



AALOSG Newsletter No. 8 May 06

## [AALO Supporters' Group Newsletter](#) [26/5/06](#)

*Nic Holman (Pres.)   Phil Kingsbury   Clive Richardson   Charles Scott*  
*Max Waldron (Founder Member)*

Dear friends and supporters of XS422. No sooner has the ink dried on the last newsletter and we bring you another one ... who says we don't look after you.

We may well exceed the 'quarterly newsletter' this year as it is already shaping up to be a year of great progress in XS422's return to flight. The main thrust of this newsletter is, as promised, to bring you up to speed on how the February UK team visit went, out at Stennis.

In addition, I'm delighted to be able to share with you the news that our Project Champion, Andrew Brodie (pictured below), has very recently confirmed the injection of a significant amount of money over the next 12 months that will facilitate UK engineering team visits to Stennis in July and November this year, and February 2007. We will still need to find a major sponsor or sponsors to get the project to power on and for the operational stage of the project but Andrew's generous donation will enable a huge step forward with progress on XS422.

As a result of works achieved in February and to level the playing field a little, at least two of the three trips will be predominantly electrical. It's hoped in June/July that all three of the teams electricians can come together to work on the cockpit electrics as well as other snags and unfinished business.

The intention later in the year and early in 2007 is to create 'rolling' visits with different trades coming and going in a planned assault on a number of major tasks. In this way the team numbers and logistics on the ground are manageable and trades are not waiting around while other engineers are working.

We will of course keep you up to date as this busy year unfolds.

*Nic Holman*  
SG President

### [UK Team Visit to Stennis, February 2006](#)

A week or so into February, an 8-man engineering team touched down at Gulfport Airport amidst the damage wrought by Hurricane Katrina on the Mississippi Gulf Coast – destination: Stennis Airport, 30 miles to the west, and XS422.

With a three week window the team, under Phil Wallis' leadership, were keen to rebuild momentum in XS422's return to flight, interrupted, late last year, by Hurricane Katrina.

Despite the work of John Sherry and Bo Brocklesby on the electrics, last June, the week of work on the air systems undertaken by Milton Roach & Dave Tylee post hurricane in November, and the relentless chipping away by the US volunteers, some time had passed since the last 'big team' visit.





As a direct consequence of the hurricane, the team were finding their bearings in the new surroundings of Gulfport and settling into slightly better accommodation, than we're used to, at the Holiday Inn. The choice of hotel was made for us as it proved to be the only one in a 50 mile radius of Stennis that was accepting guests. All the other hotels that had survived were full of engineers and construction workers undertaking the mammoth task of getting the region back on its feet. Where there's a disaster there's a price increase and the team were doubled up for the duration to keep within budget.

A bonus with our temporary home in Gulfport was that the ride to Stennis was a simple journey straight along I-10 towards New Orleans; although the extra distance meant that anything left behind in the morning was left behind for the day.

The hurricane spared the project hangar, where XS422 is homed, but had certainly blown in a terrific amount of dust and FOD, a liberal coating of which greeted the team when we arrived at the hangar on the first Sunday. Phil had anticipated some tidying up and making ready our part of the hangar, having been pre-warned that it had been home to the Mississippi National Guard for a couple of months during the clear up, but on arrival it was clear that the hurricane, and not the guys and girls picking up the pieces afterwards, had made the most mess.



It wasn't long before the team were knuckled down sweeping the floors, clearing the area and washing a fair few layers of dust off XS422. After a number of hours hard graft the area was spotless and a gleaming XS422 ready for an immediate start work on the Monday. Time for a beer and some shut eye before the real work started.

The following weeks went exceptionally well with the team achieving all the goals that Phil had set. Inevitably some tasks turned out more convoluted than expected but then the Lightning was never an easy patient. The team was paired off where possible so at any one time there was always progress being made somewhere on the aircraft.

Milton & Max got straight into working up the two leading edge tanks, dressing them ready for fitting as well as carrying out work on an area of damage discovered during a day 1 inspection of the tanks. While every effort is taken with the storage of all parts of the aircraft we cannot legislate for accidents. A small step backwards, but it did mean a brand new part from Geoff's spares 'warehouse' being fitted - so a positive from a negative.



Many hours in the first week were dedicated to the two tanks so it was with a justifiable sense of achievement that they were both fitted on consecutive days over the following weekend.

Once Max and Milton, with the assistance of Geoff and Phil, had lifted the tanks into

place, they set about locking the great number of bolts that hold the tanks on the wings and fuselage. Phil and Geoff then worked alongside, dressing the rest of the leading edges.

Dave, meanwhile was putting his Virgin Airways Engineering Apprenticeship to good use and was paired up with Paul. Over a number of long hours and over a couple of days he made a highly professional job of three cockpit floor repairs, finally making way for Paul to step into 'the office' to begin the job of installing the various flying controls that were ready (see photo at right). While Dave was working in the cockpit, Paul had spent the first few days doing final checks and prep on the rudder control units and the rudder pedals and these were now ready to fit.



Despite the real lack of any space, even with the instrument panel removed, Paul was clearly happier to be curled up in XS422's 'spacious' twin-seat cockpit than in a single-seat Lightning. It makes the job more bearable, but not necessarily easier, when your trying to locate small bolts in small holes, neither of which you can get a visual on.

Several days later and the cockpit was starting to look like a cockpit again with both sets of rudder pedals in, as well as the rudder control units and a number of sections of the cockpit floor. We have a complete set of brand new cockpit floor panels, sourced from the spares by Roger Winkworth a couple of trips back but for the time being the old ones have been cleaned and are going in until the team are done working in and out of the cockpit. This will ensure the new ones are in the best possible condition prior to first flight.

As an indication of the great progress made in the cockpit the hydraulic systems were tested again for the first time in a year and a half, and with just a few leaks, but for the first time in about 15 years,



using the rudder pedals in the cockpit and the starboard control column. All calibrated by Paul they worked well. We were also able to successfully test the wheel brakes from the cockpit, although the cables have yet to be connected to the control columns. The control columns will not be properly fitted until later in the year when the electricians have reinstalled the terminal blocks for them in the cockpit floor.

Andrew got on with his to do list and worked doggedly towards his prime goal of getting the fuselage cable loom covers identified, restored and ready for fitting. A laborious but essential task which involved working his way all the way along both the port and starboard sides of

the aircraft, hole by hole, ensuring that every screw hole was clean and ready for the covers. Also part of the job was ensuring the fibreglass cable retainers were in good order. This job is now complete and with Bill Norman fabricating a couple of replacements for damaged covers, by the

time the electricians have completed all work on the main looms, the covers can be refitted ready for flight.

Phil was able to get on with a number of on-aircraft tasks in support of his engineering team, as well as signing off a great deal more of the paperwork generated by the ongoing work. All repairs and renewals have to be documented properly as part of XS422's FAA certification. He also found time with the 'heads of sheds' on site to work up a plan of attack for the coming months and future trips. With both Geoff and Simon Johnson (electrics) contributing approximate man hours required to finish various parts of the restoration Phil now has a much clearer idea of how to direct his assets and team.

After completing their work on the leading edge tanks, Milton went on to work in the number two engine bay with Geoff, where they were able to complete the fitting of the Rudder Spring Feel Unit – the end of a 3 year restoration on this particular item!. Max went on to fitting the last three missing fin attachment bolts – another niggling job that has been outstanding for 4 years! He also refurbished the Ventral tank jettison mechanism as well working up more of the starter system.

Simon Johnson made it down from Chicago for a long weekend and despite being short on time was able to advance a number of electrical tasks as well as make preparations for a visit later in the year.

In summary, the following team members (as seen at right):

- Phil Wallis
- Max Waldron
- Paul Oughton
- Milton Roach
- 'Big' Dave Tylee
- Geoff Commins
- Andrew Brodie
- Simon Johnson
- Nic H



achieved the following goals:

Leading Edge Tanks – dressed and refitted.

Number 2 Engine Bay – Rudder Spring Feel Unit fitting completed. After a full survey, estimated 2 days work to complete refits / locking etc.

Number 1 Engine bay – Still a fair bit of work required but remaining tasks identified.

Cockpit – Rudder Peddles refitted, rudder control units fitted, floor repairs completed, a number of floor panels down.

Final Fin bolts fitted with one bolt to be split pinned.

Ventral Tank Jettison Mechanism – refurbished and refitted.

Hydraulic systems – functional checks carried out on flaps, ailerons, rudder, tailplanes, wheel brakes, undercarriage, air brakes, all without problems.

Chief Engineer, Phil Wallis, stated:

*“Without doubt, this has been the most productive visit by a UK team to date, we have managed to complete several milestone engineering tasks as well getting a crystal clear appreciation of where ‘422 stands in relation to its first flight, the feeling on the team now is not how, but when?”*

## Outside the Hangar

As well as the great number of man hours the team put into XS422 we also took a little downtime to view the damage caused by the hurricane and to help out a number of our friends in the area who have been affected by the hurricane.

The team spent an afternoon in the Bay, where we used to stay, and now looking much like a bombsite, touring the old town and picking over the debris of bars shops and restaurants and just generally shaking our heads at the enormous power of nature.

*(The picture, at right, shows a typical hurricane damaged house.)*



We stopped in at one of the few surviving local bars and were able to buy a few beers for some old friends as well as hear some recollections of the day the hurricane came to town.

Most people seemed to be buoyed up at just having some visitors in town but we were able to persuade a couple of friends that when you have eight guys offering their help and time you might as well use it. While Paul and Andrew used their automotive skills to work on two vehicles belonging to a friend of the project which had been treated to a dunking in the storm surge, despite being 15km inland, the rest of the team spent a morning helping to move personal items and effects to a new home for our hangar manager. We were also able to help recover a number of personal items on behalf of a friend who's relocated north, from the remains of a house in one of the worst hit neighbourhoods, Pass Christian. It was amazing to see quite how high the water had reached, indicated by the tide mark about an inch from the 12 ft ceiling.

We also got to help moving even more aircraft into a somewhat full Project Hangar. With the other hangars damaged or destroyed it's pretty much the only place to store aircraft on the airfield at the moment.



*(The picture shows Paul, Andrew and Phil taking a short rest after pushing a Boeing Stearman to the hangar)*

## Visitors

During our visit and this trip especially, we were delighted to catch up with a great number of local friends and supporters. Despite personal hardship and in some cases total relocation, it was a very great pleasure to see and spend some time with Bob Newton, Bob Simms, Merrill Molaison, DD, Bill Gibson, PJ, Bill Norman, Bill Traiy, Blane Wills, Tom Borderlan, the guys at aircraft packaging, John Cranmer, Tony Herrington, Bill Cotter and Cheryl at Stennis airport.

Thanks to all for your continued support and it was great to find you safe and well.

Special thanks also go to DD for making the team lunch one day, despite having to prepare it in a FEMA trailer. What a star! Thanks also to PJ for doing the boys' laundry. It takes a tough southern gal to take on Mr Brodie's 'Katrina collection'.

## Filming the Restoration of XS422



Just as a personal side-note, I'm pleased to report that I'm continuing to get some great footage for my documentary, following the return to flight. This, in particular, was a trip rich in visual progress and some great milestones have been recorded. I continue to be hugely thankful to all my good friends on the team for allowing me to record their hard work and dedication, as well as occasional bouts of frustration and for putting up with my ever present camera; Geoff, the camera does like you, although I concede you may not share the love ...

I hope when we're all finished, the film will be as much a fascinating record of a great achievement, as a testament to everyone who has been grafting over a fair few years now to realise the dream.

## **Some Final Business...**

You may have already noticed that a two page report on the trip is currently to be found in Flypast, courtesy of founder member Max Waldron's writing skills.

As we get our teeth into the year we are continuing to assess all possible fund raising opportunities. So far you'll be able to find the SG stand, and Phil K., Clive and myself at Cosford on the 11<sup>th</sup> of June and at Waddington on the 1<sup>st</sup> and 2<sup>nd</sup> July.

We'd love to see as many of you as possible and should have some new goodies for your collections, including some AALO polo shirts (refer to AALO Merchandise News on back page).

Additionally, at Waddington, we'll be holding a raffle to raise funds and we'll bring you news of the exceptional prizes nearer the time.

Thanks again for your continued support and if you have any friends or colleagues who'd like to support the project by joining up then please use the form (on the back page) to join them up.

*Nic Holman*  
AALOSG President

e-mail: [nholman@globalnet.co.uk](mailto:nholman@globalnet.co.uk)

## **Postscript**

Another little piece from one of our stalwart supporters, Allan 'Woody' Wood wrote a potted history of the ETPS which some of you may find an interesting read.

## **A Potted History of the Empire Test Pilots' School**

As, I'm sure, you all know already, Lightning T5 spent her last years at the Empire Test Pilots' School (ETPS), at Boscombe Down in Wiltshire, England. During 1988 her service life came to an end and she was put up for tender. The rest of that story forms the crucible in which the Anglo-American Lightning Organisation was formed; ostensibly, to draw up plans to rescue this valuable airframe from the scrap man and set itself on a long and testing path of its own putting her back in the air.

### So what about XS422's last home – the ETPS?

The school was formed at Boscombe Down in 1943 with the following terms of reference: 'To provide suitably-trained pilots for test flying duties in aeronautical research and development establishments within the Service and the industry'. For several years the School was the only institution of its kind in the world. With the growing amount of aerial activity, a shortage of space at Boscombe Down caused a move to Cranfield in Bedfordshire in October 1945, with a further move in July 1947 to Farnborough and the start of a long and fruitful association with the Royal Aircraft Establishment.

During twenty years at Farnborough the School syllabus evolved progressively without major innovation until the setting up in 1963 of the Rotary Wing Course to meet the growing need for the trained helicopter test pilots, where many well known pilots graduated, such as Ron Gately (Fairey Rotodyne) "Slim" Sear, Roy Moxam (Lynx), Trevor Eggington and Colin Hague. However, 1968 saw the return of ETPS to the now more open skies of Boscombe Down once again, where it renewed a close and valuable association with the then Aeroplane and Armament Experimental Establishment (A&AEE).

In 1974 the first course of Flight Test Engineers (FTE) was launched. These students specialise in either fixed or rotary wing aircraft and being closely integrated with the student test pilots, both pilots and engineers benefit from the mutual exchange of ideas and experiences.

There have been many well-known names in aviation who have graduated on the ETPS. Just to name a few:

Hedley Hazelden 1943 (F. F. Handley Page Victor)  
Eric Franklin 1944 (F.F. Armstrong-Whitworth AW-52 Flying Wing)  
Mike Lithgow 1944 (Supermarine Swift record flight)  
J. O. Lancaster 1945 (first ejection in Anger-Aw52 flying wing)  
John Booth 1945 (Saunders-Roe SR-53 Mixed power-rocket/jet research)  
Peter Twiss 1945 (Fairey FD2 record flight – 1132mph)  
Neville Duke 1946 (Hawker Hunter record flight – WB188)  
Dicky Martin 1946 (Gloster Javelin)  
Tom Brooke-Smith 1947 (Shorts SC1),  
"Ben" Gunn 1948 (Bouton-Paul P111A-P120)  
"Teddy" Tennant 1949 (Folland Midge-Gnat)  
Bill Bedford 1949 (P1127-Harrier)  
Roger Topp 1952 (Black Arrows)  
Sheepy Lamb 1951 (Saunders-Roe SR-53 – SRNI Hovercraft)  
and, bringing things up to date a little, we had:  
Al Worden 1964 (Astronaut to the moon)  
Jean-Pierre Haigneré 1981 (Russian MIR Space Station) and  
Michel Tognini in 1982.

Alas, I could go on at length and my apologies to those not mentioned. At the Empire Test Pilots' School pilots and engineers are trained for exacting roles in flight test teams concerned with research, development and acceptance of Service aircraft and weapons systems.

Each course, running from January to December, culminates with the graduation of the students at the McKenna Dinner. This dinner and trophy is in honour of Group Captain J.F.X. McKenna AFC, who was School Commandant in 1944. Tragically, he was killed as a result of structural failure of the wing while testing a North American Mustang IV.

Each student, on passing the course, is presented with a graduation certificate and various trophies and awards are presented. The aforementioned McKenna Trophy is presented to the best student of each course. The Edwards Award is a trophy presented by the Edwards Air Force Base, California to the student who makes the greatest progress on the course. The Hawker Hunter Trophy, presented by the Hawker Aircraft Co., Ltd was presented to the student who wrote the best Preview Handling report; this is now carried out by syndicates of two or three students and is now awarded to the best team. The Patuxent Shield was presented by the United States Naval Air Test Center, Patuxent River, Maryland and this is awarded to the runner up to the winner of the McKenna Trophy. The Westland Trophy, which was presented by Westland Helicopters of Yeovil, is awarded to the best all round Rotary Wing Course student. A more recent addition to the awards is the Dunlop Trophy which is awarded to the best Flight Test Engineer on the course.

Now! Talking Lightnings for just a moment, the ETPS was operating the second prototype Lightning T4, XL629, which is 'still in service' as Boscombe Down's gate guard. On a personal note, I feel that this airframe should be put under cover and restored rather than be left to suffer the ravages of the elements. However, this aircraft made its final flight in the hands of Air Commodore Alan Merriman and Roland Beamont on the 3<sup>rd</sup> November, 1975. Lightning XL629's replacement was, of course, Lightning T5, XS422! (*but, of course, you all knew this already – Ed.*)

Shortly after arrival XS422 was housed in 'A' Squadron hangar where a colleague and I set about the task of giving her signal red wing tips, spine and fin – the fin later reverting to the natural aluminium finish. In addition, the ETPS crest was applied to both side of the fuselage just in front of the leading edge of the wings. From here, XS422 provided valuable service until her (premature? She had only 2210 hours on the clock) retirement in 1988 where she was put up for disposal by the MoD. The time of viewing of Wednesday 19<sup>th</sup> October 1988 was allocated and the rest, as you know, is history... How nice it is to know that this fine Lightning example is destined to fly again, after witnessing its hasty dismantling in the isolation hangar at Boscombe Down and then languishing in a container for a number of years at Portsmouth!

And so I feel it would be very fitting to finish this potted history with words from a good friend of mine, Roland Beamont, who often said to me "Not privileged to be an ETPS graduate – but a test pilot nevertheless"

To all fellow AALO members, my very best wishes and I thank you for reading this little ditty! Remembering the ETPS motto: 'Learn to Test – Test to Learn'.

**Allan 'Woody' Wood**

As a PPS to this article, Allan sent us a copy of the MoD disposal tender forms for XS422. We thought it would be a nice idea to reproduce the first page of the tender invitation document (see below left) and Annex A to D/F 6t(Air)/913/6/311, which contains the number of airframe hours and the assessment of the general condition of XS422 as 'Good' (see below right).

 **Ministry of Defence** F 6t1(Air)  
 St George's Road Harrogate North Yorkshire HG2 9DB  
 Telephone 0423 79 3739/3145 (direct dialling)  
 0423 793000 (switchboard)

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Your reference

Our reference  
 D/F 6(Air)/913/6/311  
 Date  
 27 September 1988

Dear Sirs

**OFFER OF LIGHTNING T5 AIRCRAFT**

1. You may be interested in the purchase of a Lightning T5 aircraft which is now available for sale. The details are listed at Annex A to this letter and tenders are invited, subject to the Conditions set out hereunder and in the Standard Conditions at Annex B.
2. You are invited to inspect the aircraft during the periods stated. You are recommended to arrive sufficiently early to allow time for adequate inspection of the aircraft and any technical documents.
3. If, following inspection, you wish to proceed with purchase, please insert your bid, in pounds Sterling on the duplicate copy of Annex A and forward it to this Department using the enclosed label. This bears the date by which the tender is due to be received and care should be taken to use only the envelope label with the correct date and tender number. Tenders will be received until 10 am on 5 November 1988.
4. The successful tenderer will be notified by letter, and payment should then be made within 12 days from the date of that communication. Bankers Drafts should be forwarded to this office, and made payable to the Accounting Officer, Ministry of Defence, and crossed "Bank of England A/C – HM Paymaster General". Only after full payment has been received will arrangements be made to release the aircraft for collection. Unsuccessful tenderers will be notified by letter.
5. The following conditions will apply:
  - a. For the purpose of this sale the Authority shall be the Secretary of State for Defence or any official duly authorised to act for him.
  - b. The sale will be "as lying" at AAE Boscombe Down and the purchaser will be responsible for collection.
  - c. No guarantee as to completeness or serviceability can be given.

**SALE OF LIGHTNING T5 AIRCRAFT SHELL**

ANNEX A TO  
 D/F 6(Air)/913/6/311  
 DATED 27 SEPTEMBER 1988

CONTACT: Mr R M Porfley  
 TELEPHONE: 0800 23331  
 FAX: 0247

TIME OF VIEWING  
 Wednesday 19 October 1988  
 Between 1000-1230

TENDER NO. F 6t(Air)/913/6/311	Account Bid £ Sterling	DATE Last First	Notes	TO BE COMPLETED BY THE TENDERER: The successful tenderer must attach to the Conditions and instructions to tenderers hereby offers to purchase and remove the goods specified in the Schedule (to the extent that he is willing to accept this tender) at the price or prices and at the time stated and subject to the terms and conditions set out or specified therein.
XS422	Good	2210	Nil	Sep 87
				Fitted
				No documentation available.

Dated \_\_\_\_\_ day of \_\_\_\_\_ 1988  
 Signature \_\_\_\_\_  
 Name in BLOCK CAPITALS \_\_\_\_\_  
 Duly authorised to sign on behalf of \_\_\_\_\_  
 Address \_\_\_\_\_  
 Tel No \_\_\_\_\_

## !STOP PRESS!

### AALO Merchandise News

We have available more merchandise for sale to help raise funds for the restoration project. Apart from the A3 prints, embroidered AALO logo patches and metal XS422 side view pin badges, we have AALO logo car stickers, self-adhesive stickers, and, as promised on the web site, 'Mississippi Thunder' themed polo shirts in stock (see photo below). We have them in navy blue, black, sky blue and white in the following chest sizes 38" (S), 40" (M), 42" (L) and 44" (XL). We are looking to get other sizes in stock. So, if we don't have your size place an order and allow 28 days for delivery.



These are nicely-priced at £12.50 each for AALO supporters – Go on, treat yourself!

The AALO patches are £3 each and the car stickers and self-adhesive stickers are £1.75. A must for all serious supporters of this very needy project! The XS422 pin badges are still proving popular and we are only asking for £2.50 for these. Hurry up before they all go! And don't forget the personalised AALO crew patches with your name (maximum of 20 characters, including spaces) for only £7 each. Order as many as you like!

We are currently exploring the option for 'unique to AALO' embroidered key ring fobs bearing the popular side view of XS422 on one side and 'Mississippi Thunder' on the reverse. Come and see us at RAF Waddington and we should have some in stock, all things going well...

**Note:** If you wish to order any items of AALOSG merchandise, please send your order through to <mailto:philip.kingsbury@tesco.net>. The amount for postage and packing will depend on your order.

#### Phil Kingsbury

AALOSG Merchandising

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Please enrol me as an AALO Supporters' Group member as follows:

1 year @ £20 (    )

Lifetime @ £150 (    )

Please complete the following information in block capitals:

Name: \_\_\_\_\_

Address: \_\_\_\_\_

E-mail address: \_\_\_\_\_

Tel. no.: \_\_\_\_\_

Send your application to:

AALOSG Secretary, Greenways, Vicarage Lane, Hordle, Lyminster, Hants, S041 0HS.

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