



*AALO SG Nic Holman, Pres & Memberships Phil Kingsbury, Merchandising
Max Waldron, Founding Member Charles Scott, Hon Member*



Dear friends and supporters of XS422. Still smarting from the dramatic climate change from the Mississippi Gulf Coast sunshine to an icy wind and snow-lashed UK, I thought the best remedy was to shut myself in a centrally-heated room and send you all the latest news. Always best to commit these things to paper while they're still fresh.

As I write we still have two team members at Stennis, one by design and one by accident ... or so he says. For only the second time in AALO history one of our engineers missed his flight home, but I suspect it was the thought of heading back to a snow-encrusted Grimsby that did it.

Apart from that all the rest of the team are now back in the UK after a very successful month of progress on XS422.

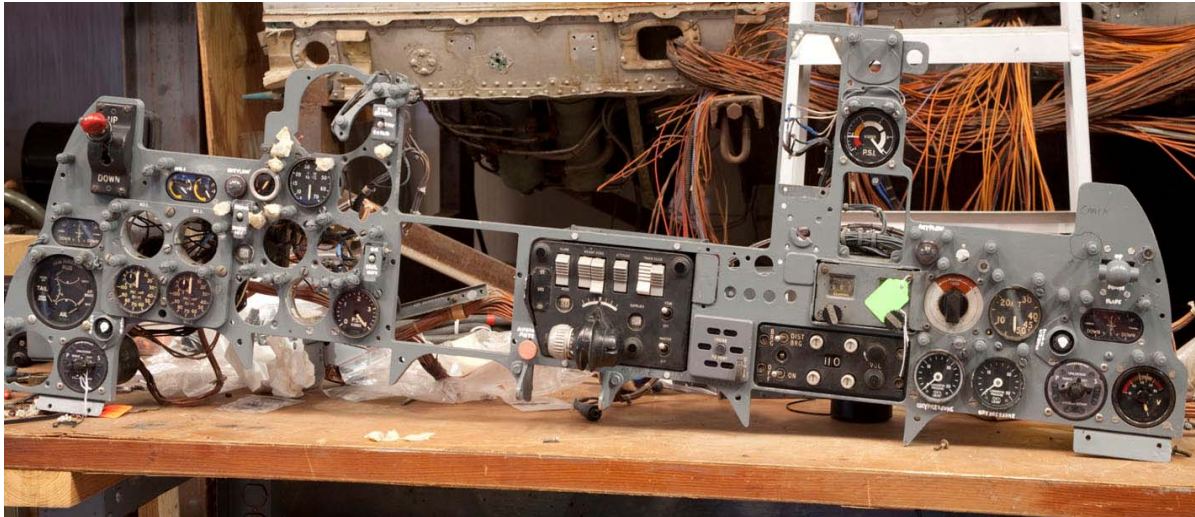
This visit was very much an electrical visit with the primary goal being to refit the main instrument panel. In conjunction with this Rod Barker and the rest of electricians have been working through the aircraft repairing and fitting where necessary. The Chief Engineer's wishes were that electrical work be carried out with a priority to systems needed to run the engines.

The following team members involved in this work over the last month are Phil Wallis, Dave Dunn, Gary Hurst, Rod Barker, Bo Brocklesby, John Wigney, Andrew Brodie, Geoff Commins, John Sherry and me (Nic H.).

Once again the now-adopted, AALO-trip format worked perfectly with 1 month's house rental and then a rolling relay of visits by team members, with the guys typically on site for ten days each; Rod being the exception as the anchor pin for the whole month.

In addition to the electrical snagging, Rod and the team spent time early in the month working to populate and prove the instrument panel ready for installation. Certainly, by the time I arrived on the 10th

the panel was looking impressive, as you can see from the photograph below.



There is still a little more to do with the main instrument panel and a number of incomplete electrical and structural 'fixes' to complete in the cockpit before the panel can go in. It is hoped this will now come to fruition in the spring of 2011. It is also the view that while out of the cockpit it is less susceptible to damage while the engineers and electricians are regularly climbing in and out of the cockpit. Great progress though!

Geoff proved himself a great asset to the electrical team, aside his normal work, as 'Ace Storeman'. No-one knows our spares and assets as well as Geoff so as the electrical team started their restorations and refurbishments it quickly became apparent that some of the parts to be fixed existed in the stores as brand new parts. In terms of identifying them and sourcing them quickly there was only one man for the job.

Geoff has also had his work cut out this trip replacing some of our cardboard spares boxes before they totally disintegrate. A leak to our spares container roof had rendered some of the boxes 'paper' and had the boxes completely given out we'd have had a major re-inventory to do. Geoff spent a good few days in the hot container fixing the problem. In time the spares will be pared down from 'build' to 'operation', but that is a major job for another trip and not a priority at present.



Some of the more observant of you may have noticed an unfamiliar name in my earlier role call, that of John Wigney. Geoff, Phil Kingsbury and I met John at Oshkosh in August and with his Rolls-Royce background (you can read a little more in the previous newsletter) and interest in the restoration we were keen to invite him to join us.



In October, we were delighted to learn that John was willing to come and join the team at Stennis for a week this month and on the 4th he got in his car in North Carolina and drove for 12 hours to come and see us. John has been a great discovery with his experience, his attention to detail and also his easy-going nature (a very important quality for a Stennis Detachment). We've hugely enjoyed his company and we look

forward to seeing him again next year, although he did admit that he might fly down next time.

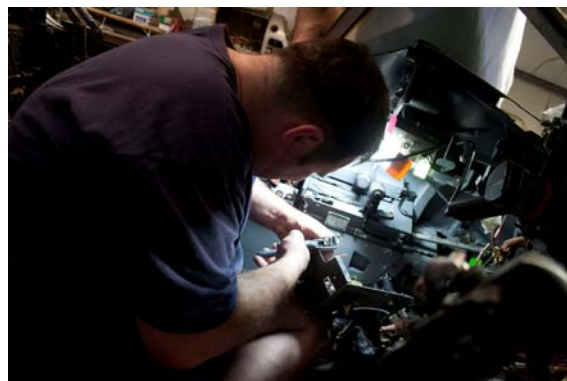
John's main work of the trip was the refurbishing of the 'inter-pipes' or jet pipes. These have been tucked away in the corner of our Stennis hangar since very early on but had suffered some minor damage in transit. John was able to straighten out a few 'dinks' and give them a thorough check-up, all written up afterwards. We now have one long inter-pipe and two 'shorties' to choose from, serviceable at Stennis. His other achievements are outlined in his own words later in the newsletter.

Once Phil arrived he was able to join the cockpit work with the refurbishment, rebuild and refitting of the A3 & A5 (Centre Panels) which are now patched in.



In summary, Phil anticipates the next trip (all being well in the spring, if finances allow) will mainly continue the focus on the cockpit refit which now has some real momentum.

A Few More trip Photos ...



John's Impressions ...

I asked John Wigney to pen a few words on his first week as part of the AALO team.

“During the recent work session at Stennis in November 2010, I drove down from North Carolina and was able to spend about 10 days working on the project. The editor asked me to write a few notes about my thoughts on the project and what I enjoyed.

Firstly, I should explain that my background is a little different to many of the volunteers. Although I grew up in the UK and worked with Rolls-Royce in Derby and Scotland in the '50s and '60s, I have lived in the US since 1973. I worked on aircraft jet engines, including Avons, at Derby and then moved on to non aviation work after that. However, I have always followed aviation very closely, have been a member of the Experimental Aircraft Association (EAA) for many years and been involved in aircraft of a very different nature including my own kit built Europa 2 seater. EAA is the primary support group for sport aviation enthusiasts in the USA and supports special interest groups for home and kit-built aircraft, general aviation, classics, war birds such as the Lightning, ultralights, aerobatics, etc. At one time I also worked on restoration of an F-101 Voodoo for a museum project; this plane happens to be a contemporary of the Lightning. The closest I had been to a Lightning previously was when I had inserted myself into the press photographers next to the take off runway at the Farnborough air shows in the '50s. Since I had no hearing protection as I remember, this probably did my hearing no good.

So what are my thoughts and impressions? Firstly 'My oh my', this is a complex aircraft! Heavy metal, heavy fasteners, complex systems, congested pipework, even more congested electrical systems - everything shoehorned into a very tight envelope. Many details would raise the eyebrows of an aviation mechanic in the US, such as the iso propyl nitrate (rocket fuel?) starter system. There is no room for the normal direct drive for the generators on the side of the engines, so the main generator/alternator is driven remotely by an air turbine with offtake air from the engines. There is also the obvious problem of where does one put the fuel? There is certainly not much room in the wings and even less in the fuselage. I was impressed by the innovation of the designers to even put 33 gallons of fuel in each flap; now that is being creative. That fuel will provide less than a minute at full throttle. It is also obvious why the main wheels are so oddly narrow; there is just no room in the wing section. The original fit and finish of the airframe components is really excellent, built to last. I had forgotten that in the '50s when the plane was being designed, the UK still used BSF and BA fasteners. Having worked with US Unified Mil-spec aircraft fasteners for a good while, some of the screws and bolts seemed quite strange. Of course, none of my sockets and wrenches would fit.

The jobs I was able to work on included some sheet metal panel beating to dress out some shipping damage on the jet pipe heat shields, inspection and cleaning on one engine, replacement of some leading edge spar access panels, connect up of the aileron push-pull tubes and preliminary freeing up of the throttle runs. It was a pleasure working with Geoff Commins, Rod Barker, Andrew Brodie and the rest of the crew. My hat is off to Geoff and Rod for keeping order and track of the components in difficult circumstances.

The rental accommodation in Bay St. Louis worked out very well and I was interested to see how the general area is basically in pretty good shape. The last time I was down on the Gulf coast was in 2005 when I was down to help with relief work immediately after Hurricane Katrina; things looked very different then. Anyway, this trip to Stennis was a very interesting experience and I certainly appreciate the opportunity to work on this fine RAF legacy from the Cold War. JW"

Visitors to Stennis ...

We welcomed a good number of visitors to Stennis this month with varying agendas. Some came to offer advice, some came to help and many came to simply have a look.

An early visitor was **Barry Pover**, well known in the Lightning preservation community and on his first visit to see XS422 at Stennis. Barry resides in Australia these days but was on business in the States so our hangar was happily on his route.

We had a pleasant surprise when **Carey Mavor Jr** dropped in to see us one of the weekends on spec. as he was one of original volunteers on the project, as well as being an SG member and financial supporter of our Oshkosh visit. Carey worked with Graham Tagg and the rest of the volunteers, pre-Katrina, to put the airframe back together again. Since the Hurricane he's been living in Alabama but is now back in New Orleans. Carey has expressed an interest in coming back to the project so we're working to make that happen.

We were very pleased to welcome recent US Lifetime SG member, **Louis Hinkle**, across from his home in Alabama. Being relatively local, by American standards, he was able to stay for a good half-day and get a good look at XS422 as well as take some photographs. He was also able to join us for lunch up in the Kiln, real downtown Mississippi, an experience in itself. It was great to meet you Louis and thanks for stopping by.

Just prior to our visit and with the kind help of Phil Wood I was able to send out an invitation to all the members of the CJAA (Classic Jets of America). In terms of the wide membership of the CJAA I was naturally disappointed to get just one response. However, in terms of the person who responded, the invitation was very worthwhile. **Paul Filmer** is a journalist and photographer based near Denver, he's also a Brit who has lived in the US for some years now. We were very pleased to welcome Paul down for the best part of a day and the result will primarily be an article on the website www.globalaviationresource.com although he hopes to get a publication of the article in print. I know Paul enjoyed his visit as much as we enjoyed his company and he was able to get some great shots (one of which is on our FaceBook page) as well as a good long interview with Phil Wallis and shorter chats with the rest of the team. Paul's article is now online and you can view some of Paul's great aviation photography at www.skippyscage.com .

Another follow up from Oshkosh was the welcome visit of **Daniel & Mark Becnel**, together with their father Rob. Daniel and Mark live around 45 minutes from Stennis, in Louisiana, and had expressed an interest in helping us out with some voluntary 'off-aircraft' work. The brothers have been out in Austria for a time working on the restoration of two ME-109's. A lot of those restorations involved sheet metal work and fabrication so after some chat with the Chief Eng. their first task will be to work up the replacement cable loom covers that run along each side of the fuselage. They also plan to work on recovering usable spares from some of our larger surplus assets. We look forward to having them as part of the team.

We also had visits from our great friends **Wendy & Sophia Bell**, **Ken Iverson** & his friends from New York & our good buddies **Ashley & Daniel** who brought along our smallest & youngest visitor to date, **Chuck**, aged 9, who, it was pointed out by his aunt, wasn't even born when we started the restoration... a very sobering thought!

With thanks ...

As is customary post trip we'd like to thank a few groups and individuals for going that extra mile for us.

Mike Evans – for his pre-trip parcel.

John & Vince & the crew at Dynamic – great buddies and great neighbours in the hangar and a great source, as always, of the 'have you got'.

Wendy – a star as always. Enough said.

Tom Borderlon – For just being Tom and helping us out when he can.

Bill & Cheryl and the entire Stennis airport team – for their continuing support

Mark & Lesley Henderson – for accomodating our leader.

The guys @ Selex – for their electrical assistance

The Mockingbird in Bay St Louis – A great respite at the end of a restoration day.

Gary & Cindy Hornoski – Our neighbours in Bay St Louis who were super kind in inviting our last three guys, Gary, Geoff and Rod to join them for their Thanksgiving dinner. This was a wonderful gesture!

The Supporters' Group ...

Through your generous donations and memberships the SG is increasingly playing an important role in funding the Stennis trips. This time round we were able to entirely fund the team vehicle as well as making a contribution towards fuel to run it.

If we can raise around \$500 before the spring trip then we can do the same again.

If you've not renewed your membership or would like to make a donation then get in touch. If you have friends, family or colleagues who might be interested in the restoration and you'd like me to send them some information then please get in touch. nholman@globalnet.co.uk

Growing FaceBook Support ...

We now have 171 Facebook members and it's growing all the time. If you have access to FB then check out our page, "Lightning422Restoration", where you will find photographs and information relating to the project as well as being able to share Lightning pictures and memories with fellow supporters. Tell your buddies about it too.

New Members ...

A warm welcome is extended to Janet Sharples and David Ford.

Members Contributions ...

We just don't get enough of these, but when we do they are great. With huge thanks to Graham and Jonathan, the following;

First, from **Graham Horner** ... '[Recollections of flying in a Lightning T5 in the 1960's](#)'

"I offer these recollections of my time at A&AEE Boscombe Down where I worked from 1961 to 1968 as a Scientific Assistant for the then Ministry of Aviation.

I started my working life on what I guess would now be called a graduate apprentice scheme. My first post was working in the Armament Wing analysing films taken by onboard cameras of firing trials on numerous fighters undergoing evaluation at Boscombe. Here we checked for any problems that could occur during firing of guns, unguided rockets and guided missiles.

My first experience with the Lightning was watching films of the Aden Cannon being fired and, if memory serves me right, there were engine problems caused by the disturbance to the air flow into the engine intakes. I also recall viewing films taken of a Lightning firing its 48 two inch unguided rockets from the two pods which I believe extended from under the nose of the aircraft. That showed some rockets being ejected, failing to ignite & coming back over the canopy missing it by inches!

As an aside, during this period the C in C of this department was a Wing Commander Wallis and I recall helping him during lunchtimes to wire up the prototype Auto-Gyro he invented. He went on to fly this wonderful little craft all over the place including in some of the James Bond films --- he was a typical of the crazy flyers at Boscombe they called Test Pilots!

Subsequently, I was transferred to RMF section where our major task was the measurement of noise in and out of all the aircraft flown by the RAF, Navy and Army at that time. As the junior member of the team I was the one sent flying (presumably I was the least valuable member) and I got to fly in all sorts of aircraft from an Anson of the Queen's Flight via helicopters, transport aircraft, numerous two-seat fighters through to a Vulcan. As a "bonus" we got paid an extra 15 shillings (75pence in new money) per hour, or part thereof, and several times coming into land the pilots would ask how long we had been up, if it was a few minutes less than an hour they would do an approach, not touch down and go round again to give me 30 shillings. God knows how much it cost to keep a Vulcan in the air for that extra time! Regrettably, during house moves my flying log went missing so I can't recall all the aircraft. But I do recall the trips in a Lightning T5!

I used to go flying with a Nagra tape recorder on my knee and hold a Bruel & Kjaer noise level meter in one hand to record the noise levels in the cockpits or flight decks.

I remember the section leader saying "if you have to eject bring the bl---y recorder back it's on my inventory"! I was put through the crew escape procedures and decompression chamber to check I knew how to operate the oxygen systems used on the aircraft and given what was called a "class B astronaut ticket" which cleared me to 60,000 feet.

Time came when they wanted noise clearance for the Lightning T5 so off to A Squadron I went (this was the Fighter Test Squadron) to be shown the cockpit (mainly to be shown what not to touch!). I believe the aircraft was XS422 but I could be wrong. Having climbed up the ladder the ground crew helped me strap in and passed up the recorder and noise meter. Shortly after the pilot arrived, who during the flight briefing informed me that he was an experienced Lightning pilot having been involved with the flight trials since 1959 and as it was my first flight he would "take it easy". What I didn't know was that his "party trick" was to stand the aircraft on its tail as soon as the undercarriage and flaps were safely stowed. Sure enough he did just that and he climbed out almost vertically at about 0.9 Mach to 40,000 feet where he bunted out to level flight. "You OK?" he asked. I could hear the chuckle in his voice!

Little did he know that during the 2 minutes this took I had twice checked that I had my sick bag in my right leg pocket!

He gave me a few minutes to recover and check the equipment as we confirmed the flight plan we had agreed. This called for us to fly out over Lyme Bay (South coast of England) at various different speeds and altitudes to allow me to record the noise at his helmet level. The last test was taken at 30,000 feet at 1.5 Mach in level flight.

I must admit that after 45 minutes I was pleased to see the main runway at Boscombe come into view over the nose of the aircraft, my stomach beginning to regret the bacon butties I had for breakfast! I recall two further flights in the T5 both of which were equally interesting!

Incidentally, the analysis confirmed that the noise level in the cockpit of the Lightning was quieter than most of the other two-seat fighters at Boscombe (Hunter, Javelin & Buccaneer - all of which I had flown in). In fact the pilots believed the two seat version was quieter than the single seat version. I wonder why?

The A Squadron test pilots at Boscombe were an adventurous lot and although I remember them criticising various aspects of the Lightning (especially the fuel system) they loved to "accidentally" slip into supersonic flight. There was a period in 1967 two years before the first flight of Concorde when they were encouraged to do this "legally". I was part of the team sent out to record the noise levels of a Lightning flying at 1.4 Mach at 25,000 feet over southern England to simulate what they thought the noise pattern of Concorde would be. This caused considerable furore in the press when it took place over London.

Happy Days!"

Secondly, a fascinating insight into air-to-air refuelling with the Lightning, as recounted in a couple of e-mails with **Jonathan Hutchinson**.

He originally mailed me;

"I have just read the newsletter, with the usual interest. It prompted me to get my own log books out to discover that I flew XS422 just twice, on 26th and 27th June 1973, at Akrotiri. I was OC 5 Squadron at the time, detached from Binbrook for the annual gunnery session, and it wasn't our aircraft so I must have "borrowed" it from 56 Squadron, who had gone to Valley to fire missiles and left it behind. Restoring it to fly 37 years later is a truly massive undertaking and I can only commend your initiative and enthusiasm."

I then responded as follows:

"The team were intrigued by your tale of XS422 in Akrotiri as we'd not previously heard of it going abroad. Presumably, an in-flight refuelling probe was fitted for the journey out and back. Be great to get a picture of XS422 in this config but a rare thing I suspect."

Jonathan responded thus:

"On the matter of XS422 and probes, there never seemed to be as many probes as there were airframes in the whole Lightning force, but the Leuchars and Binbrook squadrons, who got called on for the long range shadowing trips, had priority and our (i.e. 5 squadron's) T5 carried a probe all the time I was there. We took F3s to Cyprus as well as overwing tank-equipped F6s and would have taken the T5 too had it been necessary, but for the few range safety checks and instrument ratings needed while we were in Cyprus it was easier to swap T5 airframes for a month with 56 Squadron. However, the Gutersloh and Cyprus (and to a lesser extent Wattisham) squadrons (and the OCU at Coltishall) did less flight refuelling than we did and so may not have carried probes all the time if they were needed elsewhere. I guess that with no resident tanker force 56 squadron needed a probe-equipped T5 very rarely once the aircraft had been delivered there, so '422 may not have had one when I flew it, but I can't remember.

I recall that plugging a T5 into a tanker from the right hand seat was one of the supreme tests of piloting skill, especially in the dark, as you not only lost sight of both probe and drogue long before they came anywhere near each other, but you were flying the aircraft "back to front" with the mirror-image controls of the right hand seat - and all the while in the tanker's wingtip vortex, with both aileron and rudder trimmers having to be wound outwards to their limits as you approached!"

Membership Renewals ...

As you'll recall, last year, where possible, I brought SG memberships in to line with the calendar year. It makes our admin much easier.

Therefore, as we approach the end of this year I like to remind many of you that your memberships are due for renewal. We've hugely appreciated your financial support and interest in furthering the restoration of XS422 in 2010. As you've just been reading your subs and donations have achieved a lot and the SG made a big difference to the trip just completed.

I hope you'll consider us for your Christmas list and renew your memberships in the coming weeks. If you're finding the annual membership a hassle then you can always go for a lifetime membership.

Renewal fees are as follows:

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| £25 / \$40 | Annual Membership with Electronic newsletters (you must supply an email address) |
| £40 / \$60 | Annual Membership with printed newsletters posted out |
| £200 / \$300 | Lifetime membership (the slight disparity with £s \$s reflects the postal charges to USA on occasions we have to send items. |

You can renew by sterling cheque payable to "AALO Supporters Group" to:

N Holman, 32a Glenwood Road, Catford, London, SE6 4NF

or

by PAYPAL to aalo.xs422@gmail.com

*Finally I'd just like to wish you all a safe and very happy Christmas from myself,
Nic Holman, our editor, Phil Kingsbury and the entire AALO restoration team.*