

# Supporters' Group Newsletter 27/1/04

## **Introduction**

Happy New Year and welcome to all AALO supporters with this first bumper newsletter of 2004!

I hope everyone had a relaxing Christmas and survived the New Year celebrations. We face 2004 with great expectations for what is the fiftieth anniversary of the first Lightning P1A flight (although it was another 4 years before the name 'Lightning' was officially adopted).

During the autumn '03 visit to Stennis by Phil, Max, *et al* significant progress was made in areas such as the cockpit, engines and aircraft electrical systems. More details are provided by Max below.

It was a good first year for the newly-formed AALO Supporter's Group (AALOSG). We had a successful year; we raised nearly £2000 and increased public awareness of the project and all the good work that has been going on here in the UK as well as in the US.

Let's hope 2004 will be even better than last year and we can entice more supporters. So, let's spread the word!

## **XS422 Project Status Update**

### **AALO UK Team Visit Autumn 2003**

The aim of the trip was to accelerate the restoration in the following key areas, as well as continuing to develop the support & infrastructure of the project:

- 1 To significantly move forward the restoration of the cockpit mechanical systems (✓).
- 2 To complete, as far as practicable, the regeneration of the electrical systems (✓).
- 3 Replace the damaged Avon engine tail cone (AALO Engine Serial #2) (✓).
- 4 Long-term preservation of all three Avon 302s held in the US to manufacturer's specifications (✓).
- 5 Completion of the ventral tank major repair (✓).
- 6 Completion of the modification to the spare lower engine hatch (✗).
- 7 Completion of the rebuild of the starter system in the spine area (✗).
- 8 Completion of the sealing of the No. 2 engine bay floor heat shield (✓).
- 9 Refurbishment of the throttle controls' runs outside of the cockpit (✗).
- 10 Establishing contact with Keesler AFB personnel with the aim of identifying key-skilled volunteers to work on XS422 (✓).
- 11 Renewal of the TPH lease (✓).

**Key:** (✓) Task completed      (✗) Task partially completed.

A summary of the project status to date follows (thanks Max):

## **USA Lightning gets Electric Power.**

Another year has passed but the Anglo American Lightning Organisation has not let the grass grow beneath its feet. With the goal of flight looming ever closer the team on both sides of the Atlantic have ramped up activities. Steady progress has been made in the cockpit area by the USA team and in the UK the team has been involved in various activities. The Reheat pipes are at a location in Lincolnshire and being worked up to flight status. The spares' sorting has practically been completed and work is progressing towards shipping more vital spares to fuel the project in 2004.

During the October/November '03 visit by the UK team great progress was made in a number of areas. This trip, like others before, followed the now-familiar format. However, so as to direct as much activity at the project 'coalface' the UK visit was split into two distinct phases. Firstly, Geoff Commins commenced the UK activities in early October and carried on his inspections of the Avon power plants and the throttle control runs. Geoff also did a comprehensive review of the USA spares holding and updated the spares database.

On the 2<sup>nd</sup> November the main party comprising Phil Wallis, Max Waldron, Dave Cruddas, Jason and Rebecca Skinner started to arrive at Stennis. The team set to work quickly and also got the basic logistics in place for the next four weeks. Over the next 3 days the other members of the team arrived including Andrew Brodie, Nick Woodhouse, Roger Winkworth, John Sherry and Nic Holman. Additionally, a few days later saw Simon Johnson, our other primary electrician, arrive from Chicago. The primary items required to be worked up were the rebuilding of the starter system. This was a ground-up rebuild as no components were left whatsoever, these having been robbed from '422 on retirement from active duty. Therefore, we had stripped the required items from the spare fuselage section (ZF596) at Bruntingthorpe prior to the visit and brought them over. Simon Johnson had done all the wiring identification and so we had no problems electrically. Together with the available spares in holding the starter system has been practically completed. The only omissions being the HT boxes; we have brand new components in the UK and these will be dispatched in the next spares shipment and so the spine is essentially finished. Once we go for the first engine start we will, undoubtedly, spend time again in this area due to the temperamental nature of the Lightning starter system!



The next area requiring attention was the ventral tank and lower engine hatch. These had acquired a varying amount of damage during the original storage and transportation. Dave Cruddas took the helm and, together with his apprentice Rebecca Skinner, spent 2 hard weeks working these items up to flight status. These items were fitted to '422 prior to the team returning to the UK and all were very pleased with the finished result.



Jason Skinner who is an Avon specialist concentrated on the power plants and spent many hours checking them over and applying new inhibitor as specified in the maintenance manuals. Jason then went through the throttle runs making a list of required spares and checking routing and connections. AALO believe that all the required items are in stock and Jason will be working up the spares package needed for the US team to finish this vital area of the restoration.

Andrew Brodie and Nick Woodhouse finished treating the number 2-engine bay with the fire-resistant paint. This was a long and boring job requiring a great deal of diligence and patience. The finished result was a fantastic job and credit must be given to Nick who made the number 2 engine bay almost a second home. Nick and Andrew also stripped many spares from the T55 forward fuselage required for the rebuilding of '422's cockpit.

Phil (the project's Engineering Manager) has spent a great amount of time orchestrating the restoration on the cockpit and its many components. It was very satisfying to see items being refitted rather than being removed. The US team has spent hundreds of hours painstakingly removing and restoring the throttles, Rudder pedals, Control sticks etc. Without carrying out this vital work the significant progress in the cockpit would not have been possible. Additionally, Phil applied hydraulics to '422 and stirred the controls and undercarriage.



John Sherry and Simon Johnson (the project electricians) really took the 'bull by the horns' when it came to '422's electrics. This has been a mammoth task and all parties involved have remained fully focused on what, at times, seemed like 'mission impossible'. To everyone's relief the intrepid duo managed to get both the AC/DC systems completed. Once the cockpit has been finished mechanically then the latter parts of the electrics will be finished. In addition, John and Simon have worked up a gradual 'Power On' sequence. To this end, another visit in February/March 2004 to start this process is planned.

Regarding the Aircraft Assisted Escape System (AAES), AALO has shipped a spare seat to the Warbirds Escape Systems New Zealand. Glen Turner has stripped both seats and found that one of the seats has a lot of corrosion. It was decided that the best option would be to work another seat up to operational standard than waste precious time and resources on the corroded seat. This seat will now serve as a spares source for the two seats being worked up to operational condition. Otherwise, Glen Turner is happy with the seats and in the next 12 months AALO will start to work up the canopy jettison system to flight status. We intend to test the system with cold gas to prove it prior to final seat fit and arming.



AALO now believes that, with the right finances in place, the first engine start is probably only 24 months away. The next 12 months will see a great deal of activity especially in the cockpit area. Phil Wallis has been busy working up a program of activities that will see EE Lightning T5 XS422

(N422XS) enter the final stages of what has been a phenomenal restoration-to-flight programme.

Obviously, finance is the biggest hurdle and AALO is now looking at various options to aid '422 through to flight. Shares options are being looked at as well as donations. A project such as this simply has to look towards the aviation-minded community and ask for help. AALO already has a Supporter's Group and interested parties should contact Mr Reg Holman, Membership Secretary AALOSG, 100, Sparrowhawk Way, Hartford, Huntingdon, Cambridgeshire, PE29 1XY for further details. We also have a print of '422 airborne at Stennis painted by Phil Kingsbury and an embroidered AALO patch. See below for details. All profits from these sales go directly into the restoration fund. Additionally, AALO would like to launch its share options and invite interested parties to contact Mr Andrew Brodie, 51 The Grove, London, N3-1QT. Please contact Andrew if you would like to pledge or gift donations to the project.

AALO would also like to thank the following companies without who's help this latest trip would not have been possible. Villager Inns for discounted accommodation, Memphis Aviation for the kind loan of airframe tooling and Vapor Tek Ltd of Bolton who kindly donated 25 litres of PR-24 engine preservative. This help is vital to help realise the dream of getting '422 in the air for all to enjoy. Please note '422's forward fuse now includes the AALO web site address.



### ***Engine Set Box***

Nick Woodhouse made the Didsbury engine set box (this means nothing to me - Ed.). Andrew Brodie took the following photos of it on his mobile phone!



### ***Web Site News***

The AALO website is currently undergoing a refit which we hope will make it more informative and easier to use. We will leave the existing site up until the new one is ready.

[www.lightningusa.org](http://www.lightningusa.org)

Additionally, we are in the final stages of planning for a second website dedicated to the Supporter's Group. Once the second website is up and running the two sites will complement each other with the existing site providing background and history, while the Supporter's Group site will carry more current news reports and information, as well as merchandising. We will of course let everyone know the SG site address when it is born.

### ***South African Lightning Feature***

Brian Carroll has kindly given AALOSG permission to reproduce his account of his recent trip to Cape Town and, yes, where, after many years 'enforced' abstinence, he again flew a Lightning T5!

### ***Once More Into The Wide Blue Yonder***

1982 was the end of an era for me - after many years of flying the Lightning, every hour of which was exhilarating, the time had come to hang up my helmet; a sad but inevitable day.

Little did I think, not even in my wildest dreams that 21 years later I would once again experience the thrill of lifting a Lightning free of the tarmac; on countless occasions at Bruntingthorpe and at Cranfield having reached nose wheel off speed have I had to throttle back, stream the chute and taxi back to dispersal. The word frustration falls far short of my feelings, so close and yet so far.

Mike Beachy Head who owns and runs Thunder City and I have corresponded for some time, discussing the Lightning and various aspects in respect of operating it safely. Some months back, June 2003 an e-mail from Mike invited me to visit as a guest, adding "and who knows there may be a seat a begging". Well I thought it would be rude to refuse, so having given it considerable thought for a few microseconds, I accepted and booked a flight to Cape Town.

The plan was to attend two airshows, the first Ysterplaat (Cape Town) on 07 November, the second show on 14/15 November at Overberg (Bredasdorp), a Test Flight Development Centre some 100 plus miles (as the crow flies) south of Cape Town used by the SAAF.

I'll now short cut to Friday November 14 when I met Dave Stock who was going to share the T.5 ZU-BEX (ex 451) with me. A brief exchange of pleasantries in the company of Barry Pover, one of Mike's engineers at which stage I elected to go and find a coffee. During my brief absence, Dave asked Barry if I had done any flying! No one had briefed him on my background - did I need a detailed brief on the aircraft? How to strap in? How to use the ejection seat and so on. I gather that Barry, after a brief pause informed him that I had close on 3,000hrs on type. This contrasted with his 40hrs on the Lightning and brought forth the comment from Dave, "well in that case he can fly the whole trip". I should add here that Dave is a test pilot and also flies regularly for a South African Airline and is a really nice guy. It is also true that he uttered a brief but telling expletive on hearing the news, Barry reckoned the news ruined his day.

And so to the trip, the briefing for the flight was fairly standard, Mike Beachy Head was to fly a F.6 as my number 2; that was a surprise. Weather conditions as we briefed were not good, low cloud base and poor visibility, and as the Lightning's are not cleared for IMC we had to wait for an improvement. This came about an hour later, the proverbial 'Window of Opportunity'.

Cloud was still hovering around 1,000 to 1,200feet, but we had already decided to go low level, following the coast all the way to Bredasdorp on the Southern Cape. The Cape in question is not the Cape of Good Hope, which many folk think is the southern point of Africa, but Cape Agulhas some 100 miles further south. As we were going to follow the coastline, our approximate distance would work out closer to 238miles just fine by me, the more time in the air the better. The additional distance included several holding orbits some ten miles short of Bredasdorp while a C.130 practised for the afternoon's display.

Walking out to the aircraft felt just like another routine flight, but knowing that this time I would not be quitting at 150kts - a walk round confirmed the aircraft was in good order, and we were soon strapped in and ready to start engines. Internal checks completed, at this stage Dave commented how nice it was to have someone who knew where all the switches were.

A confirming wave from the groundcrew and number one engine fired up, temperatures looked good, warning lights went out at the correct percentage RPM and after further checks I started number two. All looked good and clearance was obtained from ATC to taxi for the active runway at Cape Town International.

Lining up, Mike on my port, engines run up to 85% and we were ready to roll - Mike followed at 10 seconds as I was only using cold power to save fuel as we had a fairly long route to cover. Nose wheel off at 150 - a slight pause and lift off, we were airborne, wheel brakes applied, U/C selected up, lights all out as I entered a 60° climbing turn to starboard, levelling at 500feet and settling the speed at 450kts, Mike was flying loose battle as we cleared the coast line and headed south.

After 21 years, handling felt as though I had never stopped, it was sheer delight to fly the Lightning again. I followed all the many bays and inlets, swinging the aircraft into easy turns left and right as we progressed rapidly towards our destination, passing places I had never heard of - Hout Bay; Chapman's Peak; Noordhoek; Kommetjie, and on to Bredasdorp.

I varied the speed between 450 and 500kts and we were soon approaching our destination when, as mentioned above we were required to hold for the C.130.

Clearance was finally given to join the circuit, 600kts and 200feet seemed like a good idea as I streaked (fully clothed in case anyone was wondering!) across the field, a hard break to the downwind throwing in a twinkle roll as I climbed. Speed back to below 250kts, gear selected, three greens, flaps down as I turned onto finals at 175kts. What wind there was, was virtually down the runway, over the threshold at 165kts for a firm but smooth touchdown at 160kts, nose wheel lowered, chute streamed, Dave pulled the chute handle, well he was getting bored with nothing to do. Rolling to a stop some 400 metres from the end of the runway we cleared the active and taxied to dispersal. It was all over much too soon but I will always be grateful to Dave

for letting me fly the whole sortie from take off to landing, not forgetting Mike Beachy Head's invitation without which it would never have happened.

Did I enjoy it? Oh yes and it wasn't even my birthday.



Thanks to Hugh Trevor for permission to use this dynamic shot of ZU-BEX.

### ***Other Interest***

In our first year of existence the AALOSG has enjoyed growing success and increasing memberships, both trends we hope will continue into the coming year and beyond.

The XS422 print, which I know many of you now own, has been well received and we are grateful to those of you who have chosen to support us further by buying the print.

On the merchandising front we now have AALO logo 3 ½ " embroidered patches for sale. These are for sale at £4 for non-members and £3 for members (£5 and £4 inc postage & packing respectively). Very eye catching! An opportunity, perhaps, to exercise your membership discount! Many thanks go to Terry and Jane Rumble of Terrane Promotions who have not only 'done us proud' with the AALO patch but have greatly assisted us in finally getting these patches off the 'drawing board'.



For those of you who like aircraft pin badges, Terrane Promotions are also producing a version of '422 which AALOSG will sell for about £5. These should be available before May 2<sup>nd</sup>. If you are interested in buying any, contact Phil Kingsbury or Max.

We still have plans for AALO polo shirts for sale this year – watch the new AALO supporter's website or look us up at any Bruntingthorpe Lightning event. These are currently being investigated by the AALO execs and when we're happy with the design and quality we will make them available generally.

### ***Upcoming Events***

First Bruntingthorpe public day is 2<sup>nd</sup> May 2004. AALO will be there (in force, hopefully)!

Phil Kingsbury

### ***Postscript***

I have included the following extract from a letter from Allan 'Woody' Wood, one of our very committed supporters, who was fortunate enough to have worked on (and flown in) '422 at Boscombe Down. I will feature more of Allan's experiences of '422 over the next couple of newsletters, but for now here is a taster:

"It seemed ages before final clearance for take off was given by ATC, but it was certainly worth waiting for as Mike (Sqn Ldr Brooke) opened up the 'taps' and XS422 rocketed down the runway. The acceleration was out of this world and as soon as we 'unstuck', the undercarriage was retracted to keep things clean and the speed up because as we cleared the airfield perimeter Mike pointed this lovely silver and red bird vertically and we continued vertically up to 30,000 feet – effortless and no G-suit! Then we rolled out at the top and headed for our rendezvous point for the supersonic run."

Watch this space for his full story...