again in Portugal, after several years of government-induced stagnation. There are five gliding sites, of which the largest (six gliders and two motor gliders) is: Aero Club de Portugal, Voo a Vela, Rua General Pimentaa da Castro 4C, Areiro, 1700 LISBON (tel: 01-805317).

EAST GERMAN TERRITORIES

The local airways and height restrictions over the former East German territories have been abolished at weekends, to the great relief of local glider pilots. Also, the old Air Defence Identification Zone (ADIZ).

WORLD CHAMPIONSHIPS

The dates of the 1995 World Championships in New Zealand are January 7-21, 1995, with a training period beginning on January 1.

THE UNBREAKABLE HAWK

Terry Hurley describes what happened when a Coventry GC member tried to fly a Percy Pilcher replica with a lot of help from his friends

I came in from the noise and the glare of the field into the cave-like quiet of the hangar and was instantly aware of the thing hanging up on the back wall like an enormous dead trophy. It looked the way you'd imagine the original bat out of hell would have looked, with widespread scalloped wings and long, loosely trailing tail – a creature of mottled bones and ragged skin.

Somebody walked in behind me. I turned and saw who it was.

"Glad you're here," he said cheerfully. "You can give me a hand to get that down from the wall and rigged."

"Rigged?" I said. "What it needs is a decent burial."

He took off his jacket and folded it tidily on the wing of a Bocian.

"What is it anyway?" I added.

"The Hawk", he said, and in the tone of his voice capital letters were implied. "That is an absolutely accurate replica of Percy Pilcher's original flying machine. You're looking at aviation history there. And the local museum has let me borrow it for the weekend."

It was difficult to believe anybody could be that desperate for flight

"You mean a thing like that actually flew?" For a child of the jet age it was difficult to believe that anybody could ever have been that desperate for flight.

"It will be a lot better when we've rigged it," he said defensively, like a man telling you that a plain girl looked okay with her make-up on. So we enlisted a couple of helpers from the bottom of the flying list and carried the thing out into the sunlight where I could see that it was only bamboo and canvas rather than skin and awful bones.

Rigging turned out to be a complex process depending on systems of cords and tight lacing tricky enough to cause us a deal of inventively bad language. Finally the assemblage seemed complete and sat balanced on two tiny yellow wheels that could have come from a toy train, its wings poised at an improbably high angle of attack.

"There!" he said proudly, as he cautiously insinuated his thirteen stones through the historic puzzle of wood and wire, to emerge sweating but smiling over the top of the wings, enmeshed in cords and buckles like a happy bondage fetishist. He hitched up his trousers and took hold of the twin polished wooden handgrips; the two helpers steadied the wingtips; I grasped the tail; one of those people who believe life is a spectator sport started a video camera; and we moved slowly on to the field like a bunch of inexperienced bridesmaids carrying a particularly awkward train.

"Where's the wind?" the pilot asked, and at that point I realised with horror that he intended to fly the contraption. Until then I'd regarded the affair as nothing more perilous than a photo-opportunity, perhaps a space filler for some local paper a bit short on marriages and births.

"Oy!" I called from the back end. "Don't you know Pilcher got killed flying this."

He waved the remark away absently, muttering something about groundhops being the only item on today's programme and that ridge soaring would come later when he'd got the hang of the thing. He was fiddling with a rigging line and already absorbed in that state of pre-flight concentration where you don't really welcome unnecessary intrusion. A Chipmunk droned overhead dragging a Bocian. High up the thin cloud of the advancing front was seeping into the summer sky like *pastis* into water. The wind was light and steady, and blowing in our faces.

He bent forward, leaning his weight into the handgrips, the yellow wheels squeaked and, still supporting the wingtips and the pendulous tail, the four of us broke into a stumbling trot.

There is a slight rise in our airfield. A man on foot hardly notices it. But it becomes a Matterhorn to men laden with a determinedly earthbound Hawk. We heaved, we gasped, we swore, but we were unable to reach the speed necessary for the lightly built Hawk and its more solidly constructed pilot to together slip the surly bonds of earth. So we stopped for a bit and lay around on the grass, chests labouring, eyes blurred with unaccustomed sweat, listening to the thunder in our ageing arteries.

Henry V was probably the same sort of pain in the neck at Agincourt

"We could try it downhill," I said eventually. "At least we'd have gravity on our side." Anything was better than tackling that slope again.

He said, "It was definitely trying to fly just now. I think. Perhaps you could sort of waggle the tail up and down a bit while we're running. It'll alter the angle of attack and that might do the trick. But make sure you all let go as soon as I'm airborne."

We said we'd remember to do that. We promised to let got the very moment he became airborne.

Once more we took our positions around the craft our faces as grim as those you see in old paintings in regimental museums with titles like "Fix Bayonets!" We set off, me running in an undulating style, very interesting to watch so I was told later, raising and lowering the tail, our pilot giving little skips into the air in the hope of encouraging his collection of stick and canvas to do likewise, while silently behind us, camera clamped to his face like a remora, ran our photographer. Sadly the Hawk did not take to the air, though it bumped about a bit which got us quite excited.

At the bottom of the hill where the grass meets the broken concrete of the peri-track we halted by unspoken consent and fell to the ground. For a very long time nobody spoke. Then he said, "One more try into wind?" Henry V was probably the same sort of pain in the neck at Agincourt when the lads just wanted a nice cup of tea and a bit of a lie down.

Wearily we pulled ourselves to our feet, turned and the wretched machine into wind and tried again. The Hawk gave us no help.

And then, for three of us, there came a piece of luck. Before our pilot could call for yet one more final effort, an errant breeze plucked the tail of the Hawk out of my hand and tossed it into the air. There was an ugly crack, and the assembly flopped to the ground like a shot pheasant.

"Hard luck!" That was an insincere voice muffled by canvas from somewhere beneath the port wing. "It's broken, let's shove it back in the hangar. I'm gasping for a cuppa."

Together we came down the slope more happily than we had gone up, except for our pilot who kept telling everyone we met that the tail was the weakest element of the design, and that it was failure of the tail that had caused the death of poor Percy Pilcher.

"And if it hadn't bust just now it might bloody well have caused mine," the port wingtip grumbled to itself.

Between us we dislocated the rigging and hung the machine back on the hangar wall. The two helpers disappeared in search of tea and sympathy leaving me next to the pilot who stood fingering the broken tail thoughtfully.

"I have to return it to the museum tomorrow morning," he said. "And that front coming in now will bring rain by tonight."

"Oh well," I said, trying to sound non-commital. "Perhaps another time. Maybe next year?"

"Oh, no," he said. "I'm hoping to borrow it again in a few weeks. I intend to be ridge soaring by the end of the summer."

We studied the Hawk in silence for a few moments whilst I thought about what he'd just said.



Laurie Watts with the Hawk.

"On the other hand," he added, brightening up. "If I was to cut out this damaged section of bamboo . . . slip in a short length of aluminium tube . . . dowel it in place . . . glue it . . . Everything could be ready to go again by this evening. I think I'll just go and fetch my tool-kit." He turned and walked resolutely towards the open door. At the door he looked back. "Thanks for all the help," he said. "But I can manage on my own now. I've got the right stuff in my tool-kit."

I'd been wondering where he kept it.

Footnote: Since writing this article the Hawk has been flown by its pilot, Laurie Watts, who has been invited to lecture on the subject to the Royal Aeronautical Society. It has also been filmed by BBC TV.

BURN GC'S WINCH 3

TONY FLANNERY

Big diesels on lorry chassis had served us well at Burn and for years before we moved from Doncaster. If winches could remain static throughout the flying day I doubt we would have strayed from that well worn path, but now that we were flying off concrete cable laying was taking its toll on our wartime runways. So we decided to build a small, lighter version based on the Gamston winch which was giving such good service, starting last September and aiming for completion at Christmas . . .

I bought a Transit diesel twin wheel pick-up for our road vehicle – for economy it had to be diesel as we still intended to lay out cables – and a V8 1980 Rover automatic for the winch engine.

The petrol engine winch. Insert, Tony Flannery.



The Transit cab was extended backwards to give the driver comfort and leg room. I removed the engine and box from the Rover and fabricated special mountings to fix it to the Transit.

Working from a suggestion from Geoff Drury, the cooling system for the V8 was piped under the driver's cab and tee'd into the Transit system. This gives the double advantage of keeping the V8 warm when it isn't running when laying cables an the initial warming up in winter mornings is achieved by the Transit diesel laying the first cables of the day.

I coupled the Rover's box up to a second twin wheel transit axle mounted at the rear of the chassis upside down so as to feed the cable on the bottom of the drums.

John Swannich at Gamston gave me advice based on his experience building their winch and some useful performance figures on the V8 engine's potential output. A few calculations gave us the required cable drum sizes which were built by a friend – the only part of the project we didn't do ourselves.

A spell of unemployment gave me more time to spend on smaller items like shortening the propshaft, fitting a gearbox oil cooler and making up a gear selector. After the cable drums were fitted, the support steelwork for the cable rollers was attached to the Transit.

The 3in internal diameter rollers were made from mild steel pipe, flanged at each end, with ¾in bright mild steel spindles rotating in plummer block bearings at each end. A hydraulic foot brake and vacuum servo were used for drum braking.

As you will see later, it is impossible to launch with a standard differential, so I stripped out the crown wheel from its housing and welded up the planet gears, changing the whole thing to a straight 90° angle drive. It seemed sacrilege welding up a perfectly good moving part, but it was all in a good cause.

With 90% of my work completed others became involved. Andy Thornhill did his bit on the electrics and instruments. Steve Naylor clad the cab extension, built the interior instrument panel and glazed the windows while Norman Lyons was a whiz with the paintbrush making the whole thing look almost professional. One of the last tasks was to fit an extra petrol tank for the V8.

The launching method is somewhat different for us and is as follows. Tie down the cables to the launch point anchor points as usual, withdraw both half shafts from the axle hubs and drive away keeping a steady tension on the cables using the footbrake. On reaching the other end of the runway the Transit driver engages the half shaft on the first drum to be used, signals up-slack to the launch point and only then starts the V8. On the up-slack signal he engages drive on the gearbox and accelerates smoothly, using the tachograph as an engine speed reference. When the first glider is away and the cable wound in, the half shafts are reversed and the second glider launched in the same way.

After four month's hard work on December 28 I nominated my syndicate partner Peter Clayton the first man "up the wire". The drums were loaded with piano wire, the K-8 was loaded with Peter and at 2500rpm the glider climbed majestically at 50kt to 1400ft and my adrenalin level returned to normal.

JOHN STALEY & MIKE CUMING

GET OFF MY LAND

This is the second of a series of three a to prepare last season. They had wishe ("Get Orf Moi Land!") but it was assum were not necessarily acquainted with t particularly wishes it to be known that previous photos was designed to indic to show what he thinks of cereal farme



1. Winter barley in very early June.



4. End of June barley. The winter barley is already light golden while the spring barley is still a dark green.

The first article was in the last issue, p92, with the third being prepared for the August magazine.

Winter barley

Ears emerge on about May 25 and the appearance of the crop begins to change to become a very pale green (almost yellow) with fluffy ears rippling in the wind – see pictures 1 and 2. The barley becomes quite golden about the third week in June and will be harvested from the third week in July onwards, depending on the exact location and variety of seed.

The crop is plainly not suitable for damage-free landings during this period until harvesting, after which the golden stubble is perfect if dusty to land on.

Spring barley

This is just barley which is planted in the spring (surprise, surprise!), usually sometime in March in fact. Photo 4 shows both sorts and photo 5 shows the view from above. The crop is harvested in mid August – just a little later than winter barley. The usual reason for planting in spring rather than winter is simply incompetence: winter-planted crop is preferred because of its higher yield. Alternatively, spring planting is preferable for malting barley or as a cover crop in order to enable grassland to be established.

Winter wheat

In early June the crop becomes very dark green (see photos 6 and 7) because the "flag" leaf – the last leaf to emerge, whose job is to intercept the maximum sunlight – develops and very soon after this the ears – also green at this stage – emerge. By mid July the ears have begun to mature, causing the crop to become significantly lighter in colour (see photo 8) as it dries out. Wheat is more suitable for emergency landings than barley but you can still expect to collect some damage and earache from the farmer.

Spring wheat

Curiously, this can be planted in November – or in the conventional spring months. November planting is for "alternative" or organic crop. The crop is the same as winter wheat but two or three weeks later all round.



2.↑ Early to mid June with the feed barley just in ear.

3.↓ Early June with the malting barley just in ear.



5. Late June barley. NB. The brown colour visible is not soil but ears.



6.The e darken





7. June with dark green wheat fields in the bottom left hand side showing crossed striations – a danger sign!

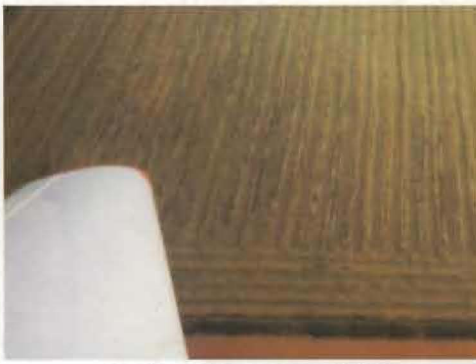


8.↑ Early June wheat.

e articles which John and Mike began shed the title to be slightly different umed the genteel readership of *S&G* h the contents of *Viz* magazine. John at his Churchillian pose in the dicate the height of the crop and not mers!



9.↑ Mid June. Rape going off flower. It's deep and dense.



10.↑ Oil seed rape "swathed" and lying out to dry.

Oil seed rape

By early July the flowers thin out leaving a very tall dense crop (see photo 9) which is then swathed (*ie* cut and left to lie, see photo 10) to make it easier for the combine harvester to gather the little black seed pods – which are subsequently crushed for the vegetable oil which you can then buy in the supermarket.

All rape fields will have been harvested by the end of July, leaving a fairly tough and very white coloured stubble which may be up to 1ft high but is still OK to land on although it may be noisy – especially in a fabric glider. Rape is otherwise totally unsuitable for planned landings.



←11. End of June and the grass is being cut. The brownish colour tells us it is hay not silage.



12.→ Early June with the first cut of hay drying in the sun.

Winter beans

During June the beans flower (still no photos – sorry!) with small white and pink petals scattered thinly among the crop. Later, in July, the pods form and the crop reaches its maximum height of 6ft or more. Spring beans are occasionally planted in February and these are actually harvested slightly **before** the winter planted beans, although their yield is rather less. Not suitable for landing in.



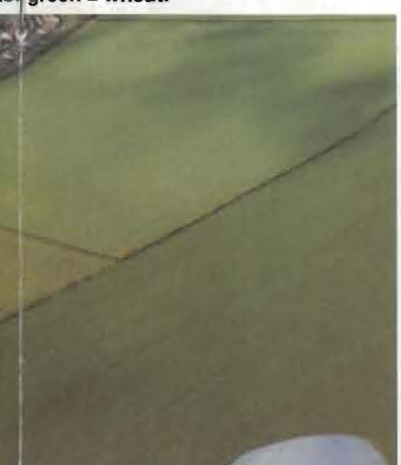
13.→ End of June and the second cut of silage is bagged and being removed.

Grass

This stuff remains as per May – either pasture, brown/golden hay (photos 11 and 12) or

14. Another sort of grass field – a cricket pitch. Note the well defended crease!

e end of June. The pale green = peas, ker green = wheat.







15. Typical landscape in mid May – fences, power cables, pylons, sheep and cows in an otherwise perfect pasture!



16. The end of June. A pig farm with feed wheat in the foreground (light green) and milling wheat (darker green).



17.↑ "Set aside" in early July on the edge of Enstone Airfield includes barley, grass, poppies and big thistles.



18.↑ Late June with wheat (W), barley (B), brownish already, and rape (R).

19.↓ The end of June. Ridge and furrow pasture is prominent in the foreground with livestock and wheat beyond. Westcott Airfield is faintly visible beyond the lake.





20. The end of June. Wheat is seen on the wingtip with Upper Heyford runway at the top. The paler green is barley.

silage (somewhere between deep green and pale green/yellow depending on its six week cutting cycle. Second and subsequent cuts of silage (photo 13) are generally less lush than the first cut so tall silage is a better bet during June and July than it is in May, although plainly the fresh cut silage is the best of all if you can find it when you need it. Photo 14 also shows grass – this time a cricket pitch – and photo 15 shows a field which would be perfect, but...

Potatoes

These are planted in April and harvested anytime from July through to October. The leaves are dark green and the crop is about 1ft tall, sitting on raised beds or ridges – *ie* on a soft furrowed surface.

Potatoes cost the farmer £700/acre or more to establish and are quite valuable at around £80/ton, with a massive 20tons/acre of yield.

Interestingly, Scottish potatoes are often used as seed since their cold upbringing – often well above sea level – tends to make them aphid-free and healthy. Some seed potatoes are now being grown on the upper Cotswolds for the same reason. A landing made down the furrows shouldn't hurt you or the glider too much but might annoy the farmer. No photo.

Sugar beet

Planted in March/April, these can quickly become identifiable owing to the regular seedling spacing. The leaves look rather like rhubarb with a turnip-like tuber beneath. The colour is light green and the individual plants remain plainly discrete throughout June and July although spreading out gradually towards a complete ground cover. Not recommended for landings because the crop is delicate and difficult to establish and farmers can be quite touchy about this. The crop can cost the farmer £200/acre to establish (using a lot of fertiliser) and yields about 18tons/acre at around £30/ton. Can someone send us a good photo for the file?

21. It is early August and the gold is wheat or barley. Most of the variation in the shade of gold is due to the amount of fungicide applied. The dark green is silage and the pale green pasture.



Maize

Planted in May, 18in high by the end of July and looking like big leeks with lots of soil visible through the crop. This is mostly cut for silage for animal feed. The tall tough stems are an obvious disadvantage for incoming gliders and ultimately reach a height of 4 or 5ft.

The silage crop costs the farmer about £80/acre and yields around 12tons/acre at £50 per ton. Sweet corn, which is essentially the same stuff, is worth rather more than this.

Peas

These are planted in March/April and have little white flowers in June with a characteristic pale green foliage (see photo 6). The crop is normally 18in tall or less although there are occasionally taller varieties. Little damage will be done either to crop or glider before the crop has flowered.

The tendrils which grow tend to knit together in a manner which may be thought of as arrester hooks! The crop is worth £180/ton and yields about 2tons/acre at a cost to the farmer of about £70/acre.

General vegetables

Carrots, onions, cabbages, sprouts, greens etc are really specialist crops grown only in small pockets and much of that is in the fens where little soaring takes place – the exception to this being Bedfordshire. These are all short crops with the exception of sprouts which reach up to 3ft with thick stems – however that doesn't happen until August and will therefore be covered in the next *S&G*. The values of these crops are very variable but an individual cauliflower can cost over a pound at the shop on the corner!

Linseed

This is a sort of short-wheelbase rape, with small blue flowers which drop at tea-time daily to be replaced by new ones next morning throughout mid July. The crop is about 1ft tall during June/July and is safe to land on although it should definitely be avoided later in the year. The crop is harvested in September or later for the little seed pods to be crushed into oil. If you can get hold of some linseeds they go quite nicely in salads or muesli with a nutty flavour.

Brown soil will be visible between the individual plants during June. The crop yields about ¾ton/acre at a value of about £95/ton so it's quite cheap.

General views

Photo 16 shows – for amusement – a pig farm, while photo 17 is of a recent phenomenon (presently under review) called "set aside" in which the farmer is paid by the government not to touch the land and let all sorts of stuff grow through. Presumably the environmentalists love it but it isn't much use to land on.

Photos 18,19 and 20 show the sort of aerial view you can expect to see during the period covered by this issue of *S&G* and the final picture, No 21, gives a hint of what next issue's article will look like.

AEROBATIC CHAMPIONSHIPS

The 5th World Aerobatic Championships will be at Venlo, Holland in August 1993. Richard Greaves of Derbyshire, who is company president of the Swift aerobatic glider, is hoping this aircraft will do as well as it did in the last Championships last summer when it won the first four places.

Richard tells us that 15 Swifts have been sold in Europe and America.

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MAKE THE MOST OF A GOOD DAY

Damian le Roux has devised his own method of determining the right task to set by putting on one sheet information gathered from *S&G* and books

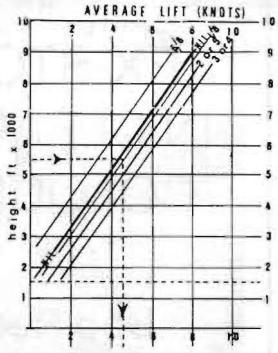
Most people can spot a good day coming but how do you know if it's going to be an average good day or a classic good day? Too long and you have to abandon the task or land out, too short and you are back early wishing you had set that 300km.

Every decent day I flew last summer I found myself trying to guess the distance, and every day I got it completely wrong. In the end I realised that the distance I set myself was dependent on how confident or pessimistic I felt and had little to with the actual conditions. On top of that, dithering about what task to set was very distracting while preparing everything for the flight.

Wouldn't it be nice to have some simple, unbiased and relatively quick method of working out a distance to set?

I've found it is possible to do this by gathering the relevant information from books and past *S&G*s and putting it all together on a single sheet.

What really cracked the problem was finding the graph at the end of Tom Bradbury's article in the June 1991 issue of *S&G*, p122. It predicts thermal strength if you know the cloudbase and cloud amount.



You can predict the cloudbase using another gem from Tom's article (see graph) which is that the afternoon cloudbase is approximately 400ft for every 1°C difference between the night temperature and day temperature. This depends on the night sky being clear. As confirmation and a back up you can use a temperature height diagram.

There are various temperature height diagrams. I find the tephigram very confusing and prefer the stuve diagram as used by Helmut Reichmann in his book **Cross-Country Soaring. Meteorology for Glider Pilots** by C. E. Wallington also has a good section on the subject.

To use the diagrams properly you need to have the data from a recent Met balloon ascent, which I don't think is readily available. However, Airmet does give the wind and temperature at 1000, 2000, 5000 and 10000ft. Although only four points, it may give a reasonable indication of cloudbase unless there is a strong inversion between 2000 and 5000ft . In that case your diagram will probably be forecasting a cloudbase while the BBC says no cloud all day, so you know your diagram is incorrect.

The other information needed is a dew point and the day temperature. The latter obviously from the BBC and the dew point can be obtained from the weather reports on Volmet. The frequencies are Main 135.375, South 128.60, North 126.60, Scottish 125.725. If reception is poor try the top of a rise or the edge of a hill on the way to the club. If you can't get Volmet or want a report for an airfield not on Volmet ring one of the weather centres and ask for an "actual" for the airfield you are interested in. Only airfields which employ air traffic controllers put out actuals (usually every half hour and GMT is used for the times). Obviously choose an inland airfield in the region of your proposed task.



Damian took this photo on a good day when flying his K-6CR over Somerset.

The advantage of using the diagram is that not only should it give you an idea of cloudbase, but also of cloud depth, and on a blue day you may get an indication of the convection depth.

So far you have a quick method to estimate the average thermal strength. If you've done some reading you will know that your cross-country speed depends on your average achieved rate of climb in those thermals. From your polar curve it is simple to measure what cross-country speed your achieved rate of climb gives. But how do you get your polar curve?

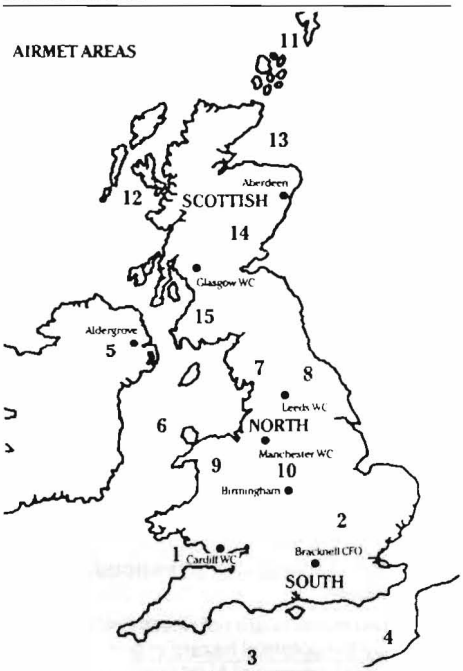
According to Helmut Reichmann the equation for a polar curve is *Sink rate=A+B.V³ (ie V cubed)* where V is the forward speed, and A and B are constants. Since there are only two constants you only need to know two points to calculate your polar. Virtually all gliders have a claimed min sink rate and glide angle so those are two points. The glide angle at any speed is near enough the forward speed divided by the sink rate at that speed (same units for both). Before drawing your polar on graph paper make a table of the sink rates and glide angles for various speeds. My glider is a K-6CR for which **Gliders and Sailplanes of the World** by Michael Hardy gives min sink of 2.26ft/sec at 42mph, and max glide 29:1 at 50mph. Putting that into the above equation gives the table

Speed kt	Sink Rate kt	Glide Angle
36	1.34	27.2
40	1.41	28.4
45	1.54	28.8
50	1.68	29.7
55	1.90	28.9
60	2.14	28.0
65	2.42	26.8
70	2.74	25.5
75	3.12	24.0
80	3.52	22.7

which you can see gives a max glide of 29.7 at 50kt (57mph), so obviously something is wrong with one, or both, of the points.

The sink rates at speed are also optimistic. Reducing the claimed max glide angle to 27:1 gave a better set of figures. You can produce your own glider's polar by taking your glider up on a completely still day and measuring the sink

Damian, an airline pilot, has 1000 hang gliding hours and went solo in a glider in 1985. But it wasn't until after being the resident tug pilot at Sutton Bank he became really keen on gliding two years ago and now has 150hrs, a Silver badge and is a member of Devon & Somerset GC.



AIRMET FORECAST AREAS

Forecasts are given by the area number code shown on this map.

AIRMET FORECASTS (0600 hours to 2300 hours)

AIRMET SOUTH	0898-500 693
AIRMET NORTH	0898-500 692
AIRMET SCOTTISH	0898-500 691

AIRMET FORECASTS (2000 hours to 0600 hours)

Bracknell CFO	0344 860 488
Manchester WC	061-429 0927
Glasgow WC	041-221 6116

TAFS & METARS (For area of coverage shown)

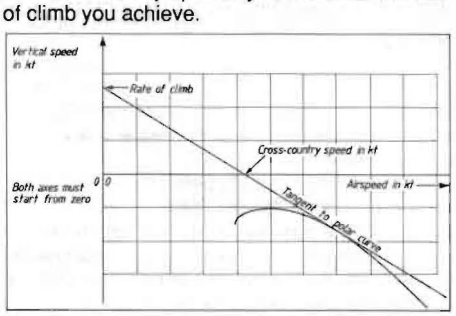
Bracknell CFO	0344 860 488
Manchester WC	061-429 0927
Glasgow WC	041-221 6116
Aberdeen	0224-722331 ext 5176
Aldergrove	08494-23275
Birmingham	021-782 6241
Cardiff WC	0222-390 492
Leeds WC	0532-457 687

In all cases forecasts will relate to area number codes.

AIRMET forecast access times are local

rate as carefully as possible at two speeds. Max glide plus 10kt and max glide plus, say, 40kt will give you most accuracy in the region you require.

Plot the set of points you have calculated on graph paper and measure the cross-country speed for each achieved rate of climb as shown on the diagram. You now have a list of the still air cross-country speeds you make for the rate of climb you achieve.



Of course wind strength will have a large effect on the distance you make. Ian Strachan in his article in the February 1991 issue of *S&G*, p31, suggests using the formula

$$\text{Average groundspeed} = Vxc \times \frac{2 + \frac{3}{Vxc}}{Vxc - W}$$

Where Vxc is your still air cross-country speed and W is the wind speed. This assumes an equilateral triangle with one leg into wind. You could create your own formula if you prefer. Having worn out the buttons on your calculator you end up with a table like this. K-6CR again assuming 27:1 at 43kt.

Rate of climb (kt)	Cross-country speed km/h wind speed in kt						
	nil	5	10	15	20	25	30
0.5	20	16	4	–	–	–	–
1	32	28	22	10	–	–	–
1.5	41	37	32	24	10	–	–
2	48	44	40	33	23	5	–
2.5	54	51	46	40	31	18	–
3	59	56	51	46	38	27	1
3.5	64	61	56	51	44	34	20
4	68	64	61	55	49	40	27
5	75	72	68	63	57	49	38
6	82	79	75	70	64	57	48

Having got most of the information you require you can make up your own self briefing sheet. Start at the top with the information you need to note from the evening forecast, leaving spaces to write in the information, *ie:* Temperatures, night minimum and day maximum. Wind, changes in strength and direction during the day (dropping off in the afternoon can mean big distances if your first leg is downwind). Cloud, amount and type. Then spaces to write in the wind and temperature at the heights given by Airmet, but wait for the morning to get the most recent data. Next a space to write actuals followed by a copy of a blank temperature height diagram for you to draw on the temperatures from Airmet and get your estimate of cloudbase. Next you need the average lift graph, and your cross-country speed table. Complete the sheet by adding useful information such as the Airmet phone numbers and words of wisdom, *eg*, afternoon cu base approx 400ft for every 1°C difference. Andy Davis's articles in past *S&G*s are an excellent source of useful advice. For example, allow a safety margin of one hour at the end of the day to get home. Typical UK soaring day – reasonable soaring 1pm to 5pm BST, average lift 2.5kt. Really good days with polar air – reasonable soaring 11am to 5pm BST, average 4kt.

To use the sheet just fill in the spaces on a copy, draw your temperature height graph to get your estimate of cloudbase and use that in the average lift graph. Only the very best pilots can achieve an average rate of climb equal to or better than the day's average thermal strength. A beginner is unlikely to achieve more than half that. You need to guess how well you will do; start by using half your prediction of average thermal strength in your cross-country speed table, and with experience change it as required.

For example if thermal strength is 2kt use a climb rate of 1kt, and if Airmet says wind at flying heights 15kt, the cross-country speed table gives a speed of 10km/hr, so if you wanted a 3hr task set 30km. (The K-6CR is a stunning performer!)

So by spending time now you can save a lot of time on the day, and hopefully get considerably better flying. If you can't be bothered with the detailed weather then just using an arbitrary figure of 2kt and the day's wind in the cross-country speed table should take most of the guess work out of your task setting.

If you would like your own task distance self briefing sheet but don't have the inclination to make it yourself I can do it for you. I will send the briefing sheet, with a full set of instructions on how to use it, your polar curve, plus a separate sheet to help you tell if it is going to be one of those rare classic days. Just send details of your glider, or two points you have measured to calculate the polar, and £5 to cover my costs, to 28 Salisbury Rd, Exmouth, Devon, EX8 1SL. Happy flying!

Tom Bradbury comments: With reference to the Met balloon data, if the club has a fax machine you can get plotted tephigrams (only four at present) by making a fax call to 0836 400 506. With fax you can also save time by taking down Airmet. Airmet South is 0836 400 507 and you can get "spot winds" and temperatures for many parts of the UK on 0836 400 503.

If you can't hear London Volmet on the ground try RAF Volmet on 4722kHz or 11 200kHz. This needs a single side band receiver (SONY make a small digital HF receiver with SSB facility and dial up tuning as on many VHF sets). The RAF Volmet has a different list of stations. With both London and the RAF Volmets you can get quite a good coverage of reports.

Only Weather Centres listed on the Airmet form shown in the article are authorised to pass on TAFs and METARS (actuals). The others may not co-operate with casual callers since they are not part of the aviation system. TAFs and METARS too often say CAVOK when the cloudbase is 5000ft plus and vis 10km plus. For example, they ignore altrostratus which kills thermals.

Twitterings from Sparrow

Before very long I'm sure we will all become fed up with the current buzz words "Green" and "Ecology", however important they are. Have you thought what effect the changes to the environment will have on gliding?

Internal combustion engines of all sorts are rapidly becoming the villains of the peace and this could lead to no winch, car or aerotow launches.

Perhaps the time has come to encourage development of environmentally friendly alternatives as some folk may consider launching their super-duper glass-fibre creations with bungys a touch limiting!

THE BGA 1000 CLUB

An important initiative of the BGA starts this July. It is the BGA 1000 Club, so called because the initial target is 1000 participants in the lottery which, it is hoped, will raise urgently needed funds for the Philip Wills Memorial Fund.

The Fund was started in 1978 with a donation of £8000. It has been topped up regularly by contributions from BGA central funding but in spite of this the value last year stood at only £47 500, virtually all of which was on loan to clubs. Thanks to inflation, the purchasing power of this sum is probably little different from that of the original fund.

The Executive Committee realises that to be effective the Development Committee should have at its command funds which can be deployed in times of urgent need. It is a high priority to encourage clubs to secure their sites for the future and there is no better way to do this than by being able to provide low interest finance to clubs which decide to purchase.

Over the next four years the BGA would like to see the Philip Wills Memorial Trust build up its funds to a really significant sum. An exciting and rewarding route to this end is the introduction of a monthly lottery where 50% of the income is distributed as prizes and 50% goes to the Fund.

We want the operations to be cost efficient and this means that participants will subscribe for 12 monthly tickets at one time rather than sending a dozen small cheques or signing a bankers order. Sadly in that case only the banks with their swingeing increases in cheque charges would benefit.

We appeal to all members to make the scheme a success. There is no limit to the number of "12 month" units you can buy, so go all out and turn the 1000 club into a 10000 club as soon as possible! You will be doing all the clubs a favour and, who knows, you could be doing yourself a favour too!

Humfrey Chamberlain, *BGA Development Committee chairman*

BGA AGM

The BGA weekend, at the Post House Hotel, Crick, took yet another format this year and judging from the response it was popular.

The morning session was a safety presentation by Bill Scull, BGA director of operations, with the AGM in the afternoon followed by a dinner.

The meeting accepted the proposal by Don Spottiswood, BGA chairman, that the MP Bill Walker, a glider pilot and friend to the BGA for many years, should become a vice-president. He was the guest speaker at the dinner and his wife presented the annual awards.

The chairman presented BGA diplomas to Ray Brigden, Bernie Morris, Claude Woodhouse and posthumously to Jerry Odell, accepted by his son Julian.

Ray, a glider pilot for over 50 years, re-established Southdown GC after the war and was their CFI in the 1950s. He was one of seven signatories of the memorandum of Association of the BGA in 1946 and has been an instructor for some 40 years at Southdown, Lasham and Ringmer. He has shown the highest level of commitment to gliding throughout all these years.

During five years as chairman of the BGA Instructors' Committee Bernie Morris brought great professionalism and leadership to the coaching operation. His clarity of vision and determination led to many new initiatives with a general raising of standards.

Claude, a member of Coventry GC for over 25 years, has been CFI and treasurer, is a regular tug pilot and has a motor glider rating. He has successfully directed Regionals, Nationals and International competitions on behalf of the BGA at Husbands Bosworth and his selfless contribution to gliding has been considerable.

Jerry was one of the few glider developers who could design, manufacturer and test his own modifications. His vivid imagination, abundant enthusiasm and engineering skills resulted in new launching equipment and involved him in many repair and rebuilding projects. He was also an excellent pilot with cross-country ability and a patient and thorough instructor.

Don Spottiswood and Chris Nicholas, vice-chairman, were re-elected with Max Bacon, Mike Cuming, Tim Gardiner, Liz Veysey and Hugh Woodward elected to the Executive Committee.

The awards were as follows:- **Du Garde Peach** trophy (National Ladder Weekend winner) Dave Booth (Coventry); **Slingsby** trophy (2nd place on the Weekend Ladder), Jonathan Walker (Coventry); **Enigma** trophy (National Ladder Open winner) Andy Davis (Bristol & Gloucestershire); **Firth Vickers** cup (2nd place on Open Ladder) and **Wakefield** trophy (longest distance) Phil Jeffery (Cambridge University); **Furlong** trophy (Longest triangle) and **Frank Foster** trophy (fastest 500km) Alister Kay (Booker); **California in England** cup (longest flight by a female pilot) Jane Randle (Cotswold); **Manio** cup (fastest 300km) Steve Jones and Alan Meredith, P2 (Lasham); **Rex Pilcher** trophy (earliest Diamond distance of the year) Brian Logan (Bannerdown); **De Havilland** (maximum gain of height) Tony Burton (Black Mountains); Goldsborough trophy (highest placed pilot in the last World Championships) Justin Wills and the **John Hands** trophy (outstanding support to the organisation or running of competitions) Marion Masson (Lasham).

Next year the AGM, dinner-dance and prize-giving will be at the same hotel on Saturday, February 27, and will follow the same pattern.

STRUCTURE OF THE BGA

The membership structure of the BGA is now made up of 87 full member clubs with affiliated clubs as follows: Army Gliding Association – two clubs; RAF Gliding and Soaring Association – 12 clubs and the Royal Naval Gliding and Soaring Association – three clubs.

Operations. During the year ending 1991 (1990 figures in brackets), member clubs (civilian and combined services) flew 149 313 (169 729) hours and 1 572 409 (1 671 549) kilometres cross-country from 451 606 (452 273) launches from club sites. Club owned gliders total 536 (522) and privately owned gliders 1488 (1508).

Certificates were issued as follows: A endorsements 1326 (1368), B endorsements 214 (214), Bronze badges 464 (471), Silver badges 278 (282), Gold badges 81 (116), Diamond goal 107 (111), Diamond height 75 (54) and Diamond distance 46 (79).

A certificates were applied for by 504 (546) holders of the ATC proficiency certificate.

AIR LEAGUE SCHOLARSHIP

There isn't much time left but youngsters over 18 and under 22 by May 31, 1993 are invited to try for an Air League Flying Scholarship which will give them 15hrs power flying next year. Application forms, which must be in by the end of June, are from The Secretary, The Air League Educational Trust, 4 Hamilton Place, London W1V 0BQ.

SAFETY FLASH
Instrument flying and advanced aerobatics

These two subjects are not directly related except by the potential hazard of getting it wrong. In the interest of flight safety, pilots and instructors are warned about the risks of teaching yourself.

Instrument Flying. Useful training can be given in a two-seater with the *rear cockpit* blanked out using polish on the canopy and a screen in front of the pilot. Real instrument flying in clouds is rather more difficult to arrange. Before flying solo in cloud it is essential a pilot can recover from unusual attitudes solely by reference to instruments and limited panel at that (to cover the case of the artificial horizon toppling). Pilots should not cloud fly on limited panel in modern gliders without adequate training.

There are several cases of gliders breaking up in cloud due to overspeeding, excessive loading and, at least in one case, flutter. The risk is greater in a modern glider by virtue of its less effective airbrakes which may only limit the speed in a 45° dive. Trailing edge flapbrakes opened at high speed can cause critical local loading leading to structural failure.

Advanced Aerobatics. In the past pilots have taught themselves basic manoeuvres such as loops and chandelles without dual instruction although nowadays there is no need for this. Recently interest has increased in so-called advanced manoeuvres such as inverted flight and rolling manoeuvres; these are much more difficult and with significantly greater risk if getting it wrong.

It is generally easier to perform positive *g* manoeuvres and, importantly, with good margins in the positive part of the flight envelope. The negative manoeuvres are flown much nearer to the flight envelope boundaries and if a manoeuvre goes wrong the likelihood of

applying loads outside the design margins much greater. Also a pilot who has not flown such manoeuvres for a month has to be regarded as out of practice, that is requiring further dual instruction or at least a safety pilot. There are very few suitably qualified instructors – probably less than ten in the whole country!

The height loss when a manoeuvre goes wrong may be considerable and prompt use of airbrakes essential to avert the risk of overloading and possibly breaking the structure. The height needed for a successful bale out is considered to be 1500ft to stand a 50/50 chance of survival!

There may, of course, be the further risk of incapacitation if the glider suffers structural failure.

Summary. The risks arising due to a lack of proper instruction and of regular practice are significant. *Beware of attempting to teach yourself!* In the modern glider critical situations can develop very quickly indeed. In the cloud flying case extra height does not constitute a safety margin at all if the glider breaks up in cloud.
Bill Scull, *BGA director of operations*

Inter-University Task Week. We were given the wrong dates for the announcement in the last issue, p101. It will be hosted by the Nottingham Polytechnic GC at Saltby Airfield from July 12-18, not July 19-25. Contact Chris Sellers on 0602 500994, daytime and evenings, for last minute queries.

OBITUARY

HELMUT REICHMANN

Marfa Field, 1970, in Texas. From a Wildwest sheriff's billboard, the smiling, bearded face of Helmut Reichmann looks down above a caption, in large letters: "WANTED FOR SPEEDING". To everyone's astonishment, the 28 year-old German in the LS-1 had succeeded at his first World Championships, almost effortlessly, in carrying off the coveted Standard Class title, leaving highly regarded favourites virtually stranded at the start.

On March 10, at about 4.30 in the afternoon, Professor Dr Helmut Reichmann died when his Discus collided 50 miles north of his launch site at St Auban with a LS-4 flown by 21 year-old Lars Gölz from Weinheim, flying out of Sisteron. Although some 9000ft asl, the collision occurred only 1000ft or so above the mountainside, and the two pilots had no chance. Helmut had just celebrated his 50th birthday.

The deaths of a young pilot and an experienced three-fold World Champion left the gliding movement throughout the world stunned. Was it an unavoidable stroke of ill-fortune? Or a momentary lapse of concentration on the part of one pilot or the other? Could it have been the glider pilot's irrepressible urge always to out-climb others in a thermal? Nobody knows, nor ever will.

Helmut was an international idol in the world of gliding. He first encountered the sport of gliding in his youth, on the Wasserkuppe, and immediately succumbed to its charms. He then flew at Mainz, where he was studying, before joining the Akaflieg (university gliding group) in his home town of Saarbrücken. In 1965, at the age of 23, he won the German Junior Championships and in the two succeeding German National Championships qualified for Marfa, where, at the first attempt, he won his first world title. He took part in five successive World Gliding Championships.

In three of them he mounted the winner's podium: after Texas, there was Waikerie, Australia, in 1974 where he won in a LS-2 after a breathtaking neck-and-neck struggle with Ingo Renner. Then, in 1978, flying the experimental SB-13 of Akaflieg Braunschweig in the 15 Metre Class, he displayed great tactical skill and took carefully calculated risks to beat Karl Striedieck into 2nd place. Gliding enthusiast and radio journalist Werner Schwipps broadcast on short wave to the world at the time: "Whether Helmut won the title in spite of, or thanks to, the SB-13 will remain a mystery".

Nobody had ever before won three world gliding titles. Helmut Reichmann decided to leave it at that. He held long discussions with friends and then, in autumn 1978, announced his retirement from competitive international gliding, at the home of his friend Bruno Gantenbrink.

But this in no way meant that he was turning ➡

British Gliding Association

THE 1000 CLUB MONTHLY LOTTERY

A great chance to win substantial cash prizes and at the same time enable the Philip Wills Memorial Fund to make loans to clubs for site purchase and development.

1000 is the target number of members to participate initially in this new monthly lottery to start in July 1992. If 1000 members subscribe £1.00 a month each then the monthly first cash prize will be £250.00.

HALF of the proceeds go to the Philip Wills Memorial Fund to help with its work in developing BGA clubs and the other HALF will be distributed each month in the form of 6 CASH PRIZES. The more participants we have, the greater the prize money pool.

1st PRIZE – 50% of the prize money pool.
5 Runner Up Prizes of 10% each of the prize money pool.

Chances/numbers can only be bought from the BGA at £1.00 each. Those whose money has been received at the BGA by the end of each month will then participate in the draw on the first Wednesday of each following month. Tickets will not be issued in order to keep the administrative costs low but each member will purchase a "number" which will go into the draw. It is hoped that members will purchase 12 months' worth of tickets at a time. Winners will receive their prizes direct from the BGA and a list of their names will be published in S&G.

Please complete the form below and return it to the BGA with your payment. Please note that only BGA members and their families may participate and that the BGA is registered under the Lotteries And Amusements Act 1976 with Leicester City Council.

Barry Rolfe
Promoter

To: Barry Rolfe, British Gliding Association, Kimberley House, Vaughan Way, Leicester LE1 4SE

Please include me in the "1000 Club" and I enclose £12.00 (payable to BGA) for twelve months of entries, or multiples thereof.

Name .....Signed .....

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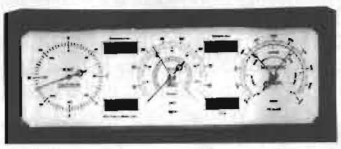
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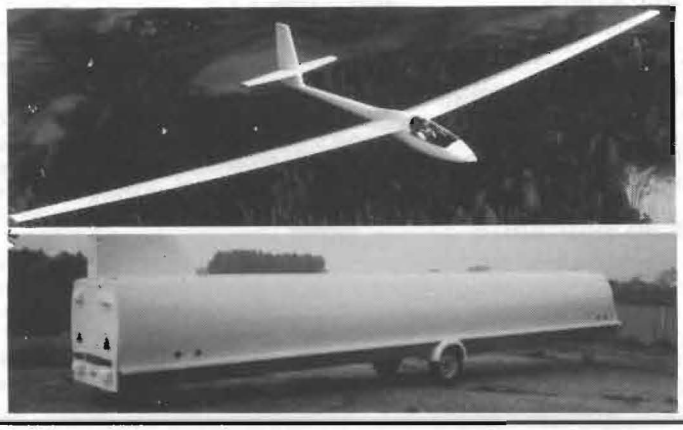
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his back on gliding. From the Regional Soaring Centre at Marpingen, also largely his creation, he continued to fly cross-country all over Germany and France. He took part in gliding expeditions throughout the world and generously gave of his knowledge and skill to newcomers to gliding.

He was Federal coach to the German gliding movement, and as gliding spokesman in official German sporting bodies (Deutscher Sportbund, Deutsche Sporthilfe), he succeeded in using his powerful persuasive skills to win friends for soaring flight amongst the highest level decision makers and sports administrators, and to strengthen the reputation of glider pilots within the 20 million strong "Deutscher Sportbund".

He also knew success as an author. His two books **Cross-Country Soaring** and **Flying Sailplanes** became standard works of reference throughout the world. Finally, with his friend Barron Hilton, he helped make the Barron Hilton Cup the most important and attractive international gliding event outside the World Championships.

Professionally as well as in the air, Helmut was a born teacher, a man with a heartfelt pedagogic vocation. He began his university teaching career as head of gliding at the Sports Studies Institute of the University of Saarbrücken, an appointment which earned him the nickname "Professor of Gliding". Lately, he was Pro-rector of the School of Fine Arts and taught experimental sculpture. He had an extraordinary talent for seeing connections, for spotting young talent and for explaining very complicated processes in simple words, using easy examples. He was always ready to help others.

Typically, it was towards the end of a training flight – when Helmut had been leading a group of four members of the young German improvers' squad around the French Alps – that the tragic collision happened.

The gliding movement, all of us have suffered a grave loss.

FRED WEINHOLTZ *(translated by Max Bishop)*

GLIDING CERTIFICATES

ALL THREE DIAMONDS

No.	*Name*	*Club*	*1991*
372	Webber, P.G.	Lasham	13.9
373	Toon, R.J.	Wrekin	4.1.92
374	Bailey, G.F.	South Wales	22.12

DIAMOND GOAL

No.	*Name*	*Club*	*1991*
2/2028	Weatherhead, A.E.	Cranfield	18.8
2/2029	Warburton, P.	Welland	18.8
2/2030	Pentecost, Alexandra	Lasham	18.8
2/2031	Bennett, G.	Bicester	18.8
2/2032	Bunn, G.F.	Norfolk (in Australia)	28.11.90
2/2033	Gardiner, T.I.	Kent	18.8
2/2034	Jeffries, D.J.	South Wales	18.8
2/2035	Dawe, B.	Lasham	18.8
2/2036	Robertshaw, S.P.	Derby & Lancs	13.8
2/2037	Hayes, A.E.D.	Cotswold	18.8
2/2038	Ellis, P.R.	Kestrel	8.8

DIAMOND HEIGHT

No.	*Name*	*Club*	*1991*
3/1062	Webber, P.G.	Lasham	13.9
3/1063	Richardson, J.H.	Lasham	14.9
3/1064	Meredith, A.P.	Lasham	22.9
3/1065	Bunyan, Caroline	Kent 1.11	
3/1066	Heriz-Smith, N.P.	Midland	1.11
3/1067	Huttlestone, R.I.	Avon	10.11
3/1068	Kentish, S.C.	Deeside	23.11
3/1069	Housden, S.R.	Cotswold	26.12
3/1070	Glazebrook, G.R.	Glyndwr	1.1.92
3/1071	Decloux, Ariane	Cambridge Univ (in France)	29.12
3/1072	Jessop, P.M.B.	Bicester	16.10
3/1073	Massey, J.	Essex & Suffolk (in New Zealand)	22.12
3/1074	Toon, R.J.	Wrekin	4.1.92
3/1075	Smith, D.W.	Clevelands	2.2.92
3/1076	Wright, A.C.	Yorkshire	2.2.92
3/1077	Fitzgerald, J.F.	South Wales	22.12
3/1078	ailey, G.F.	South Wales	22.12
3/1079	Hurn, T.G.	Black Mountains	14.4
3/1080	Dolphin, M.G.	Pegasus (in Sisteron)	13.3.92

GOLD BADGE

No.	*Name*	*Club*	*1991*
1593	Dell, R.	Trent Valley	2.11
1594	Griffin, B.J.	Trent Valley	2.11
1595	Pentecost, Alexandra	Lasham	18.8
1596	Bennett, G.	Bicester	18.8
1597	Bunn, G.F.	Norfolk	28.11.90
1598	Glennie, P.	SGU	19.10
1599	Jeffries, D.J.	South Wales	18.8
1600	Warren, J.R.	Booker	6.10
1601	Robertshaw, S.P.	Derby & Lancs	13.8
1602	Hayes, A.E.D.	Cotswold	18.8
1603	Foxon, A.	Coventry	4.1.92
1604	Massey, J.	Essex & Suffolk	22.12
1605	Mackintosh, A.	Black Mountains	6.3.92
1606	Ackroyd, G.D.	Anglia	4.1.92
1607	Hurn, T.G.	Black Mountains	4.4
1608	Hallam, J.A.	Bicester	16.10
1609	Hogarth, P.B.	Mendip	17.3.9

GOLD DISTANCE

Name	*Club*	*1991*
Warburton, P.	Welland	18.8
Pentecost, Alexandra	Lasham	18.8
Bennett, G.	Bicester	18.8
Bunn, G.F.	Norfolk (in Australia)	28.11.90
Glennie, P.	SGU	19.10
Gardiner, T.I.	Kent	18.8
Jeffries, D.J.	South Wales	18.8
Dawe, B.	Lasham	18.8
Robertshaw, S.P.	Derby & Lancs	13.8
Hayes, A.E.D.	Cotswold	18.8
Ellis, P.R.	Kestrel	8.8

GOLD HEIGHT

Name	*Club*	*1991*
Richardson, J.H.	Lasham	14.9
Briscoe, A.D.	Midland	2.11
Stewart, Jennifer	Vectis	2.11
Dell, R.	Trent Valley	2.11
Griffin, B.J.	Trent Valley	2.11
Perry, S.S.	SGU	9.11
Henderson, I.J.	Deeside	28.12
Glazebrook, G.R.	Glyndwr	1.1.92
Mountain, I.	Cranwell	2.1.92
Stone, Roberta	Cranwell	4.1.92
Bunn, G.F.	Norfolk (in Australia)	28.11.90
Warren, J.R.	Booker	6.10
Symeonides, X.P.	Glyndwr	1.1.92
Rogers, J.F.	Black Mountains	1.1.92
Sheard, M.J.B.	Clevelands	4.1.92
Foxon, A.	Coventry	4.1.92
Massey, J.Essex & Suffolk	22.12 (in New Zealand)	
Newbery, M.J.	Yorkshire	24.2.92
Mackintosh, A.	Black Mountains	6.3.92
Crabb, C.	Mendip	17.3.92
Muncaster, T.W.	Wyvern	4.10
Ackroyd, G.D.	Anglia	4.1.92
Cater, M.W.	Coventry	4.1.92
Hurn, T.G.	Black Mountains	14.4
Hallam, J.A.	Bicester	16.10

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BGA ACCIDENT SUMMARY

Edited by JOHN SHIPLEY
Chairman, BGA Safety Panel
Compiled by David Wright

Ref Number	Glider Type	BGA No	Damage	Date Time	Place	Pilot/Crew	Age	Injury	Hr
132	LAK-12	3745	M	24.08.91 1200	Dunstable		36	N	45

In a slight crosswind the wing runner let go too soon and the pilot was not able to stop the wing touching the ground. The glider bounced into the air then turned on the wingtip and finally landed as the pilot released.

133	LS-4	AGA183	M	31.07.91 1750	Mursley, Bucks		47	N	461

The pilot had to make a field landing towards the end of a soaring day. He chose a field that had previously been landed in by two gliders and proved satisfactory. Unfortunatly heavy rain had caused soft patches which were not visible. The glider sank in a soft area then ran against a hard area which damaged the underside.

134	ASW-15	3731	M	08.09.91 1710	Dunstable		55	N	476

The pilot made a normal fully held off landing with half brake "as the wheel brake had been adjusted".On touchdown the glider was seen to bounce slightly, then stopped quickly with the nose touching the ground lightly.The brake had seized on. The brake shoe had welded itself to the drum side wall.

135	Pilatus B-4	2189	M	03.09.91 1145	Aboyne		27	N	34

In a 5kt crosswind aerotow take-off the glider's left wing, which had been fitted with a boom mounted camera, was allowed to drop. The glider left the side of the narrow runway at about 30° to the take-off track and hit a large boulder which caused minor damage.

136	Janus	-	M	02.09.91 1205	Aboyne		43	N	400
						P2	39	N	590

After a poor circuit the speed was allowed to build up to 70-75kt which resulted in the glider landing well up the runway. It ran off the end of the runway and P1 took over to avoid a wall. Under heavy braking on rough ground the nose wheel was pushed up into the fuselage.

137	K-21	2928	M	16.08.91 1938	Wormingford		42	N	96
						P2	0	N	0

During an evening flying session the landings were being made on a diagonal strip leading to the main runway. After a normal landing the pilot thought he saw a tyre in the grass and steered around it. In doing this he failed to realise the nearness of the crop alongside the strip and caught the wingtip in it causing a mild groundloop.

138	Nimbus 2	2137	M	01.09.91 1830	Snitterfield		0	N	–

While de-rigging the glider was placed on its dolly and both tips and the right wing were removed. As the left tip was removed the fuselage turned over on to its side, cracking the canopy. The ground in the area was rather uneven and as the weight was taken off the fuselage the wheel came into contact with the ground and pushed it off the dolly.

139	Std Cirrus	2420	W/O	07.07.91 2100	Argenton, France		59	S	1191

Two gliders had to abandon a dual cross-country aerotow due to bad weather and the pilot of the first glider made a safe landing in a field. The second pilot made several circuits of the field to check it carefully before landing. However, he did not see the cables on the approach until too late and hit them. He was seriously injured.

140	K-21	2764	M	02.09.91 1915	Long Mynd		42	N	236

A normal landing was made on the grass area close to a roadway. During the ground run the glider hit a rut next to the roadway which damaged the structure around the nosewheel.

141	K-21	3712	M	03.09.91 1750	Llewni Parc		35	N	285
						P2	16	N	0

The glider was being rotated into a full climb at about 50ft when the winch cable broke. P1 lowered the nose then started a sideslip with airbrakes out before the speed had built up. When the glider was straightened for landing at about 10ft the speed was too low and the rate of descent too great to avoid a very heavy landing.

142	Dart 17R	1292	M	11.09.91 1630	Portmoak		69	N	584

The visiting pilot, who knew the airfield well, landed to one side of the landing area to leave as much space as possible for others. In doing this he apparently cut it too fine and caught a wingtip in the long grass and gorse to the side of the strip.

143	K-7	3603	M	04.08.91	Marchington		40	N	800
						P2	60	N	20

P1 was conducting a Bronze badge field landing check on a tarmac strip away from the normal landing area. After a good circuit and half airbrake approach P2 flared the glider rather too early and P1 failed to take over in time to prevent a heavy landing. The area was known to be subject to low level turbulence in slight crosswind conditions.

144	Fauvette	2768	M	28.08.91 1600	Warminster		60	N	30

After a normal winch launch and circuit the glider slightly bounced on landing then immediately yawed and groundlooped. Examination of the mainwheel disclosed a 2in clean cut from one of the many sharp flints scattered across the airfield surface.

145	Nimbus 2C (Incident only)	–	N	–.08.91 1800	–		65	N	–

During a flight the 4mm bolt holding the trimmer gate sheared. This allowed the trimmer spring to move the trim fully back beyond the normal aft trim position.

146	Libelle 201B	1632	M	31.08.91 1500	Nr N. Pershore		49	N	1028•

On a competition flight the pilot had to make a field landing. He chose to make a higher and faster approach than normal as "he expected to find a strong wind gradient in the lee of a hill". However, he did not find this and landed well into the field. He had to turn to increase his available ground run and groundlooped as a wing touched the ground.

147	K-7/13	-	M	10.07.91 1600	Feshiebridge		55	N	765

The pilot was to fly the two-seater solo and the canopy was checked closed at the rear by an instructor from outside. However, as the pilot signalled "too fast" on the launch, the canopy flew open and smashed. The pilot continued the launch to 500ft then made a landing without airbrakes while holding the canopy frame shut.

148	GROB 109 (Incident only)	M/G G–	N	–.09.91 1900	–		41	N	1900 +500pwr
						P2	43	N	–

At about 300ft in the climb the motor glider suffered a loss of power and ran very roughly. The throttle was closed and a short circuit and normal landing was made without incident. It was found that a broken flap on the carb heat selector on one side of the engine had been sucked into the air intake.

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149	LS-4A	2959	S	16.08.91 1730	Nr Husbands Bosworth	28	N	326

On a very marginal glide the pilot saw good fields short of the airfield so carried on over landable fields. When very low, he decided to land in one of the fields but had to make a very shallow turn to get into it. Even so he caught a wingtip in the hedge and spun in hard. An impact absorbing cushion and tight straps helped prevent injury.

150	ASW-20	3499	M	10.08.91 1600	Odiham	72	N	2714

The glider was being winch launched from an area with a slight cross slope. As the pilot prepared to change flap setting a wing dropped and he did not react quickly as the groundloop started. He had difficulty locating the release knob and the cable back released as the glider turned throught 90°.

151	K-23	-	M	10.08.91 1130	Odiham	0	N	-

The glider was being rigged on the airfield under the supervision of an instructor. The fuselage was positioned into wind on the trailer belly dolly then the instructor left it to get a wing from the trailer. Unfortunatly all his helpers did the same just as a gust blew the fuselage on to its side, cracking the canopy.

152	K-21	AGA 11	M?	21.08.91 1500	Thorney Island	74	N	1352
					P2	0	N	0

After a long ground run the glider lifted off but the airspeed did not increase above 40kt. Halfway along the runway at 20ft, with the towcar reaching the end of the runway, P1 abandoned the launch and landed ahead. Just before touchdown the glider's left wing hit a (post?) at the edge of the runway which swung the glider around.

153	PIK 20E	M/G G-SOAR	S	18.08.91 1515	Nr Long Mynd	39	N	337 +42pwr

After ridge soaring away from base, with the engine retracted, the pilot decided to restart the engine and return. Before extending the engine he first selected a field,in case it would not start. This was the case and so he elected to land in the field. He hit a tree in the boundary hedge and the motor glider spun in causing substantial damage.

154	Sport Vega	2685	S?	29.09.91 1554	Aboyne	34	M	5

While on his first flight on type the pilot found himself number five to land. His first choice of landing place was occupied so he changed to a second runway which was just being cleared. Distracted by the activity, he allowed the speed to build up and landed near the runway end. The glider ran off the end, down a steep bank and broke up.

155	Puchacz	3620	W/O	26.09.91 1717	Wycombe Air Park	0	-	-

The hangar had been packed due to approaching bad weather but unfortunatly there was no room for the Puchacz. A very strong gust picked up the glider which rotated about the wingtip. It hit a car and came to rest in front of the hangar, narrowly missing three people.

156	Falke	M/G G-BRRD	M	16.09.91 1800	Marchington	44	N	72 +35pwr

After touchdown the motor glider hit a bump on a rough area of the airfield and the pilot lost hold of the stick. As a consequence the nose dropped and the propeller tips hit the ground. A long spell of dry weather had made parts of the airfield uneven and rock hard.

157	K-6CR	2475	W/O	21.09.91 1430	Radley Green	45	M	31

While attempting a Silver distance the pilot found the headwind too strong and decided to land in a field. He circled the field several times and in doing so became disorientated and landed downwind. He tried to reach the next field but hit the boundary hedge and the glider somersaulted into the ground.

158	Kestrel	-	S	27.09.91 1456	Connel	30	N	688

The pilot decided to land ahead of an approaching shower and flew a slightly fast circuit to allow for the glider's wet wings. Turning finals with full flap he felt that the glider was near the stall so put on more speed. It landed at 65-70kt just outside the boundary fence which was hit as the pilot tried to "jump" the glider over it.

159	K-8B	2418	M	21.09.91 1530	Morridge	77	N	20

After a normal approach and landing it was noticed that the lower fuselage longeron was bent. This and both of the previous two landings had been smooth. It appears likely that the generally hard ground after a dry spell combined with an area weakened by age and previous similar damage had caused the failure.

160	Astir Club 3	2741	M	18.09.91 1645	Nympsfield	57	N	22

The glider was seen to be flying a faster than normal approach for the conditions. It was flown on and bounced, then touched down slightly sideways causing damage to the undercarriage mounts and the canopy.

161	K-13	2256	M	21.08.91 1122	Saltby	31	N	900
					P2	0	N	0

P1 had noted poor tug performance on an earlier flight. On this flight the tug was slow to get airborne and P1 did not release as he had no safe landing ahead. However, the tug started sinking so he pulled off and landed heavily in a nearby field. The airbrakes were seen to have been open during the ground run.

Please note following accidents have been de-identified on the main report.

123	Astir CS 77	2391	N	17.07.91 1158	Long Mynd	42	N	211

Following a winch launch the pilot found that the glider would not respond to forward stick and almost stalled as it left the cable. By using full trim and leaning forward he could only make 45 knots and just managed to land safely. Tape on the elevator had lifted across the full width and acted as a spoiler. Tape bubbles were seen before take-off.

145	Nimbus 2C	2491	N	20.08.91 1800	Lasham	65	N	–

During a flight the 4mm bolt holding the trimmer gate sheared. This allowed the trimmer spring to move the trim fully back beyond the normal aft trim position.

148	Grob 109	M/G G-BRCG	N	20.09.91 1900	Enstone	41	N	1900 +500pwr
					P2	43	N	–

At about 300ft in the climb the motor glider suffered a loss of power and ran very roughly. The throttle was closed and a short circuit and normal landing was made without incident. Subsequent engineering examination revealed a broken flap on the carb heat selector on one side of the engine which had been sucked into the air intake.

S=Serious; W/O=Write-off; M=Minor; N=Nil

The 1992 S&G Yearbook, with loads of special articles, an airspace update, records, annual statistics and a club directory, is now available from the BGA at £3.45 (including p&p).

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INTERNATIONAL GLIDING COMMISSION

Extracts from Tom Zealley's report on the meeting held in Paris from March 13-14

Twenty-four countries were represented with about 40 people present.

Sporting Code. This has been revised with an improved layout. Notable changes were:- cameras for start and TPs must be held in fixed mountings in the cockpit; electronic barographs may be used (subject to approval by national associations) for all badge flights and wings may be flexed upwards when measuring the wing span of 15 Metre and Standard Class gliders.

Motor gliders. It is hoped to take a firm decision in a year's time on whether motor glider competitions should be merged with pure glider competitions. It was mentioned that almost all new Open Class gliders had engines and the German Aero Club are admitting those with restartable engines in a new National 18 Metre Class.

World Championships – New Zealand 1995. John Roake was enthusiastic about the prospect of using Global Positioning Systems for flight verification, which he hoped would avoid the labour intensive job of examining large numbers of start and TP photographs. The system will be tried out at Swe-glide this summer.

At the moment GPS for navigation is prohibited for International Championships but it was agreed by a substantial majority that the current ban on electronic navigational aids should be removed from the revised Sporting Code. However, by a smaller majority, it was agreed that GPS couldn't be used in the European Championships in Hungary in July. The ban on cloud flying instruments in International Championships remains.

New Zealand and Sweden won't be setting POST tasks during their World Championships.

Airspace. Through vigorous lobbying the threatened requirement for gliders to carry mode C transponders in Sweden and Belgium have been removed for the time being.

European Championships. The 1993 Women's Championships will be at Hosin, Czechoslovakia and the 1993 Junior Championships will be at La Roche-sur-Yon, France, from July 24-August 6.

Awards. Ray Lynskey (New Zealand) was nominated for the Lilienthal medal and Gisela Weinreich (Germany) the women's Majewska medal.

Peter Ryder remains the IGC president and there were no changes of vice-presidents.

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CLUB NEWS

Copy and photographs for the August-September issue should be sent to the Editor, 281 Queen Edith's Way, Cambridge CB1 4NH, tel 0223 247725, fax 0223 413793, to arrive not later than June 9 and for the October-November issue to arrive not later than August 11.

GILLIAN BRYCE-SMITH
April 8



Patrick Hogarth of Mendip GC after his 16th birthday solo photographed with his instructor, brother Philip.



Our second 16th birthday solo – Paul Clarke of Essex GC.

ANGLIA (RAF Wattisham)
Gary Bennett has been awarded the Royal Aero Club's Certificate of Merit for his gliding achievements. The K-13 is nearing completion and we have made good progress on the bus, thanks to much hard work.
N.P.

ANGUS (Arbroath)
Chairman, George Nelson, presented cups to Gordon Clark and Martin Clarke at the annual dinner-dance. Congratulations.

The highlight of the April flying week, curtailed by heavy rain and strong winds, was a 115km triangle by CFI Allan Black (Vega) on the 4th. Hours and launches are well up on last year.
C.H.W.

BICESTER (RAFGSA Centre)
We have had some reasonable soaring and better weather has brought new faces to the club. Congratulations to all the new solo pilots.

Unfortunately the first week of the Talgarth expedition was rained off.
C.A.D.

BLACK MOUNTAINS (Talgarth)
A large number of visitors have enjoyed a remarkable number of wave days. On one February day all the gliders reached Gold height with a Diamond missed by 100ft. The Pawnee has been repainted and given a hush kit.

Course director Les Bradley is offering a wide range of advanced courses in wave and mountain flying.

Congratulations to Alastair Mackintosh (Gold badge and instructor's rating) and Tony Burton on winning the BGA De Havilland cup for his outstanding flight on New Year's Day.
A.M.

BLACKPOOL & FYLDE (Chipping)
During the wettest, windiest week conservation volunteers, supervised by the Bowland Forest rangers, planted 2000 trees behind the hangar to eventually form a windbreak and shield a proposed caravan site. Our grateful thanks to them and John Richardson for masterminding this and many other field improvement projects.

Three new gliders have arrived – an Open Cirrus, M200 and a K-21. Sadly our first ever, brand new super silent Pawnee flew for only three days before losing a battle with a winch cable, but it should be back by Easter.
V.H.

BOOKER (Wycombe Air Park)
Six new members were elected to the committee at the AGM, the biggest change for many years. We have formed a marketing group who have an arrangement with Bisham Abbey, the National Sports Centre, to provide reasonably priced accommodation and sports facilities for our visitors. This will help our courses and possibly even Nationals crews.

The beginning of April saw our first 300kms and we have reports from the Cerdanya expedition in Spain of wave climbs to 24 000ft and thermals to 12 000ft.

Wycombe Sports Council has made an award to Adam Westoby for his efforts in learning to glide despite his daunting physical handicap.
R.N.



Above: Darran Robinson (Culdrose GC) had to wait until the day after his 16th birthday to go solo. Below: Geoffrey Mostyn Lewis of Derby & Lancs GC pictured prior to his last solo flight at the age of 84.



Two young Shalbourne pilots have soloed. Below left: Elizabeth Warner (on her 16th birthday) with her instructor Geoff Nicholls. Right: Fergus Glen, aged 18, with his instructor, Richard Dann.

BORDERS (Galewood)
Our AGM was in March and we have decided to build on our success by acquiring our own site now that the bank balance is back in the black and loans to members have slowly been reduced. For the next two years we aim to concentrate on improving ground facilities. With that in mind our elderly Bocian is having a major overhaul and we have a second factory re-conditioned Bocian to augment our fleet.

Our next priority is to acquire land next to our field to start winching and then update the club fleet. Our Super Cub gives good service but will soon need major work.
R.C.

BRISTOL & GLOUCESTERSHIRE (Nympsfield)
Our invigorated management team have been getting the best from our excellent new facilities. Steve Parker, our new secretary, gained 16 000ft in March wave while Derek Thomas (Discus), who soloed last year, climbed to 12 600ft, demonstrating the benefits of our accelerated training programme.

Sid Smith's spring task week was well attended. Congratulations to Russ Francis, our first solo of the year. Visitors are welcome and





A number of you mentioned the success of the BGA Safety Presentation which on going to press has been given at over 48 clubs, often with nearby clubs being invited to join, and has reached more than 3400 pilots. We have cut out these references to save repetition and space. The presenters are Mick Boyden, David Fraser, Peter Gill, Steve Longland, Andy Miller, Jonathan Mills, Paul Myers, Chris Pullen, John Reeves, Keith Scott, Bill Scull, Derek Sear and John Shipley.



Louise Kennington of Glyndwr after going solo.



Bob Staveley of Dukeries GC after going solo, photographed with his instructor Glenn Barrett.

we suggest you try our 25 miles north ridge run from Cleeve Hill to Stinchcombe, which is serious fun.
S.R.

BUCKMINSTER (Saltby Airfield)
Nottingham Polytechnic GC had a successful task week despite strong crosswinds. Congratulations to Justin Braime and Mike Cunningham (going solo) and John Harwood and Roger Shepherd (AEI ratings).

We have had our AGM, the two Bronze badge training weeks are full and membership has increased. A warm welcome to Keith, our course



The northern corner of the Cambridge University GC's new site at Gransden Lodge. The TP, GRL on the BGA list, is the clubhouse/hangar complex on the right of the photograph taken looking east by John Glossop.

instructor, and Paul, the tug pilot. Visitors are always welcome.
M.E.

BURN (Burn Airfield)
The hangar is beginning to bulge with the Swallow hoisted aloft to make space for our club fleet of a K-7, two K-13s, K-21, two K-8s, SF-27, Astir, Super Falke and Pawnee. We plan to build a MT garage to give our hard working Tony Flannery more space.

A group repeated last year's visit to German gliding clubs, this time going to Oerlinghausen, Grefrath and Herne.

A Twin Astir, ASW-20 and a rebuilt Diamant join the private fleet.
P.N.

CAMBRIDGE UNIVERSITY (Gransden Lodge)
At the AGM Steve Longland stepped down as CFI and is succeeded by Robert Bryce-Smith. Our

A hangar flight at Portmoak taken by Graham Niven.

thanks to Steve for all his hard work which will be continued in various gliding activities.

Evening flying will be on Mondays, Wednesdays and Thursdays for *ab-initio* and solo pilots. We have an SZD Junior on order.

Congratulations to Alyson Maskell (AEI rating) and to Dave Foskett and Robert Verdier (going solo).
J.L.B.

CLEVELANDS (RAF Dishforth)
We welcome Air Cdr Graham Pitchfork as our president and Grp Cpt Tom Eeles as chairman. We are sorry to say goodbye to three of our most enthusiastic and hard working members – Jackie and Martin Clegg are off to Brüggen and "Mossie" Williams to Brize Norton.

Congratulations to Jonathan Mennell and Tom van der Raay on going solo.

Hangar Cat, chief of rodent control for almost 20 years, has finally gone to the big hangar in the sky and will be sadly missed. (See article in this issue.)
J.P.

COVENTRY (Husbands Bosworth)
The soaring season started on February 28 when Alan Kangurs (ASW-17) flew a 100km triangle. The four drum winch has a new gearbox ➡



specially made by ZF of Germany and featured in their internal magazine.

The courses are under way and we are flying seven days a week.
T.W.

COTSWOLD (Aston Down)
We congratulate Richard Burgoyne, Dave Moore and Oliver Ward (AEI ratings) and Mike Pirie on becoming CFI, taking over from Ruth Housden whom we thank for her years' of dedication and hard work.

We are flying seven days a week and visitors are welcome with their gliders. We have started occasional aerotowing, which is working well with the reverse motor tow, and have bought a new K-13.

Many members enjoyed a weekend seminar with Derek Piggott on cross-country and soaring techniques and would highly recommend him to other clubs.
M.S.

Chris Batty



We were all upset to learn of the death of Chris Batty at the early age of 41. Ironically this came when his long battle against leukeamia looked close to success.

From an early age Chris centred his life around aviation. He won the best apprentice of the year award at British Aerospace and later became the company's top fuel system design engineer, working on Concorde and various Airbus designs.

He won many model flying competitions including the British Model Open Rubber Championship and at 18 represented Britain in the World Model Free Flight Gliding Championships. Chris joined the Cotswold GC in 1972 and became a keen and competent cross-country and competition pilot with a Gold badge and two Diamonds. He also had tremendous skill as a technical and practical engineer and was a BGA senior inspector. It meant many of his gliders were rebuilt wrecks, his last being an ASW-20.

When British Aerospace moved him to Toulouse, France in 1986 he joined the Bourg club and gained his PPL.

Chris was a rich mixture of perfectionism, expertise, humour and outstanding good nature and a good and loyal friend. Above all else his chief love was for his family.

Our heartfelt sympathy goes to Liz and the boys, Tom, David and Martin, who are nevertheless left with numerous happy memories of their life with Chris.
John Holland and Larry Bleaken

CRANWELL (RAFGSA)
Our first cross-country of the season, 100km, was in early March. Congratulations to Ivan Howarth on going solo and Tim Favor and Nick Hawley on Bronze legs.

Membership is increasing; we hope our expedition to Llweni Parc this month will be as good as our wave camp at Dishforth; we are replacing our motor glider with a newer version; are about to get an airfield bus and several members are doing SLMGPPLs.

A correction to our last entry – we are celebrating our 20th anniversary this year, not our 25th, with numerous events.
I.M.

CULDROSE (RNAS Helston)
Darren Robinson went solo the day after his 16th birthday – the base couldn't be closed on the day. Sid Hillman, the instructor who cleared him also sent Darren's father solo.

We had incredible soaring on the weekend of April 4-5 with a 5000ft cloudbase. Pete Green flew his 5hrs, Steve Coulthard his final Bronze leg and Marc Rowley re-soloed after eight years.
R.A.

DARTMOOR (Brentor)
At the AGM in March chairman, Phil Jarman, reported steady progress with 14 gliders flying regularly from Brentor and 3921 member launches and 205 air experience launches in 1991. The new committee includes Joyce Andrew (treasurer), Anne Simpkins (secretary), John Bolt (site manager) and John Clark (site engineer).

We have had winter lectures; planted 150 trees around the site and plan to visit Aboyne and France.
F.G.M.

DEESIDE (Aboyne Airfield)
At the AGM chairman Peter Coward and the committee were re-elected. The Chairman's trophy was presented to Lionel Sole.

The spring wave has been working most days with seven Gold heights on one day in early March for our visitors.

Congratulations to Richard Holt on going solo and to Steve Thompson and Ian Henderson on their 5hrs.

Work is well under way with the new clubhouse. Glider charges have been reduced with flight time in excess of 3hrs free.
G.D.

DERBY & LANCS (Camphill)
We have formed a cross-country club for early solo and Bronze badge pilots to fly with instructors to dispel nerves and show what can be achieved.

Coventry GC pilots recently enjoyed good flights in wave and thermals.

Geoffrey Mostyn Lewis decided to have his last solo flight in March at the age of 84. A distinguished pilot for many years, he will continue to fly in club two-seaters.

Steve Carver is the holiday course instructor with Clive Wilby and Bill Hughes as weekday instructors. Our thanks to Stuart MacArthur for his hard work and patience as the mid week instructor.
M.I.R.

DEVON & SOMERSET (North Hill)
Our first cross-countries were on March 8 by Ron Johns (Pegasus) and Damian Le Roux (K-6CR). On April 4 Damian and Tim Bardon (SF-27A) flew 150 and 130km triangles and Colin Watt (ASW-19) a 170km multiple TP task.

At Talgarh in March, Guy Adams gained Gold height in the club's Junior. We have further expeditions to Talgarth and Portmoak.

Jonathan Smith has a full Cat instructor's rating; Bernard Reeves, after a decade's break, has resoloed and Adrian Bolt, Chris Wool, Richard Petheram, Peter Callaghan and Alan Turner have gone solo. Well done!

We are celebrating our 40th anniversary with a hangar party after flying ends on Saturday, July 18. We hope past D&S members will come and renew old acquantances.
I.D.K.

DORSET (Old Sarum)
We had expeditions to Talgarth, Aboyne and the Pyrenees with some success.

Tony Pattemore and Bernie Shackell (Blanik) and Alistair Macgregor and Alan Milne (DG-300s) flew the season's first cross-countries during the weekend of April 4-5 and we had some Silver heights.

The petrol winch is back in service thanks to all who laboured in the hangar.
E.B.

DUKERIES (Gamston Airport)
We had a heavy rate demand after building our hangar but thanks to protracted negotiations by Peter Turner, vice-chairman, we have a 100% concessionary rate relief.

Congratulations to Bob Staveley on going solo and Mike de Torre on becoming a BGA (A and M) inspector.
J.C.P.

ESSEX (North Weald & Ridgewell)
We continue to fly at North Weald while we wrestle with the problems of a green-field site at Ridgewell.

Buildings are still a problem and we would be grateful for any help. We have acquired four ex ATC winches which Ron Burke and his team are refurbishing.

Congratulations to Paul Clarke (going solo on his 16th birthday); Dave Dungey and Geoff Lynch (Gold badges) and John Ley (all three Diamonds).

We will be offering courses and trial lessons at North Weald whenever possible this season.
G.W.L.

ESSEX & SUFFOLK (Wormingford)
Our Tost winch built from a kit, with many modifications by Mike Haynes, Merv Gooch and Richard Kimberley with help from many others, is working well. Congratulations to Victor Francis, our first pilot to be fully winch trained. Also to our new chairman, Chris Price, his son

Rupert and Alan Roberts on going solo.

The syndicate fleet has another K-6 (Mike Friend and Stuart Harvey) and a DG-200 (John Amor, Bob Brown and Les Marshall).
C.J.R.

GLYNDWR (Denbigh)
Congratulations to Louise Kennington and Kenny Clewlarthon going solo (Kenny also has a Bronze leg) and to Ian Pettman, from RAF Halton, on setting a new site record of 20 500ft. We have a new CFI/site manager, Paul "Porki" Conyers who took over from Dave Bullock. Many thanks to Dave for all his hard work in getting the club so well established.

A K-13 has joined our fleet and we will soon be offering motor glider training when our Venture arrives. Our caravan site for members and visitors will soon be open.
G.H.

GRAMPIAN (By Laurencekirk)
The winter has been relatively good with few non flying weekends and two wave weekends in March.

Membership is increasing and we now queue to fly.
R.J.S.

KENT (Challock)
Our workshop hire facility has been well used for winter fettling. At the well attended AGM Tim Gardiner was re-elected as chairman with Les Connolly as secretary.

The Talgarth expedition wasn't a great success but some limited hill soaring was achieved.

The first April weekend gave good soaring with Charlie Guy gaining Silver distance on Saturday and Silver height on Sunday.
D.J.C.

LINCOLNSHIRE (Strubby)
It was decided at the March AGM to change our name from the Strubby GC to Lincolnshire (Woodthorpe) GC though we will continue to operate from our airfield.

Dick Skerry has claimed the "first hour of the year" trophy and John Kitchen is the new safety officer.
R.G.S.

LONDON (Dunstable)
We welcome Richard Barber as the resident tug pilot. Late winter wave days have allowed the ASH-25 to soar around the countryside, even completing a 300km in February. The weekend task setting and cross-country group are in full swing with several thousand kilometres already flown.

We were sad to hear of the death of Ken Barton in March and send our deepest sympathy to his wife Annette and family. There will be obituary in the next issue.

The Dunstable Regionals are being booked up so apply quickly.
C.P.B.

MARCHINGTON (Tatenhill Airfield)
We moved to Tatenhill in March and share two runways, 26/08 and 22/04, and a grass strip to the north of 26. Glider circuits are right hand with left hand circuits for powered aircraft. The tower frequency is 122.2MHz.

Our clubhouse, a large portacabin, is being renovated and redecorated to a high standard by enthusiasts and we have all mod cons.

Visitors are welcome (PPR for power please) and we fly weekends, Wednesdays and Bank Holidays and have three courses and a task week planned.
A.R.

MENDIP (Halesland)
After a disappointing winter we had a very successful expedition to Aboyne in March with Gold heights for Peter Turner, Tim Hogarth, Derek Simpson and Chris Crabb; heights to complete their Gold badges for Phil Hogarth, Bob Merritt, Barry Goodyear, Peter Jones and Paul Crooke while Paul Edwards achieved a Gold height and 5hrs for his Silver badge.

Congratulations to Patrick Hogarth on his 16th birthday solo, the third Hogarth to do so at Mendip. Patrick is the first recipient of the Arthur Robinson memorial bursary, a club grant of £50 towards flying costs.

A Skylark 4 joins the club fleet.
T.A.D.H.

MIDLAND (Lond Mynd)
Our new Pawnee, G-CMGC, towed for the first time on February 9. The season started well with thermals at the end of February, excellent soaring on March 8 with several cross-countries, a lot of bungying and some midweek flying. The courses started on March 16.

George Owen has soloed and Chris Harris is a fully rated instructor. Over 90 came to our annual dinner-dance and prize-giving with Per Lindstrand as the guest speaker.
A.R.E.

NENE VALLEY (RAF Upwood)
Our two winches have been modified, thanks to Les Ward and team. Gary Johnson (K-8) had a 1 hr flight on March 8.

There was a well attended safety meeting given by CFI Horace Bryant. A SZD Junior has replaced the club Astir and K-8.
D.H.

NEWARK & NOTTS (Winthorpe)
We have started flying after our annual refurbishment shut down. Congratulations to Garry Rivers and Dan Goldsworthy (AEI ratings) and Richard Jackson and Dave Kassube (Bronze badges).

Chris Goldsworthy now has a Skylark 3 and Barry Pattison has joined an Oly syndicate. Visitors are always very welcome.
M.A.

NORFOLK (Tibenham Airfield)
Congratulations to Paul Baldwin (Silver distance) and to Steve Ell and Neil White (visiting pilots achieving SLMGPPLs).

Our thanks to Woody and Eric Arthur for their well attended lectures for early cross-country pilots.

We have replaced our Swallow with a K-8 for early solo pilots, had one of our K-13s fitted for paraplegic pilots by John Edwards, are planning to buy a third K-13 and awaiting the arrival of two syndicate Falkes.

At our annual dinner on April 4 trophies were presented by our president, Alf Warminger, to Phil Jones, John Winsworth, Roy Woodhouse (two), Eric Arthur/Stuart Jeffery (two each), Tony Walsh, Mike Watson, John Davey, Steve Doran, Mike Lindsay, John Ayers, Gerald Nunn and Ray Hart.
R.J.H.

NORTH WALES (Bryn Gwyn Bach)
Gareth Davis is the first in our history to go solo on his 16th birthday and very nearly gained a Bronze leg with 23min on our ridge. He started flying at 13 and is a keen member.

Any pilots are welcome to visit us. Please ring Dave Sprake on 0745 582286.
D.J.

OXFORD (Weston on the Green)
There has been little winter activity but Terry Cain and Peter Turner have gone solo and an LS-4 joined the privately owned fleet.

In April we said farewell to a former CFI, Colin White, who joined us from Sutton Bank many years ago and has emigrated to New Zealand where we wish him all the best.
F.B.

PEGASUS (RAF Gütersloh)
Ten members avoided our dreadful weather by going to Sisteron in March, with Mick Dolphin, "Spud" Hallam and Thomas Micke returning with Diamond heights, Mick especially pleased to have flown it in his lovingly restored Dart, and Ron Turley (chairman) and Keith Wallis with Silver heights and durations, Ron flying 5hrs three times.

At the AGM trophies winners included Chris Ballard and Ray Pye with ex chairman Bob Marston receiving the RAFGSA Member of the Year award.

The second winch has a new engine and we are having a second Discus.
D.R.M.

PETERBOROUGH & SPALDING (Crowland Airfield)
Congratulations to David Crowhurst on his full category rating and to James Crowhurst, Andy Griffiths, Les Rigby and Dave Penny on their Bronze badges. ➡

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The Midland GC's new Pawnee flown by their tug master Mark Wakem.



Paul Barker of Southdown GC who went solo just after his 16th birthday.



Above: Noel Hawley (Wrekin GC) receiving the Jerry Odell memorial trophy from the CFI, Dave Gordon. Below: Gareth Davis, the first from North Wales GC to achieve a 16th birthday solo, with his instructor, DCFI Ken Payne.

Lois and Dick Thirkill have started a club ladder and our annual dinner is on May 1.
D.K.P.

PORTSMOUTH NAVAL (Lee on Solent)
At the AGM the following were awarded trophies:- Dennis Wiltshire, Hazel and John Robinson, Nigel Gilkes, Martin Heneghan, Alan Clark, David Wadman and Ken Stephenson.

There has been much winter work on the hangar and club equipment with particular thanks to Steve Wilkinson and Geoff Clark (glider fleet) and to Ian Hammond and Phil Moore (tug refurbishment).

Well done to Dave Kearns on gaining a Bronze leg at 5pm on February 29.
Y.C.

RATTLESDEN (Rattlesden Airfield)
The V8 engine has been fitted to our new winch and it all looks good.

Roy Woodhouse, Norfolk GC's CFI, was in good form as the principal speaker at our enjoyable and well attended dinner. Paul Juby won the cup for the most improved pilot.
M.E.

SACKVILLE (Riseley)
We have lots of new toys – a Bocian, a single-seater Mucha is due soon, a Super Cub, a hangar nearing completion and the prospect of a new winch.

The syndicate rebuilding a Swallow are nearing the end of their task. We welcome weekend visitors.
D.C.W.

SCOTTISH GLIDING UNION (Portmoak)
With our seven day operation we had over 900 launches in February and March with 38 flying days (only one not soarable), many wave days and only eight land-outs. On February 5 everyone soared above 9000ft and most went cross-country including a 120km triangle by R. Dalling and A. Laing (K-13).

Congratulations to Neil McAvlay and John Pryce (AEI); Brian Lyell and Ian Trotter (Gold height); Graham Niven (Bronze badge); Kevin Hook (going solo) and Ian Breingan (re-solo after 24 years). The pre-Bronze course by Colin Hamilton and Dave Hatton encouraged many to fly Silver heights and durations.

Membership is growing and we have some vacancies on our courses for all needs up to AEI and cross-country. Phone 059 284 543 for details. Visitors are also made welcome including the Bidford contingent who had exciting flying on New Year's day.
G.N.

Obituary – Frank Ireland
Frank died peacefully on February 26. He and his late wife Tibby will best be remembered by older members as the couple who set up and developed the high standards of the then new clubhouse in 1961.

Frank, a master carpenter, turned his considerable skills to glider repairs and established our workshops, becoming a much respected senior inspector. After the couple gave up the clubhouse, Frank ran the workshops until his retirement in 1975.

He will be remembered as cheerful, obliging and willing to help with any job large or small. We send our sympathy to his family.

SHALBOURNE (Rivar Hill)
Fergus Glen and Elizabeth Warner went solo on Elizabeth's 16th birthday in February when Denis Maynard also soared the K-8 for 50min.

The CAA safety presentation delivered by David Hockings was well attended and informative.

Various projects are nearing completion thanks to Alan Pettitt (leading the Tost winch refurbishment); Peter Mortimer and Ken Eggleton (new launch point control caravan) and Geoff Nicholls (co-ordinating the retrieve vehicle engine overhaul).

Jonathan Mills, our first home-grown CFI, has taken over from Chris Rowland. Our thanks to Chris – borrowed for two years from Booker.
J.R.

SOUTHDOWN (Parham Airfield)
At our AGM in March John Hawkins (clubhouse and premises officer) and Colin Robinson (PR and vice-chairman) retired by rotation (our thanks for their hard work) and were replaced by Tim Brewer and Bill Sisson.

Congratulations to Paul Chantler (going solo) and Stuart Ross, Bill Sisson, Tim Brewer, Paul Marriot, Sue Hill, Andy Bushby and Peter Hord (AEI ratings). Our thanks to Ron King and his gang for refurbishing the K-13 fuselage.

A new DG-500 will be delivered this summer.
W.R.S.

STAFFORDSHIRE (Seighford)
The move to Seighford was delayed by last minute legal complications which have virtually been resolved but gave us a few weeks' worry. However work is proceeding rapidly on the new field, thanks to a remarkable number of volunteers who are revealing unsuspected fencing and shovelling skills.

We are delighted the Avro GC have joined us at Seighford but are sorry to lose a few valued members who live too far away. Our thanks to the clubs, particularly Derby & Lancs and the



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Midland, who offered flying to members during our temporary shut-down.

The AGM was well attended with awards made to David Thorpe, Nigel Jennings, Simon Watson, Geoff Oultram, Roy Goodwin and Peter Gill. Nick Tetlow joins the committee with Pauline Goodwin as vice-chairman, joining her husband Roy as treasurer.
P.J.G.

STRATFORD ON AVON (Snitterfield Airfield)
The new SZD Junior is very popular with several good soaring flights during its first week. The Dart 17 has a new trailer, hopefully ready for its Portmoak trip, the workshop is taking shape and a replacement cable towing vehicle has been promised.

Bookings for the July course and trial lesson evenings are healthy. Congratulations to Tony Murphy on Silver height.

Martyn Davies retires as CFI after three years and is succeeded by Dave Benton. Thank you Martyn for your hard work.
H.G.W.

SURREY HILLS (Kenley Airfield)
Intensive winter flying produced solos for Richard Mace, Mike Hughes, Alan Frost, Dave Williams and Norman Heals. The K-7 and K-13 have been re-covered and the new K-8 is very popular – many thanks Terry.

Our AGM was well supported with awards going to Richard Mace, Dennis Henley and Tricia Pearson. We have Roger Warren as the full time instructor and are now flying Monday to Friday from 0900 to dusk. Steve Dowes has just gained his assistant rating making him our first home grown instructor. Well done. But we are still short of instructors for the evening shift and if anybody is interested please call Peter Poole on 0883 743196.
P.A.P.

THRUXTON (Thruxton Airfield)
There have been successful expeditions to Bassingbourn (of B17 fame) to help run a course for the Army and to Aboyne where, despite very rough conditions, Andy Mercy and Barry Lovett flew Gold heights. We congratulate Mark Thomas (going solo) and Bob Bottomley (AEI rating).

We have a second Blanik and a re-engined tug.
B.L.

TRENT VALLEY (Kirton in Lindsey)
The annual dinner-dance was a great success and there were good soaring days in March.
Our very successful safety evening with members from Strubby and Scampton members was followed by supper, making it a pleasant inter-club social event. Our Super Cub had an extensive three year C of A.

Congratulations to Paul Gardner, Vin Geraghty and Peter Rocks on their AEI ratings, and every success to our young instructor, Andrew Cullum, who is joining Gillian and Bryan Spreckley at the European Soaring Club, Le Blanc.

Roger Smalley has retired as an instructor after many years of stalwart service but continues to fly his Swallow.
A.J.D.

TWO RIVERS (RAF Laarbruch)
Our open day in February was a great success with free flying for all BFG personnel and radio and television coverage – our thanks to the hard work by members.

Congratulations to Mike Gazzard and Andy Gardener (AEI ratings) and to Borkhardt Dreyer (Bronze badge). Our K-8 is being refurbished.

Chris Gilbert has returned to the UK and we thank him for all his work as our engineering officer.
L.F.

ULSTER (Bellarena)
Operations resumed on March 7, an excellent ridge day in a stiff NW, after a short closedown for the tug's three year C of A.

Our big recruitment drive this year is to be group air experience evenings on Friday for which our geographical position favours us. In high summer sundown is well after 10pm.
R.R.R.

VALE OF WHITE HORSE (Swindon)
There were some creditable flights on our first soaring weekend with Sue Sellman achieving a Bronze leg and Silver height minus a barograph!. Congratulations to John Johnson and Peter Finnegan (going solo) and to those who received trophies at our very enjoyable annual dinner in March.
L.C.W.

WELLAND (Lyveden)
At our recent AGM Ken Preston (chairman), Chris Hill (treasurer) and Ken Wells and Reg Inman were elected to the board of management.

At the annual dinner a presentation was made to Phil and Betty West for their hard work over 12 years. The main speaker was David Evans and trophies went to Barry Chadwick (two), Paul Warburton, Ken Payne, Bob Rowland and Bob Jackson.
R.H.S.

WREKIN (RAF Cosford)
Congratulations to Graham Campbell, secretary, on going solo and to John Marriot, our latest tug pilot. Our hangar and clubhouse have been rewired.

Thanks to a spate of north-westerlies we have had some great days soaring the Wrekin – our favourite hill!
R.J.

YORKSHIRE (Sutton Bank)
Congratulations to Andy Wright (Diamond height) and Martin Newbery (Gold height).

The wave and ridge soaring has allowed members and visitors to make full use of our superb club fleet. We have courses for all levels of experience and full catering and residental facilities.
C.L.

Please send all copy to our Cambridge editorial office, not to the BGA.

AWH

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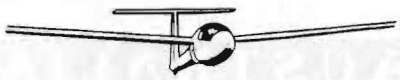
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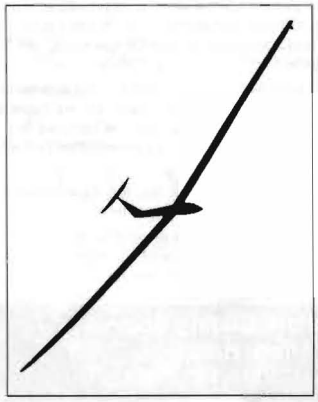
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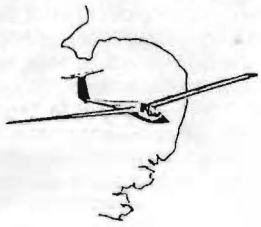
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WAY OFF TRACK

Gastro-gnomes

Quite the most startling thing in Ariane Decloux's article on the French National Centre at St Auban (February issue, p22) was her disclosure that the operating day is an intense 12¼hrs stretch, from 7.45am to 8pm, with a mere 30min for lunch.

Anyone with substantial experience of trying to transact business in or with France between noon and 2.30pm will be astonished at this aberration by, presumably, otherwise normal French men and women at St Auban.

Even in my very limited experience of gallic gliding, principally at Fayence, I quickly learned the cardinal importance of getting airborne and well established in lift before the tuggies left for lunch, to avoid the 3hrs torpor which then sets in.

For Frenchmen anywhere, even gliding instructors, to give up what seems to foreigners to be the quasi-religious ritual of the long and lubricated lunch in favour of that Anglo-Saxon apostasy, the quick snack, is dedication indeed.

Surely the obsessive French interest in lunch results from the fact that, for breakfast, their gastronomic genius seems unable to produce anything more varied, and less dreary, than bread and jam. Towards the end of the 12-night (and 12-breakfast) stint that I suffer in a Parisian hotel every second year, the *petit pain* is, indeed, just that – only not so *petit*.

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Paddy provençal

Talking of France, a clubmate who speaks French fluently took his then-new PIK 20D down to Provence after his syndicate partner had flown for Ireland in the World Champs at Châteauroux with a green Fablon shamrock plastered on its – not his – nose.

In Provence Alan had, perforce, to land *aux vaches* – not in some fragrant lavender field or otherwise appropriately aromatic setting but one growing *pommes de terre*.

Three French pilots eventually arrived from the site with his trailer, to retrieve him from the inevitable lengthy inquisition by the *flics*.

They looked around and surveyed the sea of spuds. *"Pourquoi pas,"* inquired one with an expressive gallic shrug, *"pour un irlandais?"*

What free air?

We've heard a lot about the forthcoming peace dividend, ever since the old eastern *bloc* began breaking up, the Berlin Wall tumbled, the Iron Curtain was lifted and the animosities between the superpowers into which the world had been locked for more than 40 years were replaced by fraternity, ritual toasts and back-slapping all round.

But as the Germans clamp down still further on the military low flying by all and sundry which has rent their airspace, and their ear-drums, for nearly five decades; even as RAF Tornado and Jaguar squadrons are disbanded and their aircraft put into store; and even as, in response to domestic pressures rather than foreign insults, the Yankees at last Go Home, I bet a pound to a penny that Whitehall will find good reasons why the tight military hold on so much UK airspace can not be relaxed. Indeed, with even more of Scotland subjected to special regulations to permit low flying than was the case before, the cross-country flying situation could get even worse.

Greater airspace freedoms are likely to be as illusory as substantial tax reductions, or greater social spending, even if defence budgets, as a proportion of GDP, are cut. The one truism is that free airspace is like virginity – once lost, it is never regained.

Playing the field

My **Shorter Oxford** defines a fieldsman as a fielder at cricket or, in another sporting context, one who habitually backs the field. What an *agricultural* fieldsman is or does I have no idea. Maybe he catches otherwise escaping Min of Ag grants for his farming clients or is, perhaps, a compulsive gambler in gumboots.

But whatever John Staley does to earn his crust, I do know that *"Get off my land"* which he has started with Mike Cuming (last issue) has every appearance of being the most worthwhile and educational series *S&G* has run since Tom Bradbury first hove in sight. It's a bright idea of the EDs to run these pieces in sync with the seasonal changes in the appearance of the countryside.

At Bellarena we need all the help we can get at crop recognition from the air. On our side of the water agriculture, both north and south, is so overwhelmingly grass-based that we get little practice at identifying crops that bite. It's one compensation for our fields being generally rather small that, surface-wise, they're virtually certain to be landable.

The upshot is that we tend to feel rather uneasy when we fly cross-country in England or lowland Scotland and see, at the height of the season, what a very small number of the fields in sight are actually usable.

My first ever field landing, caught out while soaring locally from Lasham, was into cereal – albeit early in the season before any damage was done to anything but pride. But that did not stop my proffered note going straight into the back pocket of a man who, despite his proprietorial air, I later found was merely the manager of a Fleet Street baron's farm.

There was a typically warmer and cheaper reception years later in Scotland – where else? – when I landed in standing oats in Co Angus on the last day of Aboyne's first Competition Enterprise.

In conversation with the farmer it transpired that he was a second cousin of our own club chairman, sharing a common surname. He airily dismissed my offer to pay for damage to his crop. "Don't worry – I'll charge it to the gas company," he said.

When I commented on the amiability of this utility he explained that it had run a pipeline beneath his field four years earlier and he was able to claim compensation for reduced yield.

AVIATION PAINTINGS OF THE YEAR

The Guild of Aviation Artists annual open exhibition is at the Carisbrooke Gallery, 63 Seymour St (Marble Arch), London from July 13-24. Over 200 works will be selected and, going by previous years, gliding is almost sure to be represented.

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FIRST FIELD LANDING



Martin had been gliding for 18 months with the Clevelands GC when he wrote this article and had a Bronze badge and two Silver legs.

After soaring for about an hour in the club's Astir one of our full category instructors headed my way in a Discus and offered a "Follow me" style instructional flight. As I am a fairly inexperienced cross-country pilot I grabbed the opportunity, even though I had set my heart on returning to base and having a cup of coffee to return my circulation to my nether regions.

"Fly at 65kt" was the first instruction and I set off along the cloud street, staying a little below him. But by the end of the street my initial 3700ft had dropped to 1000ft.

The sight of the Discus circling gladdened my heart and I hurriedly dropped in below him and slightly into wind to catch the thermal. But I was a little taken back when the Discus opened his airbrakes to come and join me as I searched for his thermal.

Still undaunted he set off across wind to the next street. I was feeling a bit disturbed but anxious not to miss the lesson the instructor obviously had in mind for me, I followed.

I was now just over 2000ft with 3 to 4kt sink and started field spotting. I saw two fields on the downwind side of a village, split only by a small road and a row of trees. The northerly field looked perfect but the other, a rough figure of eight shape, had four large oak trees and a single track across the centre. As I had been taught to have at least one extra field as a back up in case there were problems with the first, this site seemed attractive.

The odds on landing out seemed high and I resolved not to fly out of range of the two fields. I saw the Discus circling at 1500ft. I'd never have found lift there, I thought as I got under the Discus with about a 500ft height split, only to find he hadn't found lift either.

"It's not working Paul, I'm going back", I said, heaving the Astir towards the village and its two fields that promised safety.

Paul's response wasn't exactly the one I'd expected. "What on earth are you doing here?". My full Cat had thought I'd turned back at the end of the first street when we found it was dead.

I was down to my last 1000ft when I crested the village church with my two fields on either side. The Discus was at about 1700ft when the pilot announced he had found a good field. I did a full turn to try and see the field being pointed out, lost another precious 100ft and wasted my chance of flying over my fields for a good look.

I started my downwind leg at 700ft and as I got to 500ft I found to my horror that the "perfect" field was criss-crossed with low wire fencing and a safe landing would be impossible.

I immediately looked to my alternative field and planned a right hand circuit. As I got close I found this wasn't a bowl of cherries either but at least it was landable. The road was where I thought but now I could see the flat steel fence running along both sides.

My planned landing before the road was now impossible. I touched down the other side of the road, careering down and up the sides of a rather alarming dip in the field.

I was a little shocked to see a herd of cattle materialise and make their way towards the Astir and more than a little shocked to see the Discus sitting on the ground about 100ft to my right. I thought he'd found a good field!

I was well aware how fortunate I had been. The training had worked and the actual landing came as a reflect, leaving me able to work out the problems as they arose.

My mistakes were many and I will try and highlight a few, though you pundits will see many more.

1. It was obvious the flight wasn't working out so why continue out of range of the base on a local soaring trip?
2. Once I had realised the new street wasn't working and I had spotted the last reasonable field, I should have turned back downwind to try and find better ones or at least use my height to survey my landing area with more leisure.
3. I had let myself be distracted by a well meaning radio call on a crucial over-flight of my selected field. It would have been nice to have seen those little fences at more than 500ft.
4. No matter who you are following, it's your aircraft and your neck. So if you are unhappy, turn back and be safe.
5. **Never** trust a full Cat!

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BEGINNING GLIDING

A wife's eye view

It's difficult to recall what we did on a Sunday before we discovered gliding. Maybe it was DIY, gardening or occasional trips to the coast. It all seems a million years ago.

It started about four years ago in fact when a good friend whose father is an AEI pilot told us there was a flying evening at the club. "Why not we thought. It could be fun". We duly arrived and found the airfield to be a hive of activity. Was I really going to enjoy this?

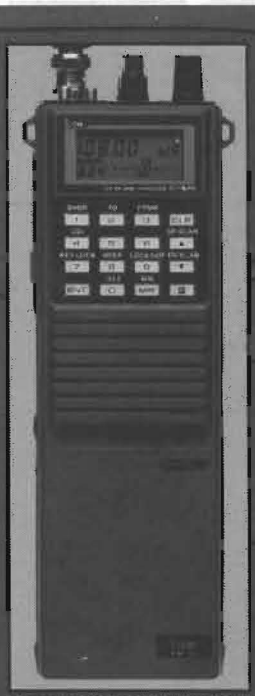
We put our names down on the flying list and waited for the big moment. I was going to make my husband go first whatever happened. If he didn't look green or deathly white I'd give it a try. When he eventually landed, I can only describe him as being hooked.

Now it was my turn. As the glider rose higher and higher I desperately tried to get lower and lower in my seat. "Are you all right?" I was asked. "No," was all I could manage. " Would you like to go back?" "Yes" was my reply. After what seemed an eternity, and with my eyes tightly closed all the way, we finally landed. Gliding was definitely not for me.

My husband was keen to take lessons and we visited the airfield every Sunday. Spring turned into summer and by this time both of us felt really at home in the club. Everyone was so friendly and made us feel really welcome. Sundays had taken on a whole new meaning. No laying in bed for a well earned snooze. The weather had been checked. If it was fine, we were off.

Relaxing and sunbathing

In the meantime I had discovered what an excellent place the airfield was for relaxing and topping up the tan. Very pleasant days could be spent sitting in the sun and listening to tales of the thermal that got away. By now talk of cold fronts, warm fronts, circuits and sink had become very familiar. Since those early days I have taken quite a few glider flights and although I am not learning to fly I must admit to being just as hooked. All I can say is **roll on summer.**



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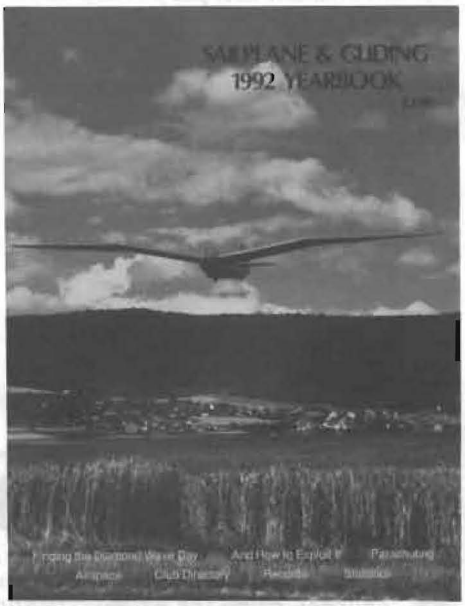
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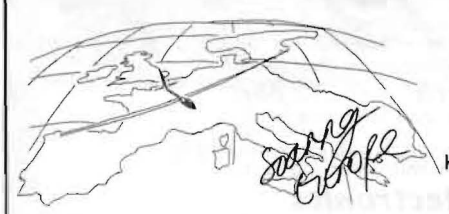
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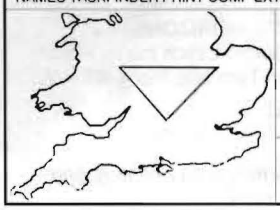
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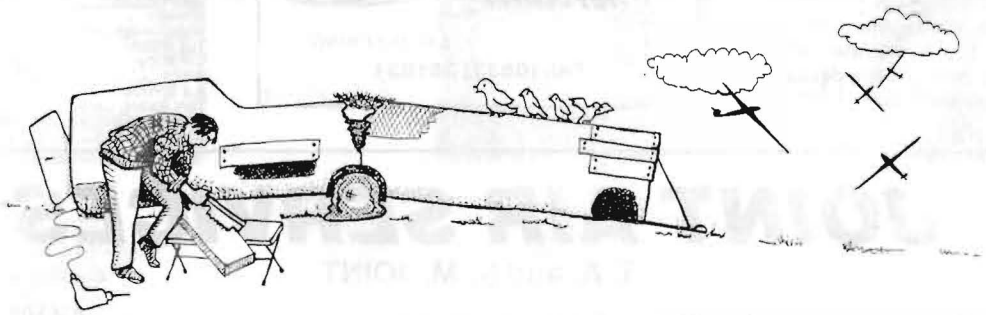
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ADVERTISERS' INDEX

Aero Shopping	125
AMF Enterprises	122
Amtech Electronics	177
Anglia Sailplanes	173
Anglo-Polish Sailplanes Ltd	IFC
Argyll & West Highland GC	170
Aviation Bookshop	153
Baltic Sailplanes	158, 180
Benalla GC	172
Black Mountains	179
Booker GC	170
Bristol & Gloucestershire GC	169
British Gliding Association	157-159
Buckminster GC	169
Cair Aviation Ltd	162
Cambridge University GC	169
Centreline Services	175
Charleston Hotel	179
Peter Clifford & Co	163
Connevans	146
Cornish Gliding & Flying Club	170
Cotswold Gliders	180
Coventry GC	171
D & M Engineering	126
Derby & Lancs GC	171
Desk Top	126
Dinosaur Electronics	141
John Edwards	158
Enstone Eagles GC	170
European Soaring Club	178
Flite Lines Marketing Ltd	123
D. Garrard	146
Glider Instruments	163
Goodison Glider Instruments	160
Guild of Aviation Artists	145
Hill Aviation Insurance	126
HT Communications	163
Icom	176
IMC	145
Insurance Brokers International Ltd	139
Irvin GB	158
Joint Air Services	180
JSW Soaring	163
Kent GC	171
Lakes GC	170
Lake Keepit	174
Lasham Gliding Society	172
Lomond Country Inn	178
London GC	171
London Sailplanes Ltd	122
Lowndes Lambert Ltd	172
Marchington GC	170
McLean Aviation Ltd	161
Midland GC	170
Mowbray Vale Insurance	128
Norfolk GC	170
Northumbria GC	170
North Wales GC	178
Oxfordshire Sport Flying Club	163
Parker Sailplanes	173
Piggott Brothers & Co Ltd	158
Preflight Engineering	180
Pro-Glide	179
RD Aviation Ltd/Cambride Aero Inst	IBC
Rematic	153
Sabre AAV	124
Sailplane & Engineering Services Ltd	174
S&G	167
Schofield Aviation	179
Scottish Gliding Union	163
Sedgwick Aviation	127
Shennington GC	172
Skycraft Services Ltd	126
J.L.Smoker	126
Soaring Equipment Ltd	171
Soaring Magazine	129
Soaring (Oxford) Ltd	173
Southdown Aero Services Ltd	172
Southern Sailplanes	BC
South Wales GC	171
Stemme Motor Glider	135
Roger Targett Sailplane Services	124
The Gliding Centre	129
Thomas Sports Equipment	146
Ultra-Pro Ltd	158
B.Weare	126
Wells Design Ltd	179
Tug Willson	160
C.P.Witter	178
Wolds GC	158, 171
A.& B.Wroe	153
York Gliding Centre	146
Yorkshire GC	173
Zulu Glasstek	146

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