

SLIDES SHOWN DURING PRESENTATION by ROSS SHARP,
CHIEF ENGINEERING OFFICER
of
THE PEOPLE'S MOSQUITO
at the
de HAVILLAND AERONAUTICAL TECHNICAL SCHOOL
ASSOCIATION'S LUNCH
on
MONDAY 9th SEPTEMBER 2024
at the
de HAVILLAND AIRCRAFT MUSEUM



The 'modern' DH98 Mosquito



A tragic loss – BAE Systems Mosquito T.Mk III, RR299

G-ASKH crashed during the Barton Airshow on 21/7/1996, with the loss of Kevin Moorhouse & Steve Watson

The loss of the crew, and the – then – last flying DH98 Mosquito in the world was keenly felt by everyone involved with heritage aviation in the UK



RR299 at Wroughton

This is RR299 taking off from Wroughton, after she had been with us for a couple of days.

15MU, at RAF Wroughton, had stored and disposed of many Mosquitoes, particularly in the post-war period.



The first 'modern' fuselage moulds

Here we see the late Glyn Powell vacuuming a fuselage mould in New Zealand

Due to his ship-building skills, and the many Mosquito drawings he had acquired, Glyn was able to produce both of the moulds to a very high standard, using ship-grade mahogany.

Mahogany is not as easily obtainable as it once was. For example, Fiji has strict rules on the number of trees that can be felled and sold.

These moulds have been used to produce the four 'modern' Mosquitoes built by Avspecs in New Zealand. In the early stages, TPM explored the possibility of using AvSpecs.



Another route...

Bob Jens, a Canadian businessman, and FBO owner, acquired an Airspeed-built Mosquito B.35 which had been converted for PR use in Canada by Spartan Air Services in 1955.

Jens let a contract with Victoria Air Services, British Columbia, for restoration to flight in 2008. The project was shrouded in secrecy at times, but the aircraft flew on June 16, 2014 in the colours of 'F for Freddie' the famous 213-mission Mosquito. It is now with the KF Aerospace Centre For Excellence in, British Columbia, Canada.

Please note that this wooden airframe is original, unlike the other airworthy Mosquitoes.



High quality Sitka spruce, Touchwood Pacific Sawmills, B.C.

Our spruce comes from the same stands of Sitka spruce, on First Nations land in British Columbia, Canada, that was used by De Havilland Canada to build their 1,134 Mosquitoes

Touchwood BV in the Netherlands is our supplier, and they are responsible for quality control, testing and sizing the spruce into 'packs' suitable for Mosquito production. We have already received one such 'pack'.



Impact testing at Touchwood BV

Here we see the impact testing machine used to test samples of spruce at Touchwood BV in the Netherlands. Its sole moving part is the circular drop weight which impacts the carefully calibrated sample.

According to John Lammerts van Bueren (seen here), the owner of Touchwood BV, this machine is a replica of the one designed by Sir Geoffrey de Havilland, himself



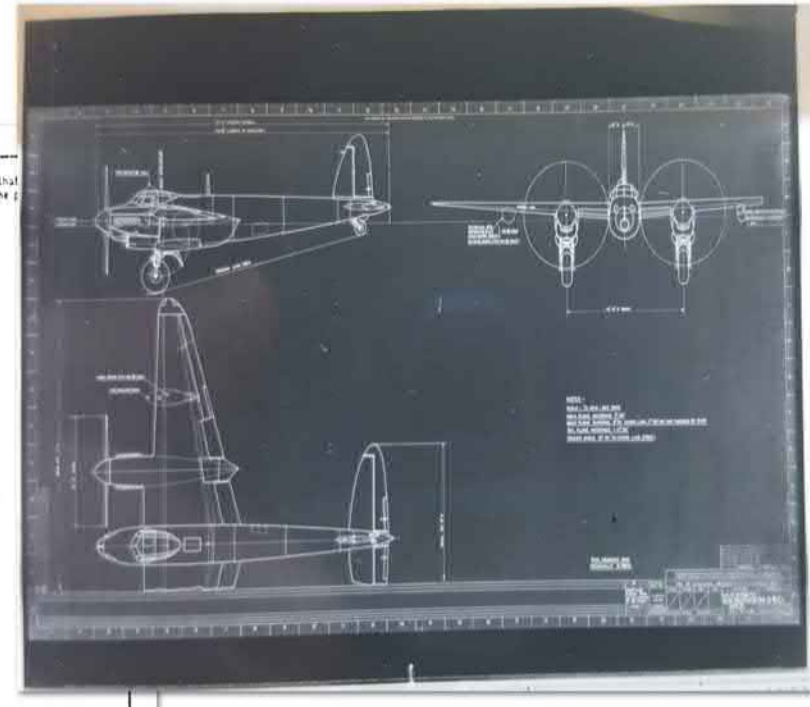
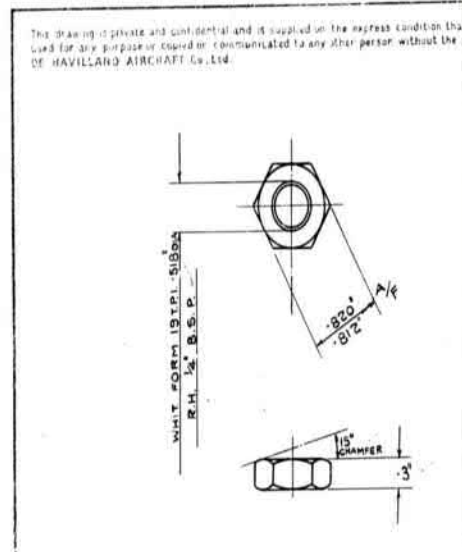
The Testing Procedure

The Drawings – and a radical course change towards the UK, from NZ

The project underwent a radical change of course when we received a phone call from Airbus UK at Broughton. They had found a 5-drawer filing cabinet full of 'aperture cards' featuring Mosquito drawings, and did we want them, because the WW2 building they were in was due to be demolished the following day?

John Lilley, our CEO, made a mad dash across country (this was on a Sunday) and took possession of the aperture cards. They filled three garden rubbish sacks and weighed 67 kgs!

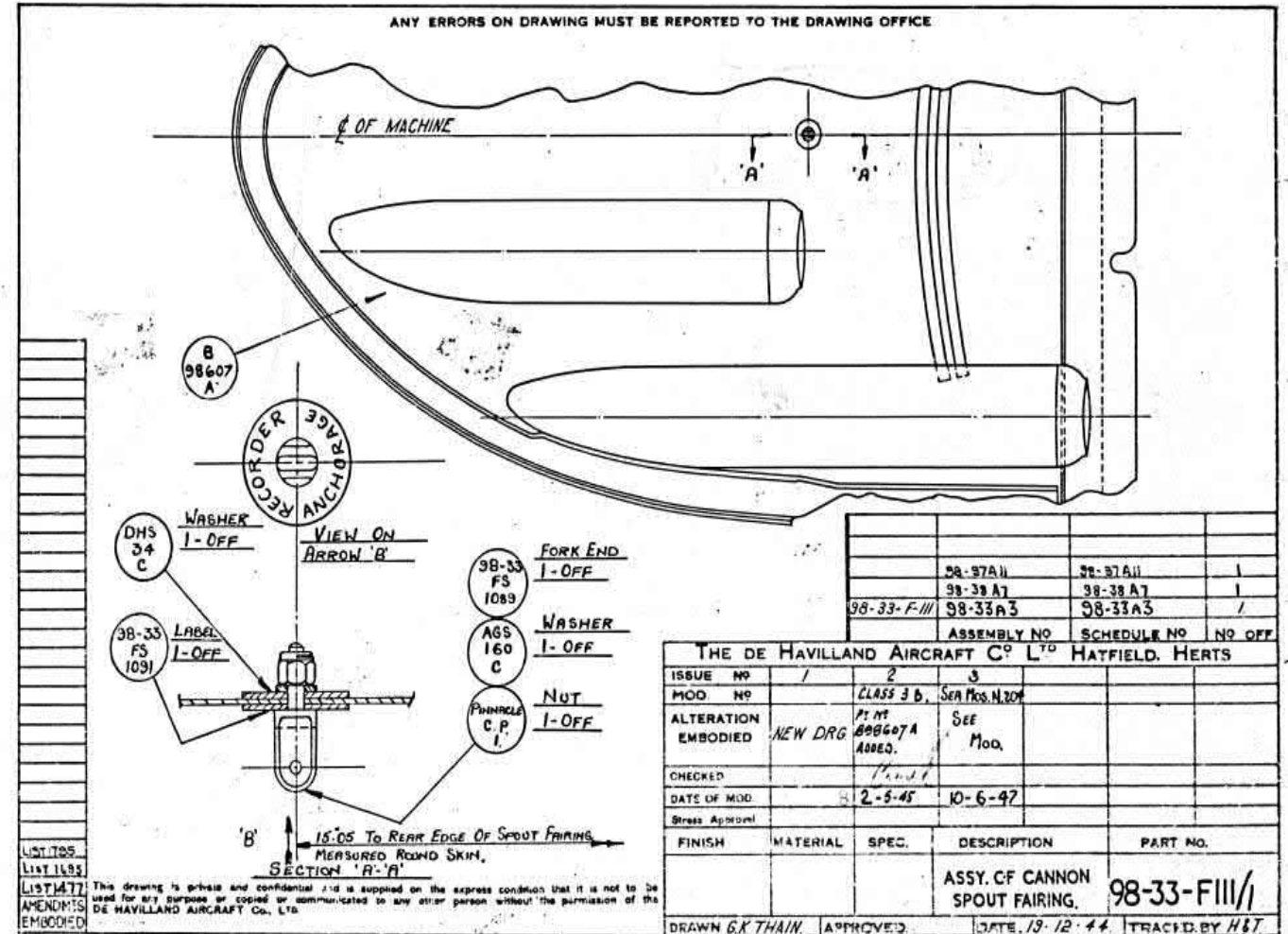
TPM realised that, rather than having the Mosquito built by AvSpecs in NZ, we could now build it in the UK!

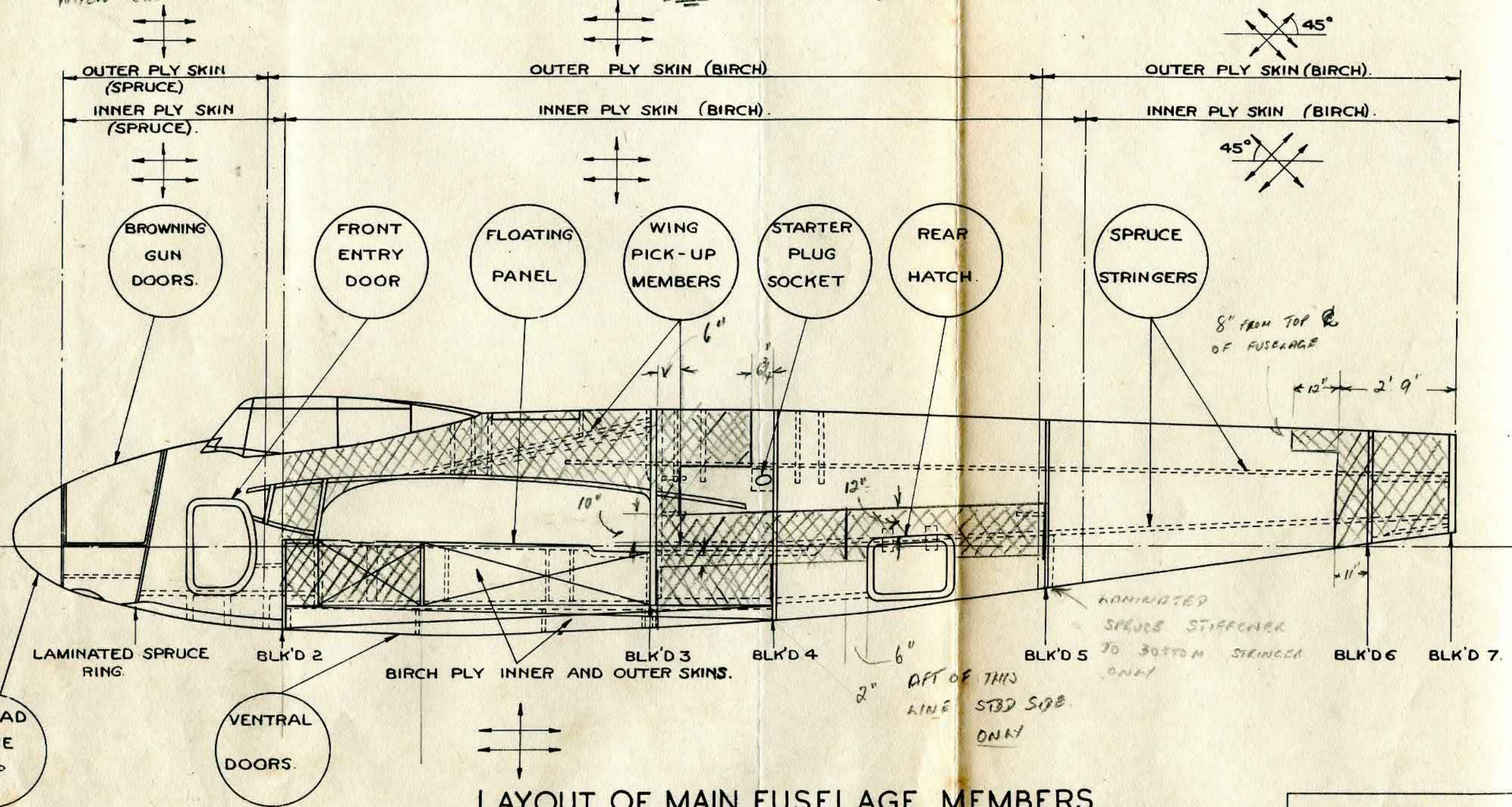


A Typical Drawing

Here you see 98-33-F111/1, 'Assembly of Cannon Spout Fairing'. First drawn in 1944, it was modified in 1945 and 1947. Those who worked in the DH Drawing Office had to be meticulous in their work; extreme accuracy was needed and expected, in order to keep the suite of drawings current and incorporating the many 'mods'. It bears the legend, 'Any Errors On Drawing Must Be Reported To The Drawing Office'

One person who worked in the Hatfield Drawing Office was David Kosoff, who became a well-known actor postwar.





**LAYOUT OF MAIN FUSELAGE MEMBERS
FOR MKS: II, III AND VI.**

Mosquito moves

This is the 'Al Dahna', one of the largest container ships in the world, She has just docked at Southampton, carrying TPM 's container full of Mosquito jigs and fixtures, which we had just bought from Aerowood in NZ.

Aerowood had been our NZ-based agent recruited to interact with Avspecs. Aerowood had built many Mosquito components for Avspecs.

Unfortunately, Aerowood went out of business, but we were able to buy all of their Mosquito-related material, which was shipped from Hamilton, NZ, a journey of some 15, 000 miles!



Raw Materials

This is what £10,000 worth of aero-grade balsa looks like!

A tropical tree, balsa is a deciduous angiosperm, which makes it – amazingly – a hardwood!

In its natural state the tree's cells are filled with water, which makes it hardly able to float. Its lightness and strength comes from a careful kiln-drying process.

In order to properly machine the balsa we have had to buy a new machine saw, with a cast-iron table. It has a fast-cutting circular saw blade with very fine teeth, otherwise the balsa would tear.



Test sheets of 1.5mm plywood

Here we see Paul Cole, of Retrotec Ltd,
with the first sheets of 3-ply plywood (3 x
0.5mm sheets)

These will undergo testing before large
scale production takes place.



Internal fuselage components

In parallel with the production of the fuselage moulds, TPM funded the construction some of the internal fixtures and fittings.

Here are the components for Bulkhead No. 7. This is the sternmost bulkhead and absorbs the critical aerodynamic loads from the tailplane.

During original production of the Mosquito, it is said that if visual inspection revealed a single bubble in the set adhesive, this would be sufficient to cause the scrapping of the installation, and a repair scheme to be initiated.



A splendid idea!

Retrotec came up with an idea that saved time/money/weight during the mould construction process

A series of strong plywood boxes, of varying sizes, were made, and used to fill the spaces between mould formers

This sped up the construction process, saved weight (of the finished mould, which would have to be moved around) and the quantity of jelutong wood – which is the mahogany substitute we use.



Mould Construction

Here you can see formers being fitted to Mould B, with the partially completed Mould A, behind, already has jelutong inserts

This is at the Retrotec factory, near Rye in West Sussex, in the newly constructed 'Mosquito building'



Royal Visit, November, 2023

TPM was honoured to receive a visit from Princess Anne, The Princess Royal last November to the works of Retrotec Ltd, where our Mosquito is being built.

Here we see Her Royal Highness greeting Flt Lt Dunn, DFC, LdH who flew many Mosquito missions over Germany whilst in No 8 (Pathfinder) Group.

George is a staunch supporter of TPM, and regularly appears at our events, when possible. On September 21st, 2024, George will celebrate his 102nd birthday !



Sometimes you just have to buy something...

This is an original Mosquito control column, which came on the open market. Despite its high price, we had to buy it, as the Magnesium alloy casting at the base of the column was in fine shape, unlike some.

This was made for a DHC-built FB.26 fighter-bomber at Downsview, and was bought from a Canadian collector.



Closer co-operation between TPM and DHAM

On a recent visit to DHAM, members of Retrotec and TPM were allowed to examine and photograph certain areas of TA122, with Ian Thirsk in attendance.

This assisted the progress of the build on TPM's Mosquito, considerably, and indicates the ever-closer co-operation between DHAM, TPM and Retrotec.



Selling the project

Public appearances – TPM has a stand at Duxford, RIAT, Shuttleworth and many other places

Engaging with potential sponsors and suppliers, in whatever way we can

Publishing our own well-researched, high-standard journal, 'Mossie Bites'

Growing a TPM Members' Club – TPM held its 2023 Members' Day here at the Museum!



Airbus UK

TPM were very fortunate to receive some initial financial support, and a sustained corporate interest, from Airbus UK

This is based on the fact that what is now the Airbus facility at Broughton in North Wales was where the very last DH Mosquito was rolled out in November 1950.

Our Prospectus contains a statement of support from Jeremy Greaves, Vice President, Corporate Affairs and Strategy, Airbus UK. We are also allowed to use the Airbus logo



Proudly Supported by

AIRBUS

"Airbus is a strong believer in preserving wider aviation heritage and we are proud to be supporting The People's Mosquito in this endeavour."

For us the Mosquito is more than a beautiful and iconic aircraft, Airbus has a direct relationship to it as more than 90 were built at our Broughton factory in Flintshire. That passion and dedication is reflected today in our skilled workforce whose talents are focused on building wings for the Airbus commercial aircraft fleet."

— Jeremy Greaves, Vice President, Corporate Affairs and Strategy, Airbus UK.



TPM Prospectus

'To Fly, To Educate, To Remember'

TPM has issued a Prospectus, designed to stimulate interest in the project amongst companies, especially those in the aerospace sector. Copies of the digital version of this are freely available, on application.

I'd be happy to send one to those who might be interested!



Thank you
for listening!

- and your questions
are most welcome!

