THE MUSEUM OF BERKSHIRE AVIATION

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"Douggie" Goddard passed away on the 7th December 2011. In his last few months he became very frail and after spending some time in the RBH he was allowed home where he died with his family around him.

Douggie was renowned for his tenacity in just about everything he embarked upon, he was still giving talks to schools in the Autumn 2011 in spite of being wheelchair bound, having done so for several years. He was a great Ambassador for The Museum of Berkshire Aviation, promoting us wherever he could. Douggie was made President of the Museum Trust after standing down as chairman in 1993, nevertheless he always insisted in doing his share of weekend duty until frailty prevented it.

In the early days his influence with Wokingham District Council, where he was vice- chairman from 1986-1988 and chairman from 1988-1990, opened many doors and made the task of establishing the Museum at Woodley possible, though by no means an easy task and he presided at the grand opening in 1993.

A veteran of the Normandy landings and "Operation Market Garden", Douggie went with the liberation forces right into Germany and assisted in the liberation of the Bergen-Belsen concentration camp and was present at the trial of the camp guards. He left the army in 1958. In 1978 Douggie was a made Freeman of London and retired in 1979. He was made MBE in 1997 for services to the community and of the many charities that he was a Trustee.

A memorial service was held at St Mary's Wargrave on the 2nd of March.

John Harry Gibbons 1925 – 2012

John went to school in the Paddington area of London and served in the RAF as a Wireless/ Radar Mechanic.

On leaving the RAF he joined the Dictaphone Co as a Service Engineer,in which capacity he travelled world wide including Australia & Thailand. He married Doreen in 1949.

In 1970 he and Doreen moved to Woodley, where he

took up employment at the Royal Berks Hospital specialising in Medical Electronics(carrying out development work on what was then the new MRI Scanner) until his retirement. He then spent much of his following years engaging in his main hobby of Photography and was an active member of Reading Camera Club,during this pursuit he and his wife Doreen took many long walks in the country photographing country scenes for club competitions,in which he was very successful.

In January 2008 John lost his wife and this affected John greatly - from that time on his health slowly deteriorated.

Engineering Report

(Geoff Etridge)

Miles Student The rebuilding of the starboard wing is finished and the painting has been started The team have also remade the aileron, the work on the wing flaps has yet to be started, because other remanufacturing and repairs are taking a lot of time.

Westland Scout Helicopter The rotor blades have now been fitted and the blade folding support has also been obtained and fitted, so the blades are now correctly stowed.

Martinet Bristol Mercury Engine The men working on this are cleaning up components to fit to the good engine.

Pictures supplied by Geoff

Bleriot Replica - All the fuselage bracing wires have now been manufactured and fitted. The control column and rudder pedals are in position. The tailplane is now fitted to fuselage and the wings will start to be covered in March

Mini-Link Trainer Everything is working well and as ever it is very popular with the children.

Shop & Social

(Margaret Etridge)

The Christmas Dinner, held at Lands End was enjoyed by all that attended.

The shop is going along nicely, in particular the cake consumption was keeping up. A new stock of toys will be purchased shortly any toy catalogues will be gratefully received. A stock-take will be made shortly.

January Meeting

(John Wood)

Tony Vetta, who worked for M.L. Aviation for 13 years, outlined the history of the company and told us about some of its many and varied products.

The origins of the firm went back to the 1930s when, after a series of name changes, the R.Malcolm Company emerged. The business made parts for other aircraft companies and undertook sub-contracted production work.

In the early days of the Second World War, Marcel Lobelle who had been the chief designer at Fairey Aviation and was responsible for several types, including the Swordfish and the Barracuda, joined the Malcolm company following a disagreement with his employers.

A little-known proposal was for the design of a large fighter aircraft with a crew of a pilot and two gunners - each with his own turret. Power would be provided by two Napier Sabre engines mounted in tandem and driving contra-rotating propellers.

The Ministry lost interest in the idea and the scheme was abandoned.

In the meantime, the workload had grown so fast that the company could not keep pace. In late 1940 part of the firm moved to White Waltham, while the remainder continued at Slough.

The war-work continued apace. The company was asked to develop a variety of one-off specials including some new tail surfaces designed to deal with the problems that followed the development of the more powerful engines coming into service. One example was a Spitfire which featured an all-flying tail unit.

The firm's rocket rails were fitted to Typhoons and other ground-attack machines and proved to be very effective during and after the D-Day campaign.

The moulding of cockpit canopies on early marks of the North American Mustang needed significant polishing to minimise visual distortion but Malcolm's devised a solution with an oak mould of their design and other techniques that not only reduced the amount of polishing required but also produced a bubble canopy that afforded pilots much better all-round vision.

It became well-known as the "Malcolm hood" and was soon adopted for other aircraft.

A host of other developments followed, including glider-towing equipment with quick-release mechanisms. The system is still in use.

Another project was intended to save pilots marooned on the ground. The pilot would be engaged by a cable and then brought aboard the rescue aircraft with the aid of a winch designed to overcome the problem of the sudden snatch when engaging with the weight of the rescued person.

Towards the end of the war the firm converted examples of several aircraft, including the Spitfire and the Miles Martinet, into unmanned remotely-controlled drones

The firm's founder, Ronnie Malcolm, had joined the Air Transport Auxiliary. He left the ATA after the war. In 1946 the company was renamed M.L Aviation and Malcolm died later, aged 43.

The "new" company continued with its innovative research and development. A brief foray was made into aircraft ejection seats, features of which were subsequently incorporated into Martin Baker designs that would become standard.

Perhaps unsurprisingly, the company had built a reputation for odd-ball research – a talent that continued to inspire unusual, if sometimes bizarre, solutions to aeronautical problems.

With rising international tensions, the authorities had become anxious about the threat posed by the increasing approach speeds of "enemy" bombers. They sought means of employing radar that would have a 150 miles range at sea level.

There was no suitable aircraft to carry the proposed radar. M.L. Aviation, however, asked "Why not do it with a balloon?" The balloon experts at Cardington responded by designing an 84,000 cubic feet capacity barrage balloon – at a time when a standard barrage balloon capacity was a mere 19,000 cu.ft.

The 25-foot wide radar scanner with its associated equipment, made a heavy load and was housed in a dome-shaped structure and carried aloft by three of the giant balloons. Extra weight was imposed by the 7,000 foot long winding cable, lines to control the balloons and so forth.

During testing an aircraft could be detected at the desired range. Predictably, perhaps, it was decided that aircraft carrying sophisticated early-warning radar should be acquired.

A request from the Atomic Weapons Research Establishment for a means of testing nuclear devices was met with a similar solution. This time a cage was used to house the device and four balloons provided the lift.

As the years passed M .L. Aviation felt the effects of a diminishing aerospace industry. There were various changes but the firm was eventually acquired by Cobham plc, the company best known as the pioneer of flight refuelling.

February Meeting

(John Wood)

The Vickers Vimy was introduced too late to see active service in the First World War, yet in the post-war years, it achieved great fame with a number of long-distance flights. These included Alcock and Brown's direct crossing of the Atlantic in 1919 – the first such flight – and the flight to Australia by the brothers Ross and Keith Smith of the Australian Air Force.

Against such a background, American Peter McMillan decided to build a Vimy. It was designed to be as accurate as possible, with concessions being made only to meet current airworthy requirements. One of his intentions was to repeat the famous 1920 flight by the Smith brothers.

The replica was completed in California in 1994 and registered NX71MY. It then made its first Atlantic crossing- as freight aboard a C5A transport aircraft of the USAF - which delivered its load to Mildenhall.

After a remarkable series of flights, the Vimy is currently "grounded" in the Brooklands Museum where it is lovingly cared for by a team of volunteers. One of them is John Downey, who outlined the history of the replica.

John said that arriving in Britain the Vimy appeared at the Farnborough air show and then successfully flew to Australia, so fulfilling the first part of Peter McMillan's plan. In 1995 the Vimy was returned to the UK by sea and was based at Kemble where BMW engines were fitted. In 1999 the replica successfully tackled its next challenge – to fly to South Africa. When that flight was completed the machine was shipped back to California and made a number of visits to places in the United States.

By this time the re-enactment of Alcock and Brown's Atlantic venture beckoned. In preparation for this, Canadian-designed Orenda engines took the place of the BMW units. In 2005, the Vimy took off from Canada to follow the pioneering route flown by Alcock and Brown in1919.

Mark Robolz

The late Steve Fossett was at the controls and Mark Robholz navigated. The flight to Ireland was pronounced "a great success". Following this flight, the Vimy was returned to the UK and based at Dunsfold. John, who had recently joined the ground team that looked after the replica, said that the team made many visits to Dunsfold where the machine flew only occasionally but needed cleaning and other attention.

The costs of maintaining, insuring and flying the Vimy were some of the reasons for it remaining at Dunsfold throughout 2006 and 2007 but in March 2008 it was able to fly again –its first flight in two years. It was then moved to Oxford's Kidlington airport. In July of the same year, it took part in a display at Farnborough air show and, in April 2009 moved to Duxford after hangar space was offered. In June the Vimy flew to Ireland to appear in an air show and, in September, attended the Goodwood show

Peter McMillan had originally planned that the Vimy should be moved to Brooklands museum after accomplishing the major flights it was intended for. When that time arrived, in November 2009, the Vimy was flown to Brooklands. It was partially dismantled and moved into the so-called Wellington hanger and reassembled. It is now on permanent view in the hanger at Brooklands – a fitting resting place where many Vickers types – including the Wellington and some Vimy examples were built.

John suggested that perhaps at some time in the future, the Vimy might emerge from the hanger and fly again.

Dates for your Diary

March

7 WLAC 55 years of flying fun (Clive Rustin)

11 Old Warden – Scale model exhibition

April

3 MBA Lecture – Tony Heaton: The Rudolf Hess cover-up

4 WLAC The European Space Agency (Kate Adamson)

8 Popham Jodel Fly-in

22 Gatwick International Aircraft Enthusiasts Fair

May

1 MBA Lecture – tba

6 Old Warden Shuttleworth Spring Airshow

6 Abingdon Air & Country Show

7 Popham Aero/autojumble & Class Vehicle Rally & Fly-in

12/13 Old Warden Shuttleworth Aeromodel weekend

13 Popham Piper Anniversary Fly-in

19 Old Warden Shuttleworth Spring Evening Weekend

26 Old Warden Shuttleworth Festival of Wings & Wheels

27 Duxford Jubilee Airdhow

June

5 MBA Lecture - tba

Notes on the Eon Primary Glider and its Restoration.

(Chris Maitland)

Many of the ribs of the Eon Primary were found to have suffered breakage of the lower members just forward of the trailing edge, both in service and since repaired and in storage. This must have been caused by tension in the covering of cotton fabric coated with a shrinking dope which put the already curved lower members under compression. It is surprising that the ply reinforcement of the lower member was not continued further rearwards to join up with the ply that joins upper and lower members at the trailing edge.

The outer plywood web of spars is at 45 degrees to the length of the spar. The primary purpose of the web in an I-beam is to prevent the upper and lower members moving endways relative to one another, so the web is stressed in shear. A strain in shear can be resolved to extension along diagonal and compression along the other so the plywood is best employed with its fibres in these directions.

A highly-cambered wing-form that this glider has is appropriate to provide sufficient lift at a low airspeed. Under these conditions the lifting force is generally between 25% and 30 % of the way back from the leading edge. At a higher speed or in a dive this moves rearwards giving the wings a nose-down twisting force. This two-spar structure is fairly typical of light-weight wooden aircraft including traditional biplanes, though when the upper and lower wings are generously braced they form a box-girder. Monoplanes with cantilever wings often have plywood covering at least forward of the rear spar, this provides all the stiffness needed, effectively uniting the two spars into a single box-spar. This structure was widely employed in such examples as the Miles Magister and the Mosquito.

The above is not, I hasten to point out, ours!

Wing Structure Replica

When the wings of the glider had been stripped of covering and their inner structure repaired, it seemed a pity to have to cover it again. Yet, without the support of the covering, the ribs are very fragile, so they were covered as you see. Therefore this replica has been built to illustrate the details of the structure and show how the different parts work to provide strength with lightness. It comprises a structural unit which is repeated five times in each wing, with some variation

Materials

Timber parts are to correct size but the original Sitka Spruce (selected for straight grain and specified density) has been replaced by a harder and heavier softwood.

Plywood parts are birch 3-ply of various thicknesses. The ‘biscuits’ that reinforce the joints in the ribs and the covering for the leading edge are correctly 1/32 inches (0.8 mm). Heavier ply parts are approximately correct.

Volunteers to staff the museum

There are still vacancies on the list of people to staff the museum on (Winter) Sundays and (Summer) Saturdays and Sundays – and help on Wednesdays would be appreciated too! The more volunteers there are the easier it becomes, both to work out a rosta and for the volunteers on the days when they are ‘on duty’.

News

Anyone who served at RAF Bircham Newton may be interested in the RAF Heritage Room that has been set up. See: www.rafbnmp.org.uk

Correspondence

February 20th – by email:

I thought you might be interested that your museum is listed in my new iPhone / iPad App 'Aviation Museums in the UK'.

The app maps and provides a alphabetical listing of all the aviation museums in the UK. It gives outline information and web and email links to the museum selected. The user can also select a museum and take a photograph. This will be either placed in an existing Photograph Album on the iPhone or saved to a new Album with the museum name.

Further details and screenshots may be found on the App Store.

http://itunes.apple.com/us/app/aviation-museums-uk/id492070275?ls=1&mt=8

Dr Philip Swan

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February 25th – by email:

We would like to thank everyone for such a positive visit on Wednesday. My French student is very grateful for all the literature.

We are still searching for Second World war memorabilia to add to Gabriel's French collection. If you or anybody in the team can point me in the right direction to source anything, we would be very grateful.

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March 1st – by email:

Thought you might like to know that in the next week we shall be listing the First issue of "Miles Magazine" published January 1938 for sale on our website: http://www.bookfarm.co.uk

Jeffery J Basset _www.bassett-books.co.uk_

Jean's Blasts from the Past No. 4

"Dimsie" (Donald Stones)

I pass quickly over the boredom of Upavon and my subsequent posting to instruct on Magisters at Woodley in January 1941, which was only relieved by visits to London to see Joyce and the boisterous camaraderie of the Miles test pilots at Woodley.

I was again billeted out with the family of one of Miles Aircraft's staff in the village of Sonning-on-Thames. Always lucky with my billets among civilians, this one was just as comfortable as the others in this little Thames-side village.

On my first evening there I was given the front door key and advised to introduce myself to that famous airman of peacetime records and flying displays, Tommy Rose, with his fellow test pilots at the White Hart beside the river. This I did and was given a cordial welcome, and, to the question "What will you have", I said "A half-pint thank you" and was told "We don't drink half-pints here, you'll have a rye and a dry".

This turned out to be a large Canadian rye whisky with a dry ginger ale, and this was the staple diet throughout my stay there.

One of the pilots was Ken Waller who had flown Joyce's second entry in the Kings Cup.

Tommy and his merry men did not believe in early nights, so the announcement of "Time, Gentlemen Please" only resulted in a tighter bunching of the hard-core behind closed doors. I saw little of my hosts as they were always asleep before I got home.

The following came to the museum from Penny Jefferson, the daughter of the author, Eric Sibbick. She explained that it is a transcript of a handwritten document found when going through her father's papers – probably a part of a longer account that he intended to write.

The Miles Insurance Policy

The M20 was conceived in May 1940, a time of cloudless skies over Reading, with infinitely murky horizons across the seas in Europe. The supreme efforts of the Battle of Britain still lay in the future; however things were hotting up for the Spitfire and Hurricane squadrons of the Royal Air Force, and meanwhile the opportunity to assist the late F G Miles in the design of an inexpensive, quick-to-build fighter of wooden construction came my way, as a contemporary to those illustrious aircraft.

My background, apart from an engineering apprenticeship, had included recent experience of stressed skin plywood and spruce structures for flying boats, in the comfortable yachting atmosphere of Cowes, Isle of Wight, but the corning of the War meant that my skills had to be put to a different use.

F G Miles expected the prototype to be flying in three months and, strangely enough, the target was accepted without demur - it was up to us to demonstrate the possibility! I well remember Miles's introductory discourse, which concluded with the words "If we win you can have everything, but if we lose, you get nothing." He was a superb speaker and equal to any occasion. I later learned that Miles had a wager with Lord Beaverbrook (newly-appointed Minister of Aircraft Production) who considered such a programme quite incredible.

Details of this aeroplane are given in Don Brown's book *Miles Aircraft Since 1925.* Don's boundless enthusiasm was always a great tonic in every situation.

I slogged out the Fuselage Frame drawings, directly on to plywood, with an allowance for the spruce "capping" and laboured for sixteen hours each day on the monocoque structure of the Miles M20. The nine-man team, led by Toby Heal, concentrating every waking hour for seven days each week, achieved the target with three weeks to spare! We borrowed a Bristol Beaufighter power-egg and compromised performance with fixed gear - tail dragger, of course - but nevertheless met the Air Publication 970 requirements of the day, with our eight-gun (Brownings) wooden weapon.

Flight-Lieutenant Tommy Rose, our Chief Test Pilot (and subsequent C-in-C Home Guard) taxied the M20 from the experimental hangar across to the runway only to discover a severe oscillation in the rubber disc shock absorbers on the main gear, but, undaunted, the bird bounced off; following a spectacular flight, the landing was "very tricky" to say the least. Twenty-four hours later a pair of very effective dashpots made by the nightshift workers of Sir George Godfrey's cured the oscillation.

Flight trials progressed successfully and substantiated the fulfilment of all our design hopes except in the reluctance of the aircraft to recover from a spin, in the hands of Test Pilot Hugh Kennedy, who came near to baling out. It fell to my lot to engineer a special six-inch extension to the fuselage, by which means the tailplane was moved aft to cure the problem (another overtime drawing commitment, of course!). Later the Miles M20 with its all-round-view bubble canopy was demonstrated at Northolt aerodrome in company with a typical Hurricane and Spitfire in the presence of the most illustrious Brass Hats, including Sir Winston Churchill.

To the great disappointment of our design and experimental team the M20 did not reach the production line. This I can only attribute to politics and official strategy. We subsequently developed a wooden wing which was satisfactorily tested with four Hispano cannons at RAE, Farnborough.

At its best, the M20 established a worthy insurance policy, if only twelve months late in commitment. Further, as a backs-to-the-wall effort it was a truly fantastic achievement. I was left with a lifelong appreciation of the value of timber, properly used, for light aircraft structures.

During this time the battle line had moved, via Dunkirk, across the English Channel and we were stimulated by some intrusions by the opposition. One afternoon, with a misty haze off the local rivers, our star spotter alerted the design team, which was housed in a wooden hut on the fringe of Woodley aerodrome, by announcing the approach of what he described as "a new-type Blenheim". With derisive shouts of "Is it, Hell!" from the team ringing in my ears, I saw the Heinkel III shed eight black sticks which dropped within a few yards of us. A tattoo from the Lewis gun outside the hut added to the excitement, but without any immediate result. However, no damage was done, and we concluded that owing to the poor visibility the bomb aimer had neglected to fuse his charges in the surprise of chancing on the Works. The Disposal Squad dealt with the bombs next morning.

On another occasion incendiaries were dropped near some Magisters by Junkers 88s flying in daylight formation.

(To be continued)

Gift Aid Scheme

I know the vast majority of you are sick of seeing (and ignoring?) this ***but if*** you pay income tax and/or Capital Gains Tax and fill out a Gift Aid Form the Museum can claim an additional 28% (possibly 25% now, these things change, but still worth getting!) of your donations and/or subscriptions.

You are only required to fill out a Gift Aid Form once for us – but it is ***imperative*** that if your Gift Aid circumstances change you let as know as soon as possible.

Editorial

(Keith Freeman)

Another issue, I'm afraid, that shows our numbers reduced by mortality. Aircraft can be preserved – and even replicated – but, alas, all we have of those who've died is memories.

That said, I hope you've enjoyed part one of Eric Sibbick's reminiscences...

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NB – This is an edited copy of the Newsletter (which is, in the main, in a two column format)

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Site: .**http://home.comcast.net/~aero51/html/index.htm**