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WINDSOCK

THE JOURNAL OF THE SOUTHERN HANG GLIDING CLUB

JUNE 1991

ROYAL PROTOCOL SHOCK!



THE SOUTHERN HANG GLIDING CLUB

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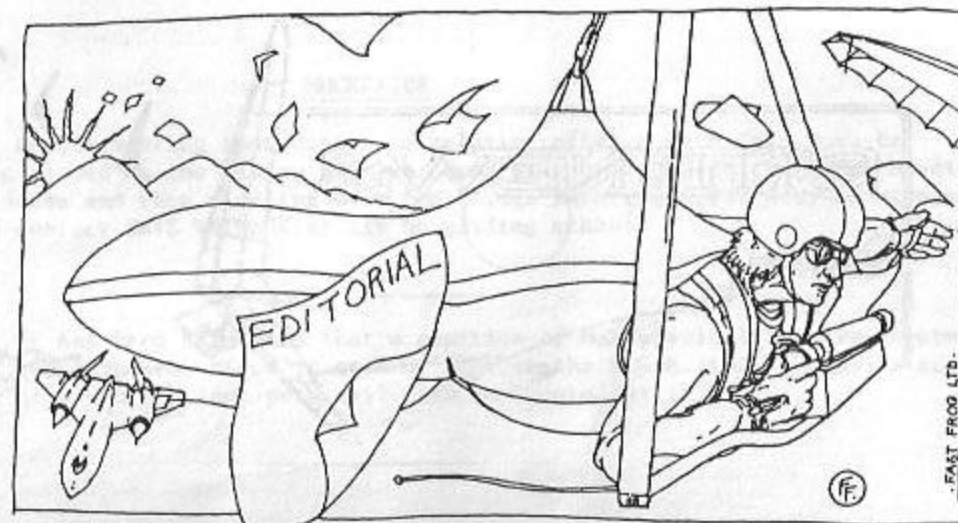
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Readers please note

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Mark Johns, Paul Rankin.



Well, a rather shorter edition of Windsock this month as the Site Rules Update is included. I apologise to everyone who's articles did not get included, due to lack of space; hopefully they'll be in the next one!

The British Paragliding Record has now been broken by Richard Carter, who has obviously bounced back after breaking his shoulder and pelvis. I believe the distance is 60+ km., but I've not yet got the details.

There have been some excellent Paragliding days at Firlie and the Dyke with Mike Allen doing particularly well skying out whilst disgruntled hanglider pilots were struggling. I'm sure that he's got his eye on regaining his British record!

I haven't noticed any low airtime paraglider streamers being displayed yet. Perhaps we are fortunate enough to have experienced pilots only here in the South East.

A pilot suffered a failure of a factory-fitted hang loop on a Vision recently (see Paul Rankin's letter). Having spoken to the pilot, he thinks it was incorrectly sewn. Until the B.H.G.A. issue a safety bulletin make sure that your back up is sound!

The French won the Bleriot Cup despite awful weather (Johnny who?).
Quelle damage!

D.W.

If you have any experiences that you may like to share with others then please send them to me for Windsock. It doesn't matter what standard you are as you can be sure that making them known will be of use to someone! If it's too embarrassing you can always request anonymity. So, send all articles to me, whether they be informative or just seeking a bit of self-publicity, I will try and include them all.

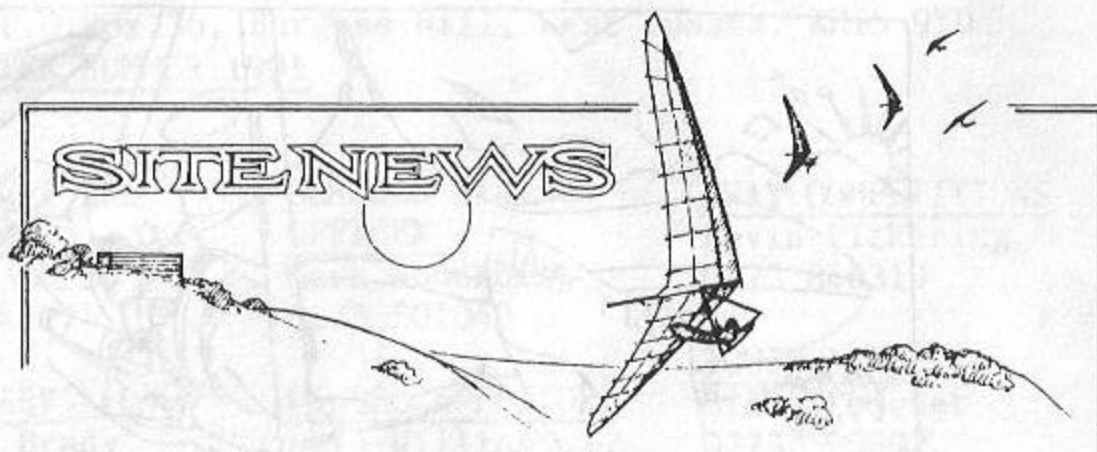
Also if you have anything you want to buy or sell it's free to members to place small ads. in Windsock. (I bought a car once from a fellow pilot for £50 which lasted me 2 years.); I've seen houses for sale in the past.

HANG LOOPS NEVER FAIL? (or do they?)

One very lucky pilot landed back on the Blorange on his back up loop recently after tearing sounds announced that the stitching on his main loop had completely parted!

The main strap came with his new (only 6 hours flying!) glider. The B.H.G.A. are currently investigating. Oh yes- he didn't have a parachute!

Paul Rankin.



DEVIL'S DYKE

We've received a letter from Fulking Parish Council complaining about the volume of flying at Devils Dyke and, particularly, crop landings in their area. It seems that a hanglider landed in crop and was abusive to the farmer when asked to pay a £10 fine. This was in a field some distance away from the hill. Please try to avoid landing in crop (including tall grass for hay) if at all possible and, if approached by anyone try to be more ****ing pleasant. All the farmers now know that a fine is payable, so carry £10 with you every time you fly. If you land in crop and are not approached the farmer may still have seen you so send a £10 cheque, payable to S.H.G.C., to Tony Turner, together with the O.S. co-ordinates of the field, at:-

224 High St.,
Uckfield,
East Sussex,
TN22 1RE.

and he will then forward them on to the relevant farmer.

FIRLE

If you cannot park in the S.H.G.C. car park at Firle during the summer months, for whatever reason, then you MUST drive down to the bottom after unloading your equipment and park there. Do NOT park in the public car park as this will upset the council!

Anyone who bottom lands in crop at Firle is obliged to pay a £10 fine to the S.H.G.C. which will be forwarded on to the farmer. If you send a cheque to Tony Turner let him know which field you landed in as there are two farmers.

There should now be a new heavy duty combination lock on the gate at the S.H.G.C. car park. The combination is still 360.

MOUNT CABURN

All pilots are reminded that NO slope landings at Mount Caburn. If anyone is seen slope landing, by the wrong person, then we will lose use of the site!

All pilots are reminded that no slope landings are allowed at Mount Caburn. If anyone is seen slope landing, by the wrong person, then we will lose use of the site!

D.W.

MUCKRAKER

Anyone wanting instruction in relaxing, after a hard days work, by getting pissed in the Rising Sun pub, upsetting everyone in the Upper Beeding Curry House and then piddling over the bridge into the river Adur at midnight, should contact DAVE WHYMARK at his hangliding school.

It has been suggested that a position of Metaphysical Rep. be created within the committee since it came to light, at the A.G.M., that we have a member in the club who can spot pure evil when confronted by it.

When DAPHNE FREEDMAN saw DAVE KEEPAX drinking a pint (which she didn't realise was 'no alcohol' lager), at the Dyke, she declared that she would keep well clear of him in the air afterwards. The entire queue for coffee then transferred to the bar for a pint of the same.

At the Airwave Challenge Final the entire Southern team sunk out and landed in the same field at the foot of Stannage Edge. Why, then, did the retrieve bus, which came to take them all back to take-off, leave DAVE "REVERSE MOHICAN" MATTHEWS behind to face a walk all the way back? Is it something his best friend wouldn't tell him? (Hint: try getting a toupee, Dave!)

JO "GIZ-A-JOB" CATTLIN maintained his upright breaking form of the previous week by running his glider straight into the rocks on take-off at the S.E. Wales competition and destroying both with one blow. This greatly impressed the pilots under instruction behind him who then all performed perfect take-offs with consummate ease.

At the same competition ALAN "HUNKY" MORTIMER was in a quandary about what to do when faced with a tiresome carry-up after slope landing. Luckily JUDY "NÉE" LEDEN came to the rescue and carried his glider up for him; poor wee lamb!

Need a wall demolishing? Then STEVE "MOUTH OF T.V. SOUTH" UZOCHUKWU could be your man. His technique of using a hanglider for this purpose, however, would seem not to be economically viable as the wall came off far better!

Correspondence various....

Dear Vanya,

Q. When is and accident not an accident??

A. When you fit wheels....

In spite of never having made a bad landing with my Clubman without wheels, the numerous arguments in support of wheels and the comments after some fatalities that "had he had wheels he might well have survived" persuaded me to fit them.

Anyway, there I was, about a year ago, everything under control, tootling up and down the ridge in nice smooth gentle lift, everything under control, nicely relaxed and singing away when I realised that the lift was going. Another beat while I weighed up the possibility of my 4th top landing with what I estimated to be 100ft ATO. I knew this wasn't really enough but thought that if I dropped out of prone and went into a gentle turn as I left the lift band I would be nicely round into wind by the time I was at ground level. The only snag, obvious to me, was that I might not be far enough back in view of the fact that the wind had clearly dropped off in which case, I told myself, I would just have to fly down and out to the bottom field. However it didn't quite work out like that. As I left the lift band the glider lost all its gentle docility and immediately assumed all the characteristics of a dive bomber on full chat! The ground was hurtling up at me and in spite of plenty of bank the glider was dropping across straight. I "made contact" with the ground, still banked and still going straight cross wind but slightly uphill travelling at a fair lick (probably over 30mph ground speed). The port wing touched the ground on the downhill side as I still had the glider well banked, however it didn't dig in, the wheels started racing round. I was mesmerised by the port tyre that was trying to cling on to its hub. It was taking so much side pressure that one side of the rim, inches from my nose, was completely clear of tyre. I thought, "this could be nasty, when that tyre jumps the rim!". The next moment the glider slowed and I stood up. The glider was undamaged, I was undamaged too (Glad to see you got the priorities right Peter!! VG), after checking the port wingtip and and tip batten, and a swig of coffee from my flask, I took off again. This time I took great care to do an immaculate landing in the middle of a large empty field!.

It would not take too much imagination to see the the horrendous cartwheeling, aluminium snapping, pilot pulverising smash it would have been without wheels. So what went wrong??

1) The principal error, as is so often the case, was making the wrong decision, i.e. deciding to top land with insufficient height for my experience.

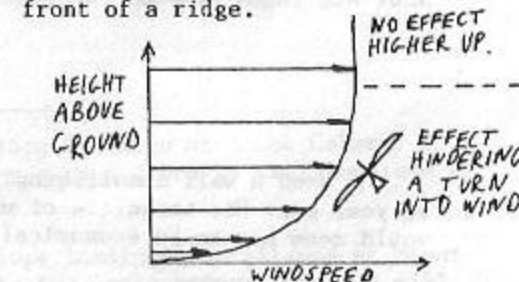
2) My height estimate of 100ft was probably a long way out - I may well not even had 60 ft. (I will return to this point of height estimation at a later date).

3) Although I had plenty of speed and bank perhaps I didn't push out properly to initiate the turn into wind.

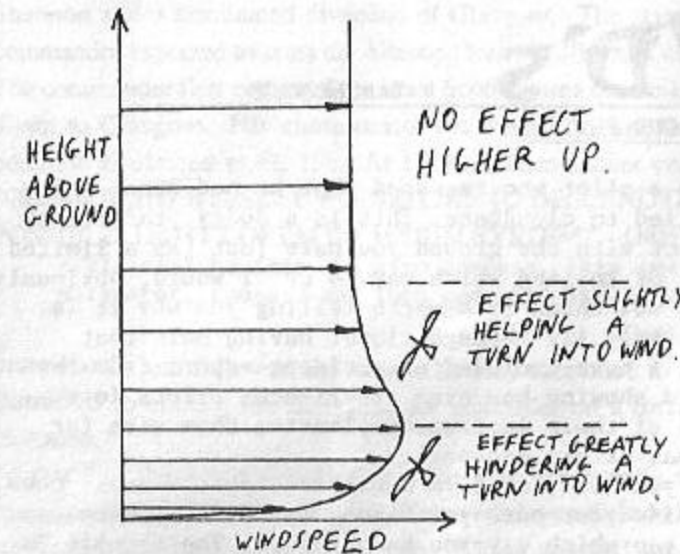
Peter Whichello.

(I couldn't agree with you more, Peter! Although I have 400+ hours airtime on hanggliders over the last 6 years I would never, for preference, fly without wheels. The weight and drag penalty of carrying a pair of medium sized pneumatic wheels is negligible in comparison with the lack of performance associated with bad flying!

The reason for your glider continuing to fly straight across the hill, despite being banked up quite steeply, is the wind shear effect encountered close to the ground. At the surface of the ground there is a boundary layer where the air is virtually stationary. The higher above the ground you go, the stronger the wind becomes. This is exaggerated in the compression above the front of a ridge.



WIND SHEAR OVER LEVEL GROUND (e.g. BOTTOM LANDING)



WIND SHEAR IN COMPRESSION AT TOP OF RIDGE (e.g. TOP LANDING)

Thus when a glider is banked up close to the ground the upper wing is in a faster windspeed than the lower one. If you are heading downwind at a given airspeed, close to the ground, as soon as you initiate a turn the glider banks and the upper wing rises into a stronger tailwind, reducing the airflow over it and, hence, reducing the lift. Similarly the lower wing falls into a lesser tailwind, increasing the airflow over it and, hence, increasing the lift. This means that the more you bank your glider, the more it will try to level out and continue to head downwind. A much stronger roll input is needed close to the ground, in wind, to turn away from a downwind heading.

Once you've turned 90° and are heading crosswind, whilst still banked up, the stronger windspeed will be hitting the top surface of the upper wing, giving it a lower angle of attack to the airflow over it and reducing lift. The lesser windspeed will be hitting the top surface of the lower wing giving it a higher angle of attack to the airflow over it. The glider no longer wants to turn and there isn't much that you can do about it: increasing the bank only exaggerates the difference in windspeeds between the levels at which the upper and lower wings are, decreasing the bank means that you will lose more height before you get into wind because the turn will take longer, pulling the bar in will cause you to sideslip towards the ground and into worse wind shear, pushing the bar out increases the chance of stalling the lower wing and spinning into the ground. Basically everything is against you and you've 'overcooked it'.

The only ways to avoid this are:

1. To turn into wind higher up, out of strong wind shear effects, and keep the wings level as you get closer to the ground.
2. To have a considerable excess of speed if you're turning in wind shear close to the ground.

The only way to achieve either of these is to HAVE MORE HEIGHT ON THE INITIAL APPROACH. So the stronger the wind is the more height you need on your approach!

If you think about the effects of wind shear close to the ground when you bank a glider that's heading into wind, and when you're banked crosswind after initiating a downwind turn, you will find that they are trying to turn you downwind and keep you heading that way! D.W.)

Moral: If you want to be able to turn, don't get too low and too slow!



DANGER PAGE.

CLOUD FLYING

The other day I spoke to a pilot who reckoned that he had spent a few minutes in cloud having thermalled to cloudbase. This is a dodgy practise as once you have lost visual contact with the ground you have lost (as a limited instrument pilot) your only way of telling which way is up. I would, obviously, like to discourage cloud flying so I think it's worth telling you why it is dangerous and how aircraft routinely fly through cloud. Having said that aircraft routinely fly in cloud I have included an accident report from the Air Accident Investigation Board showing how even experienced pilots lose their lives when they lose some of their instruments, leaving them with far more than a hang glider pilot has at his disposal.

Once you fly into cloud you lose, as I've mentioned, your visual cues. This leaves only your ears. Inside your ears you have a fluid that, when disturbed, by say a turn, tells you which way you have turned. The trouble is that, without the visual back up, your senses soon return the world to "level". You are in fact still merrily turning but it feels like you are flying level. This often gives aircraft pilots the "leans" because they have an artificial horizon telling them that they are turning; a conflict of senses if you like. We have no such problems and we carry on turning, probably into a spiral dive, with absolutely no idea that we are getting out of control until the wind ripping round our ears finally tells us that we may have something going wrong.

If you do become inadvertently, and hopefully temporarily, in cloud you may like to remember these two tips on how to survive (possibly).

You will need to be flying with a good compass and an airspeed indicator, such as a Skywatch. If an aircraft pilot loses his artificial horizon (an instrument gyroscopically controlled to provide an indication of pitch and roll) he uses his compass to tell him if he is turning. Decreasing numbers i.e. from 360° back towards 270° tells him he is turning left, increasing numbers, 360° towards 090°, he is turning right. For pitch control he uses his airspeed indicator. Increasing airspeed means that the nose is pitching down, decreasing airspeed, the nose is pitching up. Obviously a knowledge of the cruise speed of your glider will help you stabilise at as near level flight as a glider can get. The vital part of the whole thing is believing your instruments, despite what your senses are telling you. For Gaud's sake don't try this out voluntarily as you will more than likely find yourself in the same boat as our unfortunate pilot in the article. Read and think about what happened to him, hopefully it will make you think twice before flying in cloud.

Aircraft Type and Registration: Piper PA-28 Turbo-Arrow 4, OY-JEW (formerly N4370N)

No & Type of Engines: 1 Continental TSIO-360-FB9 piston engine. **Year of Manufacture:** Unknown

Date and Time (UTC): 23 November 1990 at 1145 hrs. **Location:** In the Irish Sea south of Ailsa Craig

Type of flight: Commercial (ferry flight). **Persons on Board:** Crew - 1, Passengers - None

Injuries: Crew - Believed fatal. **Nature of Damage:** Aircraft missing; believed destroyed

Commander's Licence: FAA Commercial Pilot's Licence with Instrument rating

Commander's Age: 26 years

Commander's Total Flying Experience: Approximately 950 hours (of which 50 were on type) (cont..)

The aircraft departed Gander in Newfoundland at 0033 hrs UTC with a flight planned destination of Shannon and a nominated diversion of Glasgow. The stated endurance was 17 hours and the commander expected to cross the Atlantic Ocean in 10 hours 40 minutes at FL130 and 140 kts TAS. The commander first contacted the West Scottish area controller at 1055, having already decided to divert to Glasgow. His transmission was relayed by another aircraft and he was instructed to continue as cleared at FL 150. At 1119 the commander contacted the controller direct stating "OSCAR ECHO WHISKEY WOULD LIKE TO DESCEND DOWN INTO VFR CONDITIONS IF POSSIBLE, I JUST LOST MY VACUUM SYSTEM". (NOTE: Commander has lost his artificial horizon and gyro compass. This leaves him an airspeed indicator, altimeter, compass and turn and slip indicator)

Clearance to descend to FL 130 was given immediately and followed one minute later by clearance to FL 110. The commander was then instructed to contact the Belfast sector controller on a different frequency for further descent clearance.

At that time there was an occlusion in the Irish Sea moving slowly eastwards with strong to gale force southerly winds over the area. There was layered cloud from 800 feet to over 20,000 feet and outbreaks of moderate to heavy rain. Cloud covered the Scottish hills and areas of severe turbulence accompanied moderate or severe icing between 3000 and 5000 feet. A SIGMET valid from 0715 to 1115 warning of moderate or occasional severe turbulence below 7000 feet had been issued for the Scottish FIR. A similar SIGMET valid from 1210 to 1610 was issued at 1201 hours.

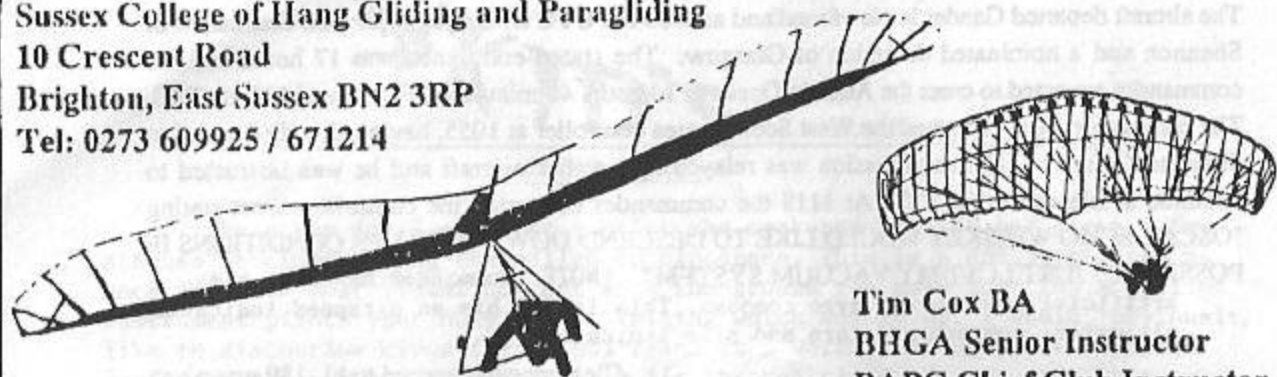
RTF contact with the Belfast sector controller was established at 1124 as the aircraft descended through FL 130 and the commander was cleared to route direct to the Glasgow VOR and to descend to FL 80. At 1131 the controller advised the commander that the required track to Glasgow was 055° but he was tracking 360°. The commander replied "I'M TRYING TO CORRECT THAT BUT ITS A LITTLE BIT HARD. ITS BUMPY AND I'M USING MY COMPASS". (NOTE: compass probably suffering from turning and accelerational errors) The commander altered heading onto the correct track and asked for clearance to descend further; he was re-cleared to 5000 ft on the Belfast regional QNH. At 1137 hrs the controller again advised the commander that he was off track and that he should turn left about 50 or 60 degrees. He replied "WILCO THANK YOU VERY MUCH FOR YOUR HELP". At 1139 the controller advised the commander that he was no longer showing on radar but, despite several calls and relays, there was no reply.

Numerical recorded radar data from three area radars was obtained. All three data sets showed the aircraft descending at an increasing rate and speed from 1137 hrs onwards. Shortly after the controller's prompt (at 1137 hrs) to turn left 50 or 60 deg, the aircraft commenced a left turn which became progressively tighter. In the turn the airspeed exceeded 200 kts and the rate of descent increased to over 2000 feet/minute; Vne for the aircraft in its ferry configuration was 148 kts. At 1138 hrs the Mode A SSR response disappeared from all three radars within 15 seconds. The final Mode C response was FL 60 in an area where coverage has been demonstrated well below this level. Primary radar returns from two radars, which were recorded on film, also disappeared around the time of the last recorded secondary radar responses. These recordings were consistent with the in-flight disintegration of the aircraft.

The aircraft had a Danish Flight Permit which prohibited flight in IMC although the FAA had granted an export C of A which included IFR flight. The commander had practiced partial panel IFR for 15 minutes in September 90. Despite an extensive search, no trace of the aircraft or its commander has yet been found.

Mark Johns.

Sussex College of Hang Gliding and Paragliding
 10 Crescent Road
 Brighton, East Sussex BN2 3RP
 Tel: 0273 609925 / 671214



Tim Cox BA
 BHGA Senior Instructor
 BAPC Chief Club Instructor

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Clive Betts can repair anything that can be sewn. Pop in to the workshop at 16 Scarborough Rd. (near Preston Manor).

BEWARE THE STICKERS

Visitors flying the sites in Wales be warned! "Snide" and the S.E. Wales Club are loose, ready to spring out from behind the nearest bracken or sheep to sticker the cars of pilots who break site rules.

The stickers are apparently impossible to remove without a blow torch, so don't park in the wrong place at the top of the Blorengel!

Visitors are welcome, Snide says (after translation from Welsh and dropping the sheep joke), but check the site rules with them before flying.

PAUL RANKIN.

(If I went up there do you think they'd put enough stickers on my car to hold the bodywork together? Ed.)

DRINKING/DRUGS

According to the ANO article 47(2): "A person shall not, when acting as crew of any aircraft or being carried in any aircraft for the purpose so acting, be under the influence of drink, or a drug to such an extent as to impair his capacity to so act."

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