G-FORCE

Established 1935

EDINBURGH FLYING CLUB

No.XXXXIV June 2007

Editor's Note

Welcome to post Annual General Meeting (AGM) edition of the newsletter. Before I mention the detail of the AGM can I welcome Chris Ross, Paul Smith and Norman McKenzie to the Club. Norm, having trained as a PPL elsewhere, joined on the day of the AGM (whilst Bob was writing his bit!) and has been flying already. Welcome to you all.

This year the AGM was held on Friday 13th April at 7pm in the Clubhouse. There was a very good turnout with nearly half the members present. The evening began with the presentation of the de Felice cup to Muriel Kleiser. Well done Muriel and thanks for your efforts on behalf of the Club. The normal business of the meeting was conducted with the Chairman's report first, followed by the treasurer's report. This was given by Tom Carson on behalf of John Hogg who could not be present. Tom made a very clear case for the new Committee to take a long and hard look at the future finances of the Club and how it operates. The drop in flying hours over the last year by PPLs (students flew more than half the hours), combined with the need for new engines for NU and GT within the next five years, means that there will need to be some radical thinking done. The motion to invite the accountant to discuss matters with the Committee was adopted. There were lots of 'interested' comments from the members present and improved communication with the members was seen as an aim for the coming year. Next, the CFI was able to get over his pre speech nerves when he was eventually able to give his report on flying for the past year.

On the issue of communication, a reminder that members can access the monthly minutes of the committee meetings in the folder in the clubhouse.

Finally, the new committee was elected and this now consists of Malcolm Spaven: Chairman, John Hogg: Treasurer, Ian Forbes; Secretary, Wendy Darroch; Membership secretary, with Mark Allan, Doug Smith, Martin Walker and Neil Watson completing the group. The business closed at 9, a record length for an AGM!

John Smyth, pictured in GT, gave a very entertaining presentation on his trip to the Western Isles with Malcolm last year. Refreshments were gratefully consumed, and the evening came to an end around 11. All in all a productive and enjoyable evening.

This month the profile is of John Smyth and he very kindly agreed to feature despite a very busy schedule.

The fourth part of Alex Findlay's flying experiences from World War 2 is also featured this month and we have the third safety feature from Tom Ward related to the human factors and the GASCO CD.

The first fly-out in true tradition had to be cancelled due to fog and those typical high pressure features which can plague Edinburgh.

GT and John looking busy!

Glenforsa is open again following a prolonged dry spell of weather in early April and the fly-out to Oban on May 12th looks set to go ahead and may give you a chance to land on Mull. As before GT and CI are booked for that day as before. Malcolm is also planning a repeat of the very successful grass strip training session he ran last year. This will consist of a ground briefing session at the club followed by initial training at Kingsmuir with 3 PPLs (me for one!) and Malcolm. For those who want to go a bit further, they can do short strip training at Midlem or Innerleithen for example. The ground briefing is free and the flying charged at the normal dual rate. I hope to get checked out on CI as well so count me in Malcolm!

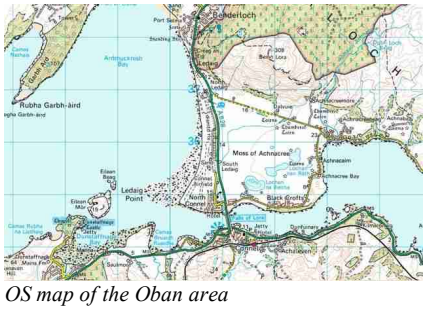
One final point to note for all PPLs – big brother is watching you! One of our PPLs had an unexpected (though pleasant) phone call from the boys in blue. Apparently he had overflown Torness power station near Dunbar. He immediately put 'his hands up' and the police were very pleasant as a result. How did you know the PPL asked? We were able to read the registration letters! So a lesson for us all – keep an eye on your chart – even in familiar areas, and if you do make a mistake, admit it and you are less likely to be in real bother! What height and radius do you need for Torness?

As always I am looking for contributions to the newsletter so if you have ideas or photos for me, send them to me at the e-mail address at the end of the newsletter.

On final approach to Oban

Destinations of the Month

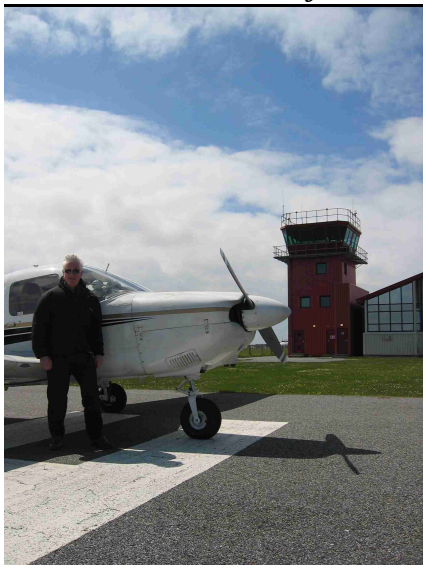
12th May	Oban/Colonsay/Coll
9th June	Dornoch
14th July	Gigha
11th August	Plockton/Skye
8th September	Castle Kennedy
13th October	Kilkerran



OS map of the Oban area

Remember to add your name to the lists in the club house to book your place, either as a PPL or as a student/passenger.

Club Member Profile



John looking windswept in the Hebrides

Name: John Smyth
Age: 61 (growing up nicely!)
Job: Professor of Medical Oncology in the University of Edinburgh and consultant physician in the Edinburgh Cancer Centre.
Pilot Training: I was very fortunate to be at Cambridge University when the Air Squadron offered three full years of training on chipmunks. Due to a fortunate administrative error I gained an extra year when I went to London University for my clinical training and ended up with 226 sorties in chipmunks. Going solo at 14 hours I completed the course for the preliminary flying badge which effectively includes everything for a PPL, but including an instrument rating solo/night flying and aerobatic training. Despite successfully passing these tests I never ever felt confident landing a tail-dragger on grass at night – a truly nourishing experience! After leaving university I joined the Tiger Club then based at Redhill and clocked up 33 hours on G-ACDC, the pride of their fleet and at the time the oldest light aircraft on the British Register.
Total hours flown: 442
Furthest Flight: With Malcolm Spaven to Benbecula (he found the experience so exciting we stopped off to stay the night on route!).
Favourite Route: To Oban and Glenforsa by any route.
Worst SNAFU: 30 years ago on a beautiful October morning I wheeled out the Tiger Moth G-ACDC for a photographic sortie from Redhill to Leeds Castle in Kent. With no radio or weather forecast information I was mistakenly surprised to find myself overhead Leeds Castle considerably earlier than planned. After enjoying the leisurely photographic session I turned 180° to return due west to Redhill. The fuel tank in a Tiger Moth is between the two upper wings with the fuel gauge consisting of a floating cork and a vertical wire which slowly descends as fuel is consumed. To my dismay the cork had sunk much further than I expected on the outbound leg. Real concern set in when I realised that despite indicated airspeed of 75 knots the ground picture did not seem to be changing hardly at all. Having benefited from a strong tailwind on the outbound leg I now found myself wrestling with a strong headwind and ever diminishing fuel. Well prepared by my RAF training I have never ever pre-planned so many fields for a threatened forced landing! To my very considerable relief I found the engine still running as Redhill Airfield came in sight. Ignoring all the rules of approaching a non-radio airfield I made a straight-in approach and was hugely relieved to come to a full stop on the grass. Whilst taxing back to the dispersal area some 500 yards short of the latter a deafening silence befell a dead engine! I had truly been flying on vapour! My self consciousness and sense of shame were not eased by the reception party waiting at the hanger, with a furious pilot waiting for the plane, an outraged group of club members very anxious about the security of their favourite plane and a club secretary whose verbal abuse kept me deaf for several days

to come. A truly humbling experience with a simple lesson – never embark on a NAV-EX without full tanks.
Future dream: To move the Edinburgh flying club to a grass airfield in East Lothian with first class re-fuelling facilities!

Safety Matters

Human Factors to consider before flying:

8 Hour Rule.
Not to fly for 8 hours after drinking small quantities of alcohol and increase this time after 'heavy drinking'.
Time is the only influence on clearing the body of alcohol and a very rough guide would be to allow 1 hour for each unit to leave the body starting form the commencement of drinking.
1 Pint = 2 Units
1 Wine = 1 Unit
1 spirit = 1 Unit
Damaging levels are 6/day or 30/week for men and 4/day and 20/ week for women.

Nausea.
Motion sickness occurs when man is exposed to real or apparent motion. It is mainly caused by the brain detecting a mismatch between comparing incoming signals from the eyes and the vestibular apparatus. The Vestibular Apparatus consists of the semi circular canals which detect Angular Acceleration and Otoliths which detect Linear Acceleration.
Nausea can be reduced by keeping the head still as any movement will aggravate the vetibular system. So if a student is feeling unwell relieving him of doing the lookout and concentrate of the flying may help.
To relieve the symptoms:
Ensure plenty of fresh air.
Have a sickbag ready.
Loosen clothing.
The physical aspects may be due to the inner ear being over stimulated. Environmental reasons may be due to turbulence, g manoeuvres and unusual attitudes ie seeing the horizon at different angles
Mental reasons may be due to apprehension.
May be avoided by flying smoothly.

Vertigo.
This is usually experienced as a feeling or rotation when none is taking place. It can be caused by disease, accelerations (balance mechanism of middle ear disturbed) and sudden pressure changes in the inner ear.
It can also be brought on by a flashing light such as a strobe light or by g forces during manoeuvres.
Pressure Vertigo can result from the effect on the balance apparatus following inward failure or the eardrums due to blocked Eustachian tubes. This could occur if flying with a cold when the pressure changes outside the ear while descending at a high rate or from a great height cannot be equalised iinside the ear.

Upper Respiratory Tract problems.
The common cold, hay fever etc or any similar condition that can lead to blocked ears
may mean that the equalisation of pressure either side of the eardrum cannot take place when the Eustachian tubes which connect the ears to the nasal passages are blocked.
Problems can also arise in the sinuses which are cavities in the head connected by narrow tubes to the nasal/throat passages. Such blockages may cause great pain especially during descent.

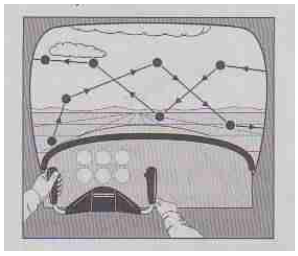
Lungs.
The two lungs are the organs in which the waste carbon dioxide in the blood is exchanged with oxygen brought in by freshly breathed air. They have a muscular curved diaphragm which can be flattened by contraction of the muscles which expand the chest cavity and draws fresh air in through the nose and mouth. This function is normally controlled by the **Autonomic Nervious System.**
The lowered pressure in the chest draws air down through the bronchial passages which divide into 2 tubes, one going to each lung. These 2 tubes divide into smaller and smaller tubes ending with very thin walls known as **Alveoli** which are surrounded by blood capillaries. The oxygen molecules that diffuse through the walls of the alveoli sacs and into the bloodstream attach thenselves to the haemoglobin in the red blood cells and are then transported to the body tissues. The oxygen attached to the haemoglobin causes the blood to look very red whereas oxygen deficient blood returning through the veins looks bluer.
The lung capacity is about 5 lts and each breath when resting about ½ lts. This means that a lot of used air remains in the lungs. With the constant transfer of oxygen into the bloodstream and the addition of carbon dioxide out, the air in the lungs will have a much higher concetration of carbon dioxide than the surrounding atmosphere and a lower concentration of oxygen. This is increasingly the case as altitude is gained. The air in the lungs is also saturated by water vapour as witnessed by the fog it forms as we breath out.

Respiration.
This process brings oxygen into the body and removes carbon dioxide.
External Respiration is the first stage and occurs in the lungs in which 2 processes occur.
Oxygen breathed in diffuses through the thin walls of the lungs into the blood.
Carbon Dioxide returned to the lungs in the bloodstream diffuses through the walls into the air which is breathed out.

Internal Respiration is the second stage and takes place in the body tissues.
Oxygen brought into the body tissue by the red blood cells diffuse through the very thin capillary nad body cell walls into the body tissue, where it is burned up to produce energy. Carbon Dioxide, a waste product in the body tissues from the burning of the oxygen diffuse back into the capillaries and is carried away in the bloodstream.

Breathing Rate.
The Autonomic Nervious System detects both the need for more blood to certain parts of the body and the amount of Carbon Dioxide in the blood. A higher than normal amount of Carbon Dioxide means a lot more oxygen has been burned. As a result of higher levels of Carbon Dioxide on the blood the breathing rate is automatically increased to bring more oxygen into the lungs for the bloodstream to absorb.

Scanning for other aircraft in daylight.
The central region of the retina provides the vision during daylight only. Aircraft are best seen by day if you can focus your image on this region (known as foveal) and you do this by looking directly at them. The most effective method of scanning for other aircraft is to use a series of short, regular spaced eye movements to search each 10° sector of the sky.
Systematically focusing on different segments of the sky for short intervals is a better technique than continuously sweeping the sky.



When searching for other aircraft., the eye moves in jerks (saccades) with rests between them. The external world is sampled only during these rest periods. Eye movements/rest cycle takes about 1/3 of a second, and it can readily be seen that this means that the amount of external world that can be examined in detail is strictly limited. Therefore the pilot can maximise the probability of detection by minimising the duration of the rests and making as many eye movements as possible.

When trying to search for other aircraft in an empty sky, we often have trouble because of **Empty Field Myopia.** This is the natural tendency of a resting eye to focus at 1 to 2 metres and not infinity. Consequently, distant aircraft may not be noticed or perhaps a dust particle or scratch on the windscreen might be taken for another aircraft. To avoid empty field myopia, focus on any available distant object, such as a cloud or landmark as this will lengthen your focus. If the sky is cloudless then to lengthen your focus concentrate on a distant part of the aircraft eg the wingtip.
If you spot an other aircraft in an empty sky it may be closer than you think because you have no other object with which to compare its size.

Any relative movement of an aircraft against its background usually makes it easier to notice in your peripheral vision. You may be on a collision course with another aircraft if there is no relative movement between you and the other aircraft. Because of the lack of movement across your windscreen, an aircraft on a collision course will be more difficult to spot than one that is not.

Into the Wide Blue Yonder Part 3

INTO THE BLUE YONDER PART 4

In Part 3 of these light-hearted chronicles, the R.A.F. contingent of trainee pilots had finally arrived in New York on the Queen Mary, destined for one of three flying schools in the United States located in Arizona, Texas and Oklahoma. But our immediate destination was to be yet another transit or holding camp in Moncton in New Brunswick, Canada. As the name implies, these camps were essential to allow for unavoidable delays between the various stages of training, particularly where large distances were involved, as in our particular case. (We were to cover a total of over 5000 miles between Manchester and our final destination – Oklahoma in Mid-West America).

Queen Mary docking at New York

The docking procedure for a liner of the Queen Mary's size was a protracted business, the whole manoeuvre taking almost an hour during which we were fortunate to see the French liner "Normandie" – a peacetime rival of the Queen Mary – leave a nearby berth for her return trip across the Atlantic.

Our hopes of a few days in New York were now dashed as we were bustled into a special train in a nearby siding. The whole dock area was clearly under military control for we were shepherded through several security points before boarding and the doors locked.

The 900 mile trip to Moncton followed the line of the Hudson River through the New England

states to the Canadian border and beyond to Montreal. The weather had now deteriorated and the second half of the journey was punctuated by long delays while the line was cleared of snow drifts. A three hour wait at the small town of Campbeltown allowed us all an opportunity to send identical telegrams home to announce our safe arrival in Canada. The queue snaked out of the tiny Post Office, round the buildings and along the main street. Forty years later, while clearing my mother's papers I came across my telegram which having a low priority rating had taken five weeks to cross the Atlantic.

Queen Mary leaving for the UK

The Moncton area in the depths of winter was bleak and desolate, and we saw little of it during our brief stay there. Outside temperatures hovered around –20° compared to a sweltering 30° in our centrally heated barracks. With five years of food rationing behind us, we thronged the local cafes at weekends and gorged on steaks and eggs, knickerbocker glories, banana splits, and other delicacies. Many paid the penalty on the 8am Monday morning "sick parade" with gastric upsets, boils and similar disorders of the system.

Once again we packed our kitbags and set off for the final 2½ day run to Oklahoma in the United States mid-west with a brief stop at Chicago where we transferred to the Atchison, Topeca and Santa Fe railway line – mentioned I think in the war-time song "Chattanooga Choo-Choo". The attendant on our coach was an elderly Negro in his late seventies who obviously took a pride in his work, having been employed on the railway all his life. Having converted our seats into bunks and conjured up mugs of coffee and sandwiches, he enthralled us with tales of the old days of the railroad and opening up of the West. I can see him now in my mind's eye as he tearfully related his father's experiences when, having been orphaned at the age of twelve and born in slavery, he had made the incredible journey from Alabama to Chicago through the Confederate and Union lines during the United States Civil War. The journey took him seven months.

We arrived late on a Saturday afternoon at our final destination – Miami with a population of 2000 (and this being the United States of America I must not forget its elevation – 120ft) in the north east corner of Oklahoma, prairie country and one-time home of the Cherokee Indians.

The airbase was located about two miles west of the town. Saturday was a non-flying day, of course and as our bus approached the main gate we were treated to the sight of about 60 aircraft lined up on the tarmac, perhaps 20 Cornells and 40 Harvards.

The base was in the charge of a wing commander who was assisted by an adjutant, two Flight Lieutenants who undertook regular check flights of all students and a sergeant who was PT instructor and general dogsbody. We were housed in comfortable wooden single-storey barracks with the mess-hall nearby. The servicing and repair of the aircraft were the responsibility of a local company employing mainly women on shift work on a 24 hour basis. The instructors – both ground and flying – were all American civilians whom we were expected to address as "Sir" or "Mr…" the great majority of instructors learned their flying skills the hard way in the early days of flight-barnstorming, bootlegging, flying circuses, flying mail etc – and most had wonderful tales to tell. The base was also equipped with two Link trainers, the fore-runner of today's simulator.

An early simulator

Each instructor was allocated four students – A, B, C and D. On day one, A and B shared the flying in the morning while C and D attended ground school. In the afternoon the positions were reversed. On day two, C and D flew in the morning, while A and B studied, and so on.

The only runway ran roughly east/west with the control tower slightly offset at the eastern end. A satellite field was of course essential to cope with such heavy traffic and this was located about 8 miles away, instructors and students being ferried there by bus. It was more than an area of grassland with a large wooden structure at one end serving as crew room and briefing room. It was used only by the Cornells. Both fields were provided with paraffin flares for night flying, the two lines indicating the take-off and landing path.

The regime at the base was very strict indeed and the training intensive. We were allowed out of camp at weekends to 2300 hours and Wednesdays from 1800 to 2200 hours. All were confined to base on the other four days of the week.

One of our early lectures was one to savour for it was presented by the meteorology tutor who proved to be the most colourful and certainly the most articulate of all the instructors. He could probably have written a best seller out of a sore thumb, as they say. His most memorable description was of the type of precipitation to be expected from cumulo-nimbus clouds which he likened to "a cow pissing on a flat rock!" Spoken in his James Cagney Brooklyn accent, it brought the house down.

Our met man's pride and joy was his automobile, an enormous green Chevrolet which caught the eye even from overhead at 2000ft. From the front passenger seat with its pressed velvet upholstery, the bonnet appeared large enough to accommodate a snooker table while the dashboard was festooned with the most unlikely of instruments and gadgets – some operational, others cosmetic – many of them no doubt pillaged from written off Harvards. They included an altimeter (fairly static on the prairies) a rate of climb indicator (very useful in the Ozark Mountains where he spent his weekends) and a magnificent magnetic compass. He delighted in pointing these out to me one day when he gave me a lift into Miami.

End of part 4

Alex Findlay

Flying Further Afield

Look at these pictures of Oban and Mull. Fancy some of that? This is what is available if you sign up for the fly outs. Whatever your experience, it helps to go with others to those non local destinations.

Touch down at Oban

CFI's Weather

February was a changeable month due to an assortment of bad weather mainly due to strong northerly winds bringing rain, sleet and snow showers. Fortunately there were also a number of days of cold and frost conditions giving excellent flying conditions. There were 16 non flying days but despite that some 53 hours were flown. March, normally a very settled month, was a particularly windy month. Strong south and south westerly conditions gave mild but unsettled conditions with drizzle and low cloud. There were 20 non flying days as a result.

Coming next issue

In part 5 we complete 50 hours flying on Cornells and move on to the legendary Harvard.

Tom Ward continues his medical safety and human factors with a look at hypoxia and oxygen deficiency and how this can affect a pilot. Next month Joanne Lyall, one our keenest students, features as the next member profile.

Base leg for Oban airfield

GT on the ground at Glenforsa grass strip

G-Force

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