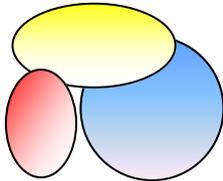




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# Bristol Wings



Newsletter of the LAA Bristol Wing

May 2014

## NEXT MEETING— HANGAR CHAT

Our next meeting at 7.45 pm on Wednesday 7th May 2014 and as usual we'll meet in Room 7 at BAWA.

- Have you a new or favourite bit of kit - cockpit video camera, flight planning software, etc? Tell us about it - bring along the equipment or data files to show us if you like.
- What are your flying plans for the year - any new destinations?
- Any problems with EASA licence conversion?
- What's happening with the CAA review of future VFR airspace?

It's up to you!

Directions to BAWA are available on our website: [www.bristol-wing.co.uk](http://www.bristol-wing.co.uk)

## Forthcoming Wing Meetings:

**4th June:** We will be having a return visit from Chris Bigg with *"Wings over Filton"* (a detailed history of Bristol designed aircraft 1910 to 1939)

No meetings July or August

**3rd September:** AGM

**1st October:** Manuel Queiroz—Pan-American Highway

**5th November:** Phil Hall – LAA CEO

**3rd December:** Quiz Evening

## LAST MONTH'S MEETING— Kemble 1936—1945

Glen Moreman, Operations Manager at Cotswold Airport, described the history of RAF Kemble 1936 - 1945. A lifelong Kemble resident, Glen gave us the benefit of his extensive research into the airfield. From fields alongside the Fosse Way to a very active base with much of the shape we recognise today (the newest hangar at Cotswold Airport was built in 1941!), Glen provided us with contemporary photos and tales of those based there.

The airfield was the home of a major maintenance unit and of the Service Ferry Pool, responsible for the ferrying of aircraft between operational bases and maintenance units.

We look forward to hearing from Glen again on the later story of Kemble.

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## Gloucester Airport Offer

The following is from Darren Lewington the airfields Airport Manager  
*On the subject of the Jet Age museum, you might like to remind Wing members that our official opening gala weekend takes place on 10/11th May. There'll be Dragon Rapide pleasure flights and, hopefully, the odd flypast or two during the course of the weekend.*

*You might also like to point out to members that, despite a modest increase to our landing fees this year, we still offer LAA members a discount. Permit aircraft and all those under 800kg pay £13.50 inc. VAT, which reduces to £10 inclusive with an uplift of 20 or more litres of Avgas or UL91. Our Avgas is £1.95 and UL91 is £1.91 inclusive. Anybody under 450kg is just £9.50 and we even have a 300m grass strip for tail-draggers.*

*They're all welcome to sign up for our free, 'buy 4, get 1 free' landing fee loyalty card too. I will be issuing a press release to the LAA regarding this in due course but we'd very much like to see more of the locally based aircraft using us.*

**Everyone can learn something from anyone at any time in aviation.**

**Kevin Fitzpatrick**

## Picture Quiz

### Last month's Picture Quiz

Graham offers the following answer:

The aircraft in the April mystery picture is a Sportavia C.1, a derivative of Sportavia's RF-5 motor glider. It was an experimental ultra-quiet low-level surveillance aircraft that was intended to fly over Germany's large forests (which cover more than 30 per cent of the country) to locate 'uninvited' ground forces.



Powered by a Lycoming engine it carried a pilot in the front, and AEO + instruments in the rear cockpit. To minimise engine sound, the exhaust pipes ran inside noise attenuation ducts in the widened fuselage. It was very quiet and at 300 ft altitude virtually inaudible to the human ear. Three were built, but there was no series production.

**Phil Mathews** once again was the first to come forward with the correct answer followed swiftly by **Trevor**.

Our new Quiz-master **Alan George** also sent in the following: With such large span wings and given the extract from Rene Fournier's biography the picture quiz has to be a Fournier type. My contacts in the Fournier club suggested the RF5S, a quiet surveillance aircraft built by Sportavia, that had camouflage paint but the canopy and particularly the cowling are different. So a search on the interweb came up with the Sportavia S5 in a museum in Germany that has the correct cowling and canopy. Was it the same airframe in a later modification state, I do not know.



Another suggestion submitted from further afield was not quite right—sorry.

### Another puzzle picture from Graham:

*"What aircraft is this?"*

Four points available.....

One Point for saying what it is not.

One Point for saying it's nationality.

One Point for saying where it was seen

And another for naming it accurately.

## Where to go...

Free landing vouchers for **May 2014**

**Flyer:** Bellarena, Bodmin, Causeway, Henstridge, Shipdam, Yatesbury

**Pilot:** "Spring" edition (they have 13 issues a year) with vouchers for **14th April - 11th May:** Chiltern Park, Elstree, Fair Isle, Newtownards. Also in the May issue: Bagby, Boston, Manchester City (Barton), Redhill

**LAA:** Eshott, Lands End, Leicester, Redhill

**THIS WEEK-END 3rd & 4th May—Bonjour Bodmin** A special French weekend—why not come along in French fancy dress? PPR Bodmin Airfield 01208 821419 or Pete White 07805 805679

**May 24/25th** – Goodwood LAA Fly-in and Southern Roadshow. Camping allowed from the Friday. No showers, but washroom facilities are nearby in the pits area. Aeroclub open from 7.30am both days for breakfast. From 6.00pm on Saturday, a payable B-B-Q will be put on by the Goodwood chefs. Bristell, EuroFox, LSA Eurostar, CTSW (London Airports) x2, Groppo Trail have all confirmed their attendance, with hopefully more to confirm.

Please PPR Goodwood 01243-755061 (will help for catering and a/c parking). Campers please phone 01243-755087 and talk to Angela to book a spot, and say if you would like a BBO on the Saturday.

**Sywell's AeroExpo 30th May – 1st June.** Free entry to the show to pilots and passengers, just a landing fee to pay (£10 for single engine aircraft). Slot bookings are at [www.sywellaerodrome.co.uk/bookings.php](http://www.sywellaerodrome.co.uk/bookings.php)

## RAeS Bristol Branch

**Date:** Wednesday 14th May 2014

**Start:** 7.30pm (Preceded by WEMMA AGM at 7.15)

**Venue:** Conference Room, Ground Floor, Pegasus House, Airbus Filton, Gloucester Road North

**Subject:** *Metallic Technologies for the Next Generation Airframe*

**Speaker:** Dr Adam Pitman, Airbus

In recent years generic Metallic Technologies R&T within Airbus have been somewhat in the shadow of the maturity progress by our Composite colleagues. But, with a record backlog of orders (and a corresponding high percentage of metallic structure to deliver), what are the current drivers, opportunities and challenges that could catapult Metallic Technologies back 'into the light'? This presentation will explore the picture from an enabling technologies viewpoint in the short, mid and long term timeframes of programme development

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WEMMA (West of England Metals and Materials Association) lectures are Professional Development accredited by The Institute of Materials, Minerals and Mining

Pre-registration is REQUIRED as the meeting is on a secure site. Register through EVENTBRITE via the following web page:

<https://www.eventbrite.co.uk/e/metallic-technologies-for-the-next-generation-airframe-tickets-9922687024?ref=ebtnebregn>

## Farnborough Airspace Consultation

You should all have received a recent message from LAA HQ about this subject - if not, please go to the LAA website and click on [Latest News: 24/04 Farnborough Airspace LATEST](#). LAA's powerful draft response is then selectable, as is the LAA's guidance on how to respond. The BGA also has relevant material at

<http://www.glidering.co.uk/bgainfo/airspace/farnborough.htm>

This is a most important proposal with profound consequences for recreational aviation. It is also an ill-founded proposal, as demonstrated by LAA's draft response. Traffic predictions do not seem justified, and the on-line questionnaire is of no value in that it takes as read that the controlled airspace is needed, and effectively only asks for comment on the details of arrangements. Typical is question E1 - *Do you agree with our justification that establishing formal IFR departure and arrival routes is the best way to safely manage the increase in Farnborough's traffic?* - no opportunity to challenge their forecast of traffic increase, only how best to cope with it.

The LAA guidance proposes that you do not respond directly to the questions, but prepare your comments on the proposal in a separate document (so that it doesn't get lost if there are problems with the website before you have completed it - advice I can support, having had my initial comments disappear!), from which you can then cut and paste into the Additional Comments box of Part E. However please avoid cutting and pasting directly from the LAA draft response - use your own words on the matters that matter to you, either directly in connection with this proposal or in relation to the precedent it might set for future airspace proposals (if that precedent hasn't already been set by changes such as Norwich!). PLEASE ACT NOW!

Trevor

## A Fighter pilot's guide to avoiding collisions

*Thanks to Frank Bond who has sent in this interesting article. As he says: with very little imagination, it could be very relevant to us as pilots.*

RAF pilot and keen cyclist John Sullivan on why accidents can occur and how some of the techniques of flying fighters can be used to increase your chances of survival on the roads.

Consider this scenario: you approach a roundabout or junction, looking ahead of course, and the road seems empty. As you get closer, you look right and left as a prudent, final check. You see no other vehicles and proceed through the junction. Suddenly there's an indignant blast of a horn and a car flashes across in front of you.

You may have wondered how you failed to see it, and probably concluded that they must have been driving too fast or you would have seen them. Actually for small but significant periods of time, you're incapable of seeing anything at all. Most of the time, this is not a problem. The good news is that understanding why we sometimes do not see things allows us to adopt some defensive strategies that tip the odds back in our favour.

Human vision is an impressive yet complex process. Essentially light enters our eyes and falls upon the retina, whereupon it is converted into electrical impulses that the brain perceives as images. Only a small part of the retina, called the fovea, can generate a high-resolution image. This is why we need to look directly at something to see it in detail. The rest of the retina contributes to our visual experience by adding the peripheral image. When humans see, the mind actively organises the visual world into meaningful shapes — a world influenced by experiences and expectations. Any movement immediately alerts us to something of interest that we can then bring our high-resolution fovea to bear upon.

However, our peripheral vision is not good with detail — in fact, just 20 degrees away from your sight line, your visual acuity is about one-tenth of what it is at the centre. Not convinced? Well, the standard eyesight requirement for driving in the UK is to read a car number plate at 20 metres. Stand just 10 metres from a car, look just one car's width to one side, and try and read the number plate — without moving where your eyes are looking. Try again from 5 metres.

That's not to say that we cannot see something in our peripheral vision — of course we can. As you approach a roundabout, you would be hard pressed not to see a lorry even out of the corner of your eye. But would you see a motorbike or a cyclist?

To have a good chance of seeing an object on a collision course, we need to move our eyes, and probably head, to bring the object into the centre of our vision. Now for the interesting part. When we move our head and eyes to scan a scene, our eyes are incapable of moving smoothly across that scene and seeing everything. Just like trying to take a picture without holding the camera still, the image would be blurred. Our brain overcomes this by moving our eyes in a series of jumps (saccades) with very short pauses (fixations), and it is only during the pauses that an image is processed. Our brains fill in the gaps with a combination of peripheral vision and an assumption that what is in the gaps must be the same as what you see during the pauses. This might sound crazy but your brain actually blocks the image that is being received while your eyes are moving, which is why you do not see the sort of blurred image that you see when you look sideways out of a train window.

Unless you are tracking a moving object, then human eyes are incapable of moving smoothly across a scene; they jump and pause occasionally to take a snapshot of what is ahead of them.

To see this for yourself go to a mirror and look repeatedly from your right eye to your left eye. Can you see your eyes moving? You cannot. Now have a friend do the same thing while you watch them. You will see their eyes moving quite markedly. You couldn't see your own eyes move because your brain shuts down the image for the instant that your eyes are moving. Experiments have shown that it is impossible to see even a flash of light if it occurs within a saccade.

What this means in terms of driving is that, if you move your head right and left to look for oncoming traffic, you cannot guarantee that you have seen approaching traffic. It is entirely possible for our eyes to 'jump over' an oncoming vehicle during one of the saccades. The smaller (and specifically the narrower) the vehicle, the greater the chance that it could fall within a saccade. You are not being inattentive, you

are physically incapable of seeing anything during a saccade.

The faster you move your head, the larger the jumps, or saccades, and the shorter the pauses, or fixations. So you are more likely to jump over an oncoming vehicle and less likely to detect any movement in your peripheral vision.

It gets even worse. Not only can we not see through solid objects, but research has shown that we tend not to look near to the edges of a framed scene. In a driver's case, we tend not to look at the edges of a windscreen. So not only do the door pillars of a car represent a physical blind spot, but our eyes tend not to fixate near to it, leading to an even bigger jump, or saccade, past a door pillar. This is referred to as windscreen zoning.

Back to our original scenario with the near-miss at the roundabout. On the approach you did not see that another car was on a perfect collision course, with no relative movement for your peripheral vision to detect — possibly compounded by being behind the door pillar. You looked quickly right and left, to avoid holding up the traffic behind you, and your eyes jumped cleanly over the approaching vehicle, especially as it was still close to the door pillar in the windscreen. The rest of the road was empty and this was the scene that your brain used to fill in the gaps.

So what can we do about it? Well, quite a lot actually

- \* Drivers should always slow down on the approach to a roundabout or junction, even if only by 20 mph or so, and even if the road seems empty changing speed will immediately generate relative movement against a vehicle that was otherwise on a collision course — not only are you then more likely to see it, but you are no longer on a collision course.
- \* Always look right and left methodically, deliberately focusing on at least three different spots along the road to the right and three to the left — search close, middle-distance and far. With practise, this can still be accomplished quickly and each pause is only for a fraction of a second, but this means that you are now overriding the natural limitations of the eye and brain. Fighter pilots call this a 'lookout scan' and it is vital to their survival.
- \* Always look right and left at least twice. Not only does this immediately double your chances of seeing a vehicle, but if you repeat the same scan as you did the first time (which, when it becomes a well-practised habit, you almost certainly will), then an approaching vehicle will have moved to a different part of the windscreen by the time you look the second time and is less likely to be masked by a saccade.
- \* Make a point of looking next to the windscreen pillars. Better still, lean forward slightly as you look right and left so that you are looking around the door pillars.

Motorcyclists and cyclists should recognise that they especially are at risk — not only are they more vulnerable, but the narrow profile of a motorbike or bicycle makes it more likely you will fall into a saccade. So tip the odds in your favour — always wear high-contrast clothing and use lights. Flashing LEDs are especially effective for cyclists as they create contrast and the on-off flashing attracts the peripheral vision in the same manner that movement does.

When passing junctions, look at the head of the driver that is approaching or has stopped. The head of the driver will stop and centre on you if they have seen you. If the driver's head sweeps past you without pausing, then chances are you are in a saccade - you must assume that you have not been seen and expect the driver to pull out.

But be aware of when the odds are really stacking up against you. If you are cycling into a low sun, think about how difficult it is to see the vehicles ahead. Now imagine that you are also looking through a dirty windscreen, or one with rain beating against it. Are you content that drivers approaching from behind have a chance of seeing you? Maybe today is the day to take a different route — or time your journey to avoid the sun being straight into the eyes of drivers on that busy stretch of road. This is risk management.

So is wearing a helmet. Every fighter pilot wears a helmet, even though it won't make much difference if they hit the ground at 70 mph. It's about reducing the chances of less dramatic incidents causing fatal cranial injuries, unnecessarily.

## CAA General Aviation work

Some of the stuff that the new CAA GA unit has been working on:

### Here are examples of what has been delivered over the last year

- We have ensured that EASA and the Commission permit UK national licenses and ratings to be converted to EASA equivalents on an 'as is' basis.
- We have permitted the use of 8.33 hand-held radios in Permit to Fly aircraft.
- We negotiated a change to the blanket 100 hour requirement for classroom training for the Private Pilot Licence (PPL). The requirement now to cover the appropriate theoretical knowledge without specifying a minimum.
- We removed the unnecessary UK requirement that for the instrument rating (IR) initial flight test the aircraft should be equipped with vision limiting screens that totally obscure the pilot's view and that of the examiner too.
- We issued a general exemption permitting the use of gyroplanes for self-fly hire.
- We have reduced clutter and improved the readability of aviation charts in particular enhancing the definition of Controlled Airspace classifications and boundaries.
- We simplified our template for use by Registered Training Facilities (RTFs) to become Approved Training Organisations (ATOs).
- We carried out a fundamental review of The Flight Crew Licensing: Mandatory Requirements, Policy and Guidance, CAP 804, and published new guidance for private pilot licensing in October 2013.
- We implemented a 'service centre' approach and para-technical capabilities to significantly reduce turnaround time for routine transactional services such as license applications. Associated with this, a 'digital by default' project completed a major review all of its forms to reduce their number and length, eliminate duplication and pre-populate forms where it already holds information or, where this is not possible, not to ask for the information again. At end-2013, all airworthiness forms were on line as were around 70% of all licensing transactions. The original commitment to have the remainder of licensing forms, on line by June 2014 is under review and may be revised in order to achieve wider benefits from the use of an integrated CRM / portal system which is planned to be delivered late-2014.
- We implemented a corporate complaints procedure, with defined turnaround times for acknowledgement and full reply; the CAA's Annual Report will include details on the number and types of complaints it receives, and the percentage upheld.
- Following strong industry support, we successfully negotiated a 5-year extension of the UK Instrument Meteorological Conditions (IMC) rating.
- We removed our oversight of Rescue & Fire fighting staffing levels at public transport aerodromes, enabling these aerodromes to reduce their costs by setting staffing levels appropriate to the risk and shared with local authority 'blue light' agency partners.

### And examples of what the GA Unit is currently working on:

#### *Reducing the Regulatory Burden*

- ◆ It currently costs £1,600 to add a non-complex aircraft type to a Part M maintenance and continuing airworthiness approval certificate. By late-summer 2014 aircraft will be listed by category removing the need and the cost of adding new types within the same category.
- ◆ During April 2014 we will provide approval for the Light Aircraft Association (LAA) to commence its night / IFR (instrument flight rules) certification programme. This will provide added incentive to GA pilots to train for instrument qualifications, helping them become safer pilots.
- ◆ By October 2014 we will publish a public consultation on the creation of a declarative-based experimental category for airworthiness, helping reduce the procedural and financial burden on aviation entrepreneurs.
- ◆ We are working with EASA to remove the upper age limit for single pilots of Commercial balloon activities, as was the case in the UK pre-EASA. This will enable 17% of all current holders of the UK Commercial Pilot Licence (Balloon), to continue to act as pilot-in-command.
- ◆ Together with Norway, we have submitted to EASA derogation for Seaplane Rating revalidation, to focus on the need for a specified number of takeoffs and landings in a seaplane and not a minimum number of flying hours.

#### *Delivering More Proportionate Regulation*

- \* During summer 2014 we intend to clarify the rules surrounding the use of EN228 MOGAS fuel in aircraft.
- \* We have, with substantial support from Industry, completed a review of the training syllabus for private pilot licenses to remove legacy requirements and ensure it is relevant for today's operating environment. We are working with EASA to agreeing the earliest introduction mechanism, objectively during summer 2014.
- \* By July 2014 we will review the question bank for EASA private pilot licenses with a view to reducing it to align with the 120 questions indicated by EASA
- \*

- \* During late April 2014 we will conclude our review of 2003-2012 safety data, helping enhance our understanding of accidents and providing the baseline for implementation of proportionate and risk-based regulation in areas of highest safety benefit.
- \* By October 2014 we intend to publish a simplified policy and application process for instrument approach procedures (IAPs) at smaller aerodromes. In the same timeframe we also intend to permit the use of pilot-controlled lighting at licensed aerodromes.
- \* By the end of June 2014, we will issue an exemption to the Air Navigation Order to relax the current rules on cost sharing, introductory flights, sailplane towing, and parachute dropping. (This move anticipates changes to EU Regulations being implemented in October 2014).

### Delegation of Activity

- ◇ We are working with both the LAA and BMAA to delegate design, construction, maintenance and continuing airworthiness management oversight and support of nationally regulated Permit to Fly aircraft. This will remove airworthiness tasks from the CAA and introduces a more proportionate approach to regulating recreational aviation.
- ◇ This transitional work will be completed by September 2014.
- ◇ We are working with the Air Display Industry to discuss the options and scope for the delegation of oversight and administration functions.
- ◇ By May 2014 we will complete work with industry to delegate the management and oversight of continuing airworthiness for factory built gyroplanes.

### De-regulation

Subject to the successful completion of a Regulatory Impact Assessment, we anticipate being able to remove from regulatory airworthiness oversight of all single-seat microlights up to a maximum takeoff mass of 300kg.

### And some Myth Busters too:

- *You don't need a licence to do aerobatics.* Correct, until April 2015 at which point a rating is required under EASA Part-FCL.
- *You don't have to wear a helmet when you do aerobatics.* Correct; if you bang your head it's up to you!
- *Aircraft performance does not change with aircraft age.* Partially correct; engine performance will degrade, however if correctly maintained not by a significant degree.
- *Owners of aircrafts can do 50 hour checks in their own aircraft.* Owner maintenance tasks are defined in regulation – so long as the 50-hour check includes only these then ok. However, even if it contains more items, these can be performed under the oversight of an approved person / organisation.
- *Aircraft don't have to be re-weighed every 10 years.* Correct; they don't change weight on their own and the myth that microlights require periodic re-weighing is not a CAA requirement. The owner / pilot simply has to ensure the aircraft is operated within its certified weight & balance envelope. The aircraft weight schedule should in theory include all weight additions and subtractions (e.g. through the application of modifications). However, dirt and grime can and do build up inside fuselage and wing sections and over time can increase aircraft weight.
- *You can fly at night in the UK with a single engine aircraft.* Correct, providing you have the appropriate rating on your licence.
- *You can land at night without runway lights.* Correct; to do so is legal within the ANO, but clearly carries additional risks.
- *After Vne (red line on the ASI) the aircraft doesn't fall apart.* Incorrect; Vne includes a 15% safety factor, however this will have been obtained under ideal conditions with a professional test pilot. Sudden onset of flutter (which WILL occur at some speed above Vne) can wreck an aircraft in seconds, and at high speeds G-limits can easily be exceeded by gusts and turbulence.
- *There is no cross wind limit (demonstrated is not a limit).* Partially correct: the maximum demonstrated crosswind component set out in the Performance section of an AFM is not limiting. But some aircraft may have a crosswind limit set out in the Limitations section of the AFM. Check yours.
- *You can only have your G-registered EASA aircraft maintained in the UK.* Incorrect; an EASA aircraft can be maintained in any EU state, not only the state of registration