



### ***Editorial***

On Tuesday 27th January, the first of the Branch's four planned STEM events in collaboration with Holmston School and Ayrshire College took place. A full report of "How Aircraft Fly" appears elsewhere in the newsletter so I won't steal any thunder here, but suffice to say that this is the successful culmination of a great deal of work by Ian Adams with the support of several other Branch members. Remember that there are still three more events in preparation covering "Power for Flight" (24th February), "Operation of Aircraft" (19th March) and "Careers in Aviation" (date tba). The planning and execution of these events falls on the shoulders of very few, and more volunteer labour is always needed. If you would like to help please speak to a Committee member.

This time of year is a very busy one for the Committee. As well as running the normal programme there are the McIntyre evening and the year end activities culminating in the AGM to think about. It is the sign of a healthy organisation that Committee members are able to stand down having more than served their time, and some have given notification of so doing in 2015. Please consider standing for election to the Committee when the time comes. It is new blood that keeps things fresh.

The Editor set about this month's newsletter with mixed messages from the membership. On the one hand, there was a pleasing and record number of entries to the Christmas prize crossword competition - the answers and winner are on the back page - and the very welcome verbal and written feedback on January's VOR article (see overleaf). On the other it has been a struggle to find copy for this edition. Regular contributors excepted, there has been very little in the way of unsolicited membership contribution for quite some time. Hence the advert also on the back page. Please take note and act on it. It makes the monthly task of compilation so much easier.

Raj Nangia's talk last month was, for me anyway, a welcome breath of 'blue sky' thinking, with some conclusions about airliner operation that I would not have thought of. The healthy level of scepticism which it provoked was totally understandable from our operationally experienced audience, but I wonder if a different response would have been obtained from a room full of keen, undergraduate engineers ready to take on the next big thing, and the employment opportunities that go with it. It will be interesting to see how things develop. Raj identified some very impressive benefits that may be up for grabs.

After two months of lectures concerning various facets of the air transport industry, our attention flips to general aviation this month as Mike McLean from Swift Aircraft describes the very welcome introduction of light aircraft manufacture to East Kilbride. Who would have thought it? Welcome Mike.

Enjoy the lecture, and please take action on the above entreaties.

Dave

## ***Prestwick Branch/Ayrshire College/Holmston Primary Outreach Events get underway!***

**Words Ian Adams, pictures Stephen Kunz**



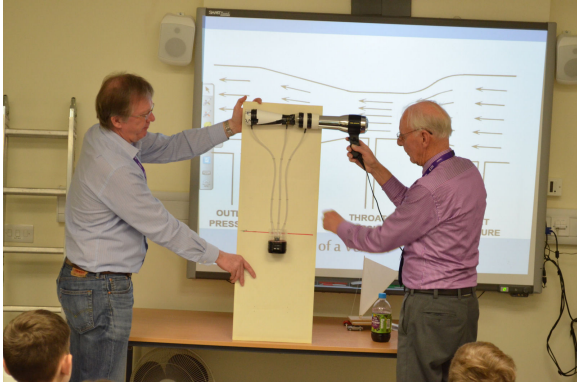
*Holmston Primary pupils get familiar with Ayrshire College's Bulldog under the watchful eye of College lecturer, Scott McDonald.*



*Longitudinal control and balance - Ian on the blower!*



*Carol Summers demonstrating the wind tunnel*



*John gives Ian a hand with the venturi demonstration*



*Learning about air pressure*

We began our series of four Outreach Events on 27th January when 30 P6 pupils from Holmston Primary School visited the Ayrshire College Aeronautical Engineering facility to find out about "How Aircraft Fly". These Branch led, Outreach Events inform the children about aeronautical matters, with a particular emphasis on the STEM subjects - Science, Technology, Engineering and Mathematics.

The session began by discussing the nature of air and the early attempts of man to rise from the ground and to move about in the atmosphere. During the second morning session we looked at how aerofoils work and finished with a visit to the College wind tunnel. After lunch we investigated how flight controls work and visited the Bulldog aircraft in the College hangar to look at and operate its flight controls. We finished the day by considering how the layout of aircraft has changed over the years, touching on the subject of the balance of aircraft in flight.

Quentin Wilson, Stephen Kunz, John Russell and myself were involved from the Branch. Assistance came from College lecturers Scott McDonald and Carol Summers. Ruth Shanta, Mrs McLaren and Ryan Hunter brought the children across from Holmston School. Our thanks go particularly to the staff and management of Ayrshire College for allowing us to use their facilities.

The next event will take place on 24th of February with the same pupils at the same venue and the subject will be "Power for Flight".



*Coming face to face with the Bulldog*



*Ian organising as Roger Bacon looks on*



*Longitudinal control and balance in theory*



*Longitudinal control and balance in practice*

Additional copies of this edition, plus a full archive can be down-loaded from [www.raesprestwick.org.uk](http://www.raesprestwick.org.uk)

## From the Membership

The place where informal input and correspondence from the Branch membership will be published.  
Two items this month, both relating to January's piece on VORs..

From **Dugald Cameron**

Fascinating material-remember well the "golf oscar whisky" and the "oscar echo", the latter caused me some embarrassment returning from Newcastle in the lovely MS893A "India Tango".

*Editor's note - Two things caught my eye in Dugald's email. Firstly, the beacons. GOW is very familiar to me and is mentioned in the article. OE, having only a two letter identification is definitely not a VOR. This characteristic usually identifies a medium frequency, airport locator, non-directional beacon (NDB). Moreover I had never heard of it. The equivalent at Glasgow was AC (now gone) and at Edinburgh UW. OE did not match any of the Newcastle beacons either. Dugald was adamant that it was definitely OE and further that it was an Edinburgh aid. I was baffled as UW has been one of Edinburgh's NDBs for well over 30 years, and still is. Fortunately one of the odd items on my bookshelf is a spotter's guide c.1972. In desperation I looked in it and there, prior to the construction of the current runway, is OE. Well remembered, Dugald. Secondly is the allusion to the lovely Rallye MS893A 'IT. There is always a reason to publish a nice picture of light aircraft at Mull - this month it is lack of copy!*

In Dugald's words...

"Here is Rallye MS893A, G-AXIT at Glenforsa aerodrome on Mull in 1972 with another favourite, Alan Chapman's Piper Cherokee 160, G-ARVT

"A really lovely day. Nancy - at that time my fiancée, now my wife - was with me."



From **David Nicholas**

I very much enjoyed your article "In Praise of the Humble VHF Omni-Range (VOR)" which brought back some early memories of tuning my airband radio under the bedclothes while living in Yorkshire (still at school) in the early 1960s, and hearing the "DIT DAH DAH DIT - DAH DAH DAH - DIT DAH DIT DIT" ident of Pole Hill VOR under what was then Amber One. A couple of points:

- 1) VOR actually stands for VHF Omnidirectional Range (the clue is in the name) - the term "range" might (and this is a guess) relate to a "frequency distribution" whereby the operating frequencies of a number of VORs have different frequencies but that they are all in one part of the spectrum.
- 2) The Trident moving map display was based on Doppler rather than the already obsolescent Decca Navigator system, using drift and groundspeed data to provide a position solution to the laterally mobile stylus on a longitudinally driven map. BEA's Viscounts were fitted with the Decca Hyperbolic Chart Display, but by the early sixties these had been removed, leaving VOR/ADF as the normal airways navigation fit. (Incidentally, the Dove operated by David Brown's in which I flew many times in the 1964-66 period and which I related to the branch newsletter was also fitted for Decca. However, both the moving map unit and the charts themselves were gathering dust in the corner of the hangar by 1964).

It was said that it was quite good at telling you where you were but hopeless in getting you somewhere else on account of the distortions of geographical actuality on the chart which was a presentation of intersecting hyperbolae! Pilots of that era had learned to navigate by traditional methods and were comfortable with VOR and ADF, whereas Decca just confused them. It was much more successful as a shipboard navigation system owing to the relative slowness of the platform.

Lastly, you might like this (which was published by Princeton University) and is shamelessly copied from the internet:

"The Decca Navigator System was a hyperbolic low frequency radio navigation system (also known as multilateration) that was first deployed during World War II when the Allied forces needed a system which could be used to achieve accurate landings. As was the case with Loran C, its primary use was for ship navigation in coastal waters.

"Fishing vessels were major post-war users, but it was also used on aircraft, including a very early (1949) application of moving-map displays. The system was deployed extensively in the North Sea and was used by helicopters operating to oil platforms. After being shut down in the spring of 2000, it has been superseded by systems such as the American GPS and the planned European GALILEO positioning system.

"It was deployed in the United Kingdom after World War II and later used in many areas around the world. Decca employees used to joke that DECCA was an acronym for Dedicated Englishmen Causing Chaos Abroad."

*Editor's note - Thank you for this, David. A lot of interesting background information there. You have provided the correct version of the VOR acronym. The one I used in the article is a commonly used abbreviated version. My understanding of the term "Range" used in this context is that it is an old American term for a radio transmitter, particularly one used for aeronautical navigation. Can anyone confirm this?*

Photographs

Humour

Poetry

History

Technical

Reviews

*Your*

# **NEWSLETTER**

*needs your*

# **CONTRIBUTIONS!**

Everything welcome.

Submissions rarely rejected.

Got an idea? Please discuss it with the Editor.

Full support provided to prospective authors.

Anecdotes

Tributes

Fiction

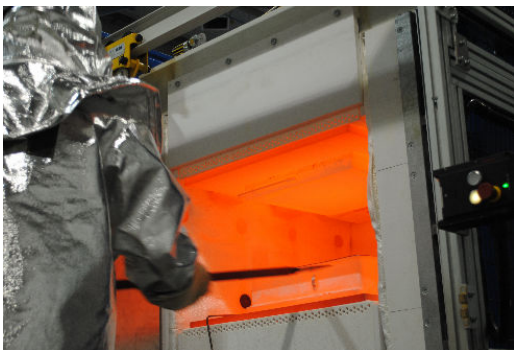
Memories

Reports

Notifications

*Visit to the*

## **University of Strathclyde Advanced Forming Research Centre**



- **Date -** Wednesday, 18th March
- **Time -** 14:45
- **Where -** Inchinnan Business Park (near Glasgow Airport)
- **Contact -** Ray Draper to reserve a place

### **Christmas Crossword Winner and Answers**

Thanks you to all who took the time to submit a solution to the Christmas Crossword which appeared in the December edition.

For those still struggling, here are the correct answers.

The winner this year is Rod Winhall. Well done, Rod.

