
NEWSLETTER



KC-30A Air to Air Refueling Partial Clearance Testing

Message from the President

The start of a great year for flight test.

It has been a while since the last newsletter and, for most; I would say a fair amount of water has passed under various bridges. That has certainly been the case for me, having started two new jobs and undertaken numerous separate activities (some flight test, some not) in the intervening period.

I was disappointed to leave the Tiger (ARH) world, and truly enjoyed the 2 years I spent working with the aviation elements of Army in Brisbane and Oakey. For me that was a once in a life time opportunity. I was glad to hear of the last aircraft being accepted off the production line with no more than the usual drama. I will always have a soft spot for the little Tiger, and hope the Army embrace it for the capability is

will provide.

As there has not been a newsletter since the symposium in March, 2011, a few words are certainly warranted on the intermediate period.

Since the last symposium, we have had a changing of the guard in many of the committee positions, which is fantastic to see. Especially an increase in the participation rate from ARDU. However, we are still running numerous vacancies including the Secretary position, which has had an impact in a number of areas.

On this point I would like to single out Oliver Glendon (Treasurer) and Andrew van Loon for their efforts in closing out the applicable audit activities, and completely re-

inventing the website. Additionally, you may already be aware that the Society is now hooked up through PayPal, and members can pay there membership easily online. This newsletter will be sent to the membership base with a link to the new website. The website will provide guidance on how to pay annual subscription on line.

I have also been looking at a number of other initiatives, including closer involvement with Engineers Australia, Society of Flight Test Engineers and the Royal Aeronautical Society. Given Australia’s limited Aerospace industry, these three professional bodies provide opportunities to promote our own society, as well as access to a considerable base of technical and business minded folk. If you have any contacts in these organisations already, please pass them to the committee.

Given the areas of interest of both Australian based organisations mentioned above, the Society must ensure we maintain a point of difference to justify our continued existence. There are many areas where topics of similar ilk will be crossed. I believe the society has that difference, and can provide a valuable contribution to the Australian Aviation landscape outside the military.

Finally, the next symposium is being planned

to occur in Brisbane on 26 June 2014 with the 2015 symposium to coincide with the 2015 Avalon Airshow. Myself and other committee members are actively seeking presenters. If you have any contacts that would like to present, I ask you seek their attendance at either of the programmed events. I encourage you all to attend, and catch up on the activities of your flight test peers.

I hope to see you around the traps, and if not before, at the symposium.

Guy
A.G. Adams
President



THE SMELL OF KEROSENE - A TEST PILOT’S ODYSSEY BY DONALD L. MALLICK

Whilst trawling through a friend’s book shelf recently, I came across a book that seemed out of place given my friend was an orthopaedic surgeon. *The Smell of Kerosene – A Test Pilot’s Odyssey*, is the aviation life story of a gentleman who eventually became Deputy Chief of Flight Operations for NASA.

Mallick’s test flying days were indeed in that golden age of aviation when jets were new and almost every new aircraft was the first to do something. Two

appendices in the book are required to list all the aircraft Mallick flew; those from his Navy days and those from NACA / NASA. The book in fact charts some transition from NACA to NASA and Mallick joined NACA prior to that transition. There is a great couple of pages later in the book where he lists the test pilots that were working the Flight Ops division at the time....and it reads like a rogues gallery of aviation geeks. Every person mentioned is an ex-Navy / Air

Brand New Website

Check out the brand new FSTA website at www.ftsa.org.au. You can now manage your membership online, keep up to date with a flight test resources, contacts, news articles and symposia information.

-Andrew van Loon, FTSA
Webmaster

Force pilot with a graduate degree in Aeronautical Engineering (and postgraduate in some other engineering field). Most also had industry experience as design engineers with major airframe manufacturer.

It is interesting to note that Mallick did not become a test pilot from his Navy flying, and in fact attended USAF TPS as a civilian, funded by NASA.

Whilst starting his aviation career as a Navy Fighter pilot, Mallick had the opportunity to fly a broad range of aircraft in his career, the most notable probably being the XB-70 Valkyrie and SR-71 Blackbird. Mallick was one of the first on the crash sight following the crash of XB-70 number 2. He was also a regular helicopter wrangler.

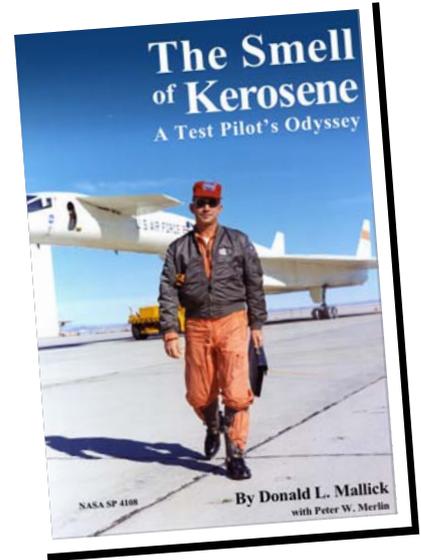
As an autobiographer, Mallick

makes a great test pilot. The book can be a little difficult to follow at times as he regales stories from his earlier and later days. However, it is the sheer, and obvious, enthusiasm with which he tells his stories that keeps you reading.

One final comment that heartened me can be found in Page 216. When supporting a fellow ex-Naval aviator (also an Engineer) in an attempt to get a job within the NASA Flight Ops Division, the Centre Director responded with the following: 'I can always find pilots, but I can't always find good flight test engineers'.

A full copy of the book can be found at the following Link.

http://www.nasa.gov/centers/dryden/pdf/88797main_kerosene.pdf



FOLLAND GNAT QUAL EVAL 1957 - MILT COTTEE



Folland Gnat 1957

During November 1957, I took the opportunity to fly some more of A Squadron's aircraft. First the

Folland Gnat XK767. The Gnat was well named. It was a tiny 'go-kart' aircraft which was very nimble for its day. It had one bad feature which caused the demise of some early pilots. The main wheels were too far to the rear, requiring significant elevator power to raise the nose during take-off. It was vital that the elevator trim be fully nose-up and then extended to an override position to have any possibility of rotation for take-off.

The Gnat I flew had a redesigned elevator system. Instead of a trimable tail plane and separate elevator, this one was the first to have a fully flying elevator. This had given the tail greater effect but had introduced another problem. It suffered severe short-period longitudinal oscillations throughout its speed range. These had been recorded between +5 and -3 g at about 2 oscillation per second. Balance weights and other fixes had greatly reduced the problem. But not



COMMITTEE MEMBERS WANTED!

There are a number of vacant positions within the FTSA committee. Please email ftsa@ftsa.org.au if you are able to dedicate a small amount of your time to the position of secretary, public officer (ACT resident), Best Practices Officer, Symposium Officer or Other Member.

before one of Folland's test pilots lost the complete tail assembly at high speed and at low level. He was most fortunate as the tail pitching moment was zero at the time, thus giving him time to eject.

If anything I was over-briefed on the take-off problem to the exclusion of other aspects. On the ground, I found I could stand beside the cockpit and lean my head inside to be able to see all controls and switches. There was still the need for the trim over-ride. The control was a separate switch low on the right side of the instrument panel. This was badly placed, requiring a change of hands to operate.

I took care to set the trim over-ride and to release the brakes with the stick hard back against the stops. The extent of acceleration surprised me and in very little time the nose was pitching up and it was time to raise the undercarriage. The nose wheel door served as the speed brakes and there was a transient trim change as it retracted. I instinctively tried to dampen out the trim changes and found to my dismay that I was out of phase. As this was happening the words of the briefing pilot came back to me. "Don't try to follow the trim changes as the gear retracts."

The nose pitched up and down with each pitch more than doubling. Within two seconds I was alternating from a diving attitude towards the runway to a steep climb. Self preservation prompted me to pull the stick hard back holding back pressure. The aircraft damped the oscillations quite rapidly as I zoomed up into the start of a loop. It was easier to relax as I put more space between me and the runway and soon had it all sorted out.

Full fuel load was about 1500 pnds. With the V Bombers, I was used to getting back near the airfield with 10 to 15 thousand pnds minimum. I mentally added a zero to the fuel contents to prevent any preoccupation with the small fuel quantity. I had decided to be back in the circuit with no less than 300 pnds remaining.

I climbed to 45,000 ft over the sea and flew a few dives to go supersonic. The transient trim changes could be readily managed by the new flying tail and I found that any tendency to 'JC' would cease if the grip on the stick was released. This meant that trim had to be maintained with care.

In next to no time, the fuel gauge was insisting that I go back to base. I joined on a long down wind leg and slowed down to drop the gear. There was a large trim change as speed reduced which was readily accommodated by the normal trim. I noted that the nose-up trim remaining was negligible, as I selected gear down. Whoops - now I have the stick against the rear stops and the nose is still going down. Oh yes - I was told to expect this - use the over-ride - that switch down there on the vertical part of the instrument panel. I change hands and grab the switch, instinctively pushing it down. Whoops again - that was the wrong way. Now I am about 20 degrees nose down with the ground coming up too fast for comfort. A quick reversal of the switch and it reverts to being a controllable aircraft again. To me, that switch was operating in the wrong sense.

About this time, the tower called up to say that there was an English Electric Lightning joining the circuit with a company pilot on his first flight into Boscombe and would I give him priority for landing. I did a double take and called the Lightning pilot and asked him for his fuel state. He had over 1000 pnds. I was down to 250 pnds and now somewhat twitchy. The Lightning pilot defused the situation by declining any need for priority as I guided that little Gnat down on to the runway with some feelings of relief, considering the fuel remaining.

The FTSA annual Symposium and AGM will be held in Brisbane on 26 June 2014. Draft paper submissions are invited to be sent to ftsa@ftsa.org.au. This year papers will be judged by panel and prizes will be awarded for the best paper!

