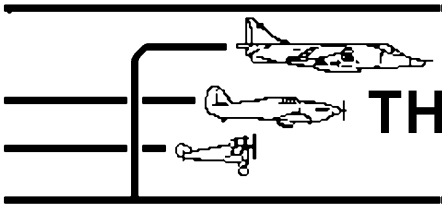

THE HAWKER ASSOCIATION

NEWSLETTER NUMBER 8 - SPRING 2005

Published by The Hawker Association for the Members.

EDITORIAL

This is the first opportunity to wish readers a happy and interesting 2005! The Committee hopes that the programme they have arranged for the year will help to make that wish come true.

The Christmas Lunch at the Hawker Centre was enjoyed by 65 Members who also generously supported the raffle. Once again we must thank the tireless Percy Collino who puts so much energy and skill into organising our social events and meetings. His new big project is a coach trip to Duxford later in the year - see below. The first meeting of 2005 was Les Palmer's Aviation Quiz, much enjoyed by Members. Thanks, Les, for all the effort you put into compiling such interesting and relevant questions; our memories were truly stretched.

A few members still haven't renewed their **Membership**. They will find a reminder and payment form with their Newsletter. Come on, it's only a fiver; not much to keep in touch with old colleagues!

Also enclosed is the **Annual General Meeting** Notice. Here is your opportunity to tell us what you want from the Association. It's at the Hawker Centre on Saturday the 23rd of April.

Would Members be interested in an Association tie priced at under a tenner? Let me know or speak up at the AGM.

Again, 'thanks' to those who contributed to this issue. I trust that all you others are inspired to follow their example. It doesn't matter how rough it is; that's what editors are for.

Write to: The Editor, Chris Farara, at 24 Guildown Road, Guildford, Surrey, GU2 4EN.

Tel. 01483 825955; e-mail <cjfarara@ntlworld.com>

PROGRAMME FOR 2005

Wednesday 9th March	Development of the Boxer Utility Aircraft and Singapore Hunter - David Lockspeiser.
Wednesday 13th April	Social gathering with video.
Saturday 23rd April	Annual General Meeting.
Wednesday 11th May	Sea Harrier: Introduction, Operation and Future - Cdr Tim Gedge RN
Wednesday 8th June	Summer Barbecue. Hawker Centre, 12.30 pm.
Wednesday 13th July	The Role of a Regional Marketing Executive - Peter Boxer.
Wednesday 10th August	Social gathering with video.
Wednesday 7th September	Visit to Imperial War Museum, Duxford. Depart 9.30 am (details below).
Wednesday 14th September	Social gathering with video.
Wednesday 12th October	The Influence of German R&D in WW2 - Ralph Denning.
Wednesday 9th November	Kingston's P.1216 ASTOVL Project - Michael Pryce
Wednesday 14th December	Christmas Lunch. Hawker Centre, 12.30.

Unless stated otherwise, meetings are at the Hawker Centre - the old Sports & Social Club - and start at 2.00 pm. Lunch and drinks are available beforehand, tea afterwards, and there is a large car park.

VISIT TO DUXFORD

A coach is being organised for this visit to the Imperial War Museum's outpost at Duxford. The site is home to the huge IWM military aircraft collection, the Duxford Aviation Society collection of airliners and to The Fighter Collection and The Old Flying Machine Company who restore and operate classic aircraft - a feast for all 'total aviation people', like us. The coach will depart from and return to the Hawker centre where Members may leave their cars free of charge. The price, including museum entrance, is £15. Please book with Percy Collino at preceding meetings or 'phone him on 0208 337 8143. The coach will depart at 09:30 and get back at about 19:00. Take plenty of film, and a flash gun would be useful in the hangars.

SUMMER BARBECUE

Following its popularity last year the barbecue is being repeated in 2005. Spouses and partners are invited. Tickets are £10 per person. Book with Percy Collino at preceding meetings or 'phone him on 0208 337 8143.

'HAWKER WEEKEND' AT TANGMERE

A celebration of Hawkers, inspired by the 70th anniversary of the Hurricane's first flight, is to be held at Tangmere Military Aviation Museum on Saturday 16th and Sunday 17th July. There will be special exhibits and prominent 'Hawker people' are to be invited, including Neville Duke on the Sunday. It is hoped to have some Hawker aircraft perform fly-pasts. Details will be available later (phone their PR man Ian Bell on 01243 775223).

HARRIER NEWS

BAE Systems 'Response' newspaper recently published news of interest to those who were associated with the Harrier. It is summarised here.

ZG501, the first of six Warton converted GRMk9 aircraft from the Harrier modification programme (HMP3) was returned to the RAF for evaluation, two months early, in November 2004. Subsequent conversions will be at RAF Cottesmore by a joint BAES-RAF team. The first GRMk7 to be upgraded to GRMk9 at RAF Cottesmore started its Joint Upgrade & Maintenance Programme (JUMP - I kid you not. Ed.) on 18 November.

The Company's initial GRMk9 capability release took place on 19 November. DACPA A (Design Authority Clearance for Production Aircraft, A) is the first of five software and hardware standards which will bring the RAF Harrier fleet to full GRMk9 specification. The 'Capability A' GRMk9 incorporates the following new features: a new main computer using open system technology and associated software to allow for new systems and smart weapon integration; a MIL STD 1760 data bus stores management system for smart weapons such as the Brimstone anti-tank rocket, and precision guided bombs; improved integration of current weapons such as Maverick; a new inertial navigation/global positioning system; a ground proximity warning system; upgraded displays; and a secure communications radio. Service Release is expected in April 2005. 'Capabilities' B - E will be incorporated over the next couple of years.

Meanwhile No.3 Squadron's uprated Pegasus Mk107 powered GRMk7A Harriers have been deployed to Afghanistan for nine months (from last October) under Wg Cdr Bruce Headley. The improved performance is expected to be a valuable asset in this demanding theatre of operations.

The total investment in the Harrier fleet update is to be £500 million.

USMC SUPPORT FOR STOVL

Dick Wise sent the following quotation from the Commandant of the USMC, General Hagee, speaking before the Senate Defense Appropriations Subcommittee in March last year on Marine Corps experience operating AV-8B Harriers in the Gulf.

"We had four of the five squadrons over there based on big decks. They were able to go ashore and land on improvised runways beside the road, rearm, refuel and generate a significant sortie rate. That's what STOVL brings - and that's old technology.

We were able to take those Harriers, push them out to support the 1st Marine Division. After they had dropped their ordnance they came back just directly behind the lines, set down on roads, improvised small landing areas, rearmed, refuelled, and were right back out providing close air support to those Marines on the front lines.

So when they ran out of (supplies) they were back to the carrier. They had all their maintenance. And the next day or night they were out providing that close air support. That's what the STOVL aircraft brings to the Marine Corps. And I absolutely believe that we need that capability as we look out into the future and the anti-access type of environment I think we're going to be faced with."

BAE SYSTEMS AIR BUSINESS

On 10 November 2004 Members were treated to an outstanding talk by Simon Howison. The extent of the content and the quality of delivery were both exceptionally good, the speaker's wit, humour and frankness ensuring that listeners were enthralled throughout.

Very well known to many Members, Simon joined BAe, from Smiths Industries, in 1984 as an electronics engineer. He remarked that the timing was auspicious as avionic systems was becoming a dominant factor in aircraft design, with the Harrier GRMk5 and the EGA Hawk getting under way. By 1992 he was Chief Engineer (Harrier), the first systems engineer to achieve CE status in BAe, an achievement reflecting the importance of the discipline. In 1995, somewhat surprisingly, he was moved to Warton as CE (Tornado) - "They must have been scraping the bottom of the barrel!" he remarked modestly. Next he was Director & Dean of Engineering of the BAe Virtual University, a valuable time bringing him into contact with all parts of the Company and the world of higher education. From here it was Engineering Director, Programmes leading to his current position as Engineering Director, Air Sector, Military, back at Farnborough.

It is not possible within the confines of the Newsletter to do justice to the scope of Simon's talk, so the reporting of some particularly interesting highlights must suffice. In 2004 BAES sales were £12.6 bn with £46 bn business for the next three years. There are 90,000 employees of which one quarter are in Engineering. Businesses include Air Systems (design and manufacture), Customer Solutions & Support (lifetime support),

International (Saudi), Naval (Astute submarine, Type 45 destroyer, New Carrier with Thales), Australia, Royal Ordnance, C4ISR (Command Control Communications & Computers), North America (equipment), Avionics (remnants of Marconi Edinburgh), Regional Aircraft (support BAe 146), International Partnerships (SAAB/Grippen, MBDA/Euro. missiles), and Alvis (army vehicles). In addition BAES holds 20% of Airbus.

The Chairman is Dick Olver, from the oil business, the Chief Executive is Mike Turner and there are three COOs - but no Corporate Engineering Director. This reflects the fact that there is little engineering synergy across the businesses. However, there is a quarterly Engineering Directors' Council calling together the various business streams.

The Air Sector consists of Air Systems (AS) and Military Air Solutions & Support (MASS). AS, the design and manufacturing arm, employs 10,000 people. Current projects include New Business (Future Offensive Air Systems/FOAS and Unmanned Air Vehicles/UAV), Hawk, Joint Strike Fighter/JSF, Typhoon and Nimrod. MASS covers Strike Aircraft (Tornado, Jaguar) and Joint Force (Harrier).

Typhoon is in full production and in service, the evaluation squadron being based at Warton ensuring rapid problem solving. The RAF is delighted with the aircraft which is exhibiting outstanding reliability. On the recent two aircraft deployment to Singapore, a potential customer, there were no serviceability problems...except for the tanker. With neither drawings nor mock-ups the CAD/CAM process delivers a phenomenal level of accuracy; there are no longer any fitters, just assemblers in Typhoon 'Legoland'. Continuing production for the partner governments and strong export prospects should pay our pensions, quipped Simon. A short video of Typhoon at at the Farnborough Air Show highlighted the type's outstanding initial climb performance and manoeuvrability available through its flight control system which gives the pilot 'carefree handling' - just pull hard back and the system keeps the aircraft within its limitations. Thus the pilot can concentrate on the mission without worrying about the flight envelope. At the Show other types tried to emulate the Typhoon's take-off and immediate loop but took longer and needed much more height.

On JSF, BAES has 200, mainly systems, engineers working jointly with Lockheed Martin at Fort Worth, and 400 in the UK designing the aft fuselage and empennage. Sales in the USA and UK are expected to be 2,500 with good export prospects. BAES is a 10% partner giving substantial manufacturing work. The peak production rate will be one aircraft per day!

The first Nimrod MRA4 has flown, and now that the contract has been renegotiated on a risk sharing basis good progress is being made. The aircraft is very attractive to operators because of its versatility. Besides its maritime reconnaissance role, MR, there is now an A for attack with bombs or missiles. The capacious fuselage also leaves lots of space for new equipments in future roles.

Hawk success continues, the South African aircraft being in manufacture, the 66 aircraft Indian order firm and a 44 aircraft order being negotiated with the RAF for their Advanced Jet Trainer version. Its new open architecture mission computer and modular avionics allows independent software and hardware updates thus avoiding obsolescence. The aerodynamics of the type are not being further developed as its performance and handling qualities are excellent and further improvement would not increase its sales prospects. Tailoring the systems to meet customer needs will, however, continue. The order book goes out to 2009 with more expected. The Hawk is the world's best trainer, only politics (don't like UK, or national programmes) push customers elsewhere.

Harrier, Tornado and Jaguar continue to provide valuable business through upgrades. Harrier's planned out-of-service date is 2015.

Sadly, there is no future aircraft in view beyond JSF because there is no requirement or funding. The challenge is to keep the industry alive until, inevitably, the requirement materialises. This may arise from Europe whose mainland industry is worse off than the UK's because they are not JSF partners.

During question time Simon answered many varied and searching questions. On engineering education he said that at present, although there were fewer engineering graduates each year, this was not yet the problem; the problem was that after availing themselves of BAES's valued graduate training programmes they moved on after a couple of years. The business was not able to live with this level of turnover because knowledge is in the people, not in a computer bank, and so was lost. He had observed that 'A' level standards were getting dumber and dumber, applicants to universities being less qualified each year.

Barry Pegram thanked the speaker on behalf of the audience for the excellent talk.

TEST PILOT TRAINING

On 13 October Air Vice Marshal Mike Adams, known well by many Members from the time he spent at Dunsfold as Harrier Operational Requirements Liaison Officer (ORLO), gave a talk on the work of the Empire Test Pilots School (ETPS). He graduated from ETPS No.22 Course in 1963, and was Commandant in 1976.

The ETPS was founded in 1943 at Boscombe Down, moved to Cranfield in 1945, to Farnborough in 1947 and back to Boscombe Down in 1967. Retaining its politically incorrect 'Empire' title, the School is still teaching pilots from all over the world to test all types of aircraft. It is one of the four major test pilot schools in

the West, the others being the USAF TPS at Edwards Air Force Base, the USN TPS at Patuxent River Naval Air Station and the French EPNER at Istres in the south of France.

Fixed wing courses have, of course, been taught from the start, with rotary wings added in 1963, flight test engineers courses in 1974 and specialised civil courses in 2000. Numerous short courses are also offered covering a Trials Officers course, Maintenance Flight Test, Introduction to Stability and Control (using the variable stability Hawk and Bassett) , Rotary Wing Systems, Atmospheric Effects, Principles of Testing GPS & INS, Human Factors, Stores Release, and Unmanned Air Vehicle (UAV) Testing.

Mike spoke in more detail about the one year fixed wing course whose primary purpose is to train test pilots for government clearance work but covers development, service release and operational test and evaluation. Candidates, who apply or volunteer, must generally have completed one or two front-line operational tours, have an 'above average' flying assessment, preferably be a qualified flying or weapons instructor, hold a relevant degree, have at least three years of productive service remaining, and be no more than 30 years old (36 for 'rotaries'). Students come from the RAF, the RN, the Army and from overseas including the 'old' Commonwealth and foreign countries. About 50% are from the UK, 50% from overseas. Students and tutors are exchanged with the USAF, USN and France.

The course takes a year and generally consists of classroom theory and ground school work in the morning with flying in the afternoon to check the morning's theory. The aircraft flown come from the resident fleet and flying hours on other types are bought-in. These include: Hunter, Jet Provost, Canberra, Jaguar, Tornado, BAC 111, Grippen, C-130J. C-17 and P-3 with F-16 radar. The syllabus covers cockpit assessment, stability and control, handling qualities (incl. formation flying, air-air refuelling, V/STOL in confined spaces at night), performance (incl. lift boundaries, thrust boundaries, take-off and landing in the dry/wet/cross wind/ day/night/obstacle clearance/engine failure, and range), systems assessment which now covers about a third of the syllabus (incl. EO, NVG, helmet mounted displays, GPS, FLIR, TCAS, FMS etc). A very important aspect is objective report writing with complete integrity.

The vote of thanks was given by John Farley, also an ETPS graduate from No.22 Course. John observed that Mike left the ETPS with the McKenna Trophy for the most outstanding student on the course, an achievement he had modestly failed to mention.

TREVOR (WIMPY) WADE REPORT

One of our Members has passed to your Editor a really historic report written by the Hawker Chief Test Pilot on a visit he made, in March 1951, to the USA and Canada to assess a number of jet fighter types. Sadly, 'Wimpy' was killed, when flying the P.1081, the following month on 3 April. His objective was to "gain experience which would be valuable in connection with the P.1067, but it was also considered desirable to take advantage of the opportunity to make a comparison between current American jet fighters and the Sea Hawk."

At the Grumman Aircraft Engineering Corporation the F9F-2 Panther was flown. The type first flew in November 1947 and some 500 had been produced at the time of the visit, with the improved F9F-5 about to replace it. It was, like the Sea Hawk, powered by the Nene, built under license by Pratt & Whitney as the J-42, but fitted with a Bendix fuel control system. The elevator was manually operated but the ailerons were power boosted. In summary 'Wimpy' wrote: "The Panther has now been in service with the USN for some two years and has proved itself to be reliable under operational conditions and has suffered no structural defects. Performance, overall manoeuvrability and general feel were considered to be inferior to the Sea Hawk. Against this, however, it will be appreciated that it has a higher rate of roll, longer range, superior engine handling characteristics and has been on production for two years." It is sobering to note that the Sea Hawk did not enter squadron service until March 1953, two years after this assessment.

At the Lockheed Aircraft Corporation 'Wimpy' flew the two-seat T-33A derivative of the F-80 Shooting Star fighter, and its all-weather fighter development, the F-94B. Both aircraft had manual elevators and boosted ailerons. "On the whole," 'Wimpy' summarised "a very favourable impression was formed of the T-33 as an operational jet trainer." The F-94B, like the T-33, was powered by the 4,600 lb static thrust Allison J-33 but was equipped with reheat which increased thrust to 6,000 lb. Of this engine 'Wimpy' wrote: "Under all conditions of flight engine control was first class there being neither a tendency to creep with altitude nor jet pipe temperature to exceed limits. The reheat was particularly satisfactory, four lights being made without any difficulty at take-off, 37,000 ft, 25,000 ft and 9,000 ft. In all cases a clean light was obtained in approximately 2 seconds accompanied by a very slight rise in jet pipe temperature which stabilised within 5 degrees of normal jpt obtained at 100% rpm." In summary he wrote: "The aircraft appeared to be an acceptable gun platform up to M= 0.8. The manoeuvrability characteristics were hardly superior to the Meteor at comparable maximum speeds. Reheat operation was very satisfactory at all times. Although the fuel consumption is almost prohibitive, it was considered that the F-94B would be of little operational value without thrust augmentation, the performance, and particularly the rate of climb, being below average using normal power."

The McDonnell Aircraft Corporation F2H-2 Banshee was next on the schedule. First flown in early 1947 and in service two years later, it was being built at a rate of 18 per month! It was powered by two Westinghouse J-34 engines, the ailerons were boosted and a yaw damper was fitted. 'Wimpy's' summary was that "The aircraft was considered an acceptable gun platform up to M= 0.8 to 0.81 and 500 knots IAS at low altitude, subject to the tendency to snake without "Damper Dan". Overall manoeuvrability was fair but the power boosted ailerons were disappointingly heavy at high speed. Range and climb seemed to be the best features."

The highlight of 'Wimpy's' tour must have been flying North American Aviation Inc's 35 degree swept wing F-86A and E Sabres. The 'A' was powered by a General Electric J-47 giving 5,000 lb static thrust. Fully automatic, full span leading edge slats (closed above M= 0.7 at high altitude) were fitted, ailerons were power boosted and the tailplane was electrically actuated. 'Wimpy' reported that "the high performance in level flight (over MNI= .9 at all heights), the high standard of overall manoeuvrability up to MNI= .92 and the ability to obtain Mach Nos close to unity with complete confidence, in an aircraft which has been in squadron service for over two years, is considered to be an outstanding achievement."

Apart from the control system, the F-86E was basically similar to the A. In order to provide a satisfactory level of lateral and longitudinal control above M= .92 North American had developed an irreversible power control system. Longitudinal control was by a "flying tail" in which the hydraulically actuated tailplane was pivoted about its trailing edge and the elevator was operated by a linkage to the tailplane. Lateral control was by fully powered ailerons. The result was that "Control at high M was quite outstanding" and "the rate of roll at high indicated speed was outstanding." "From the pilot's point of view, apart from a minor trim reversal at about MNI= .9, there was negligible trim change up to the maximum speed obtained of MNI= .995 (true M= 1.01)." 'Wimpy' observed that: "Achievement of MNI= .995 was accompanied by a previously not experienced change in the customary airflow noise. This took the form of a fairly sudden increase in noise level of a rather peculiar high frequency crackling, apparently centred behind the head as opposed to the more normal experience of being around the windscreen and front portion of the canopy." 'Wimpy' summarised as follows: "Bearing in mind the fundamentally high aerodynamic forces on the control surfaces at high subsonic speeds, the success of the system in solving the problem of control in the transonic region is unquestionable."

The report conclusions were that the Americans led in after-burning and power controls. "There can be little doubt that the American jet engine is inferior...in performance, but the pressing need of the aircraft manufacturers for more thrust, resulting from good aerodynamic design, has left no alternative but for accelerated progress in thrust augmentation development." "Up to the present the British designer has been largely successful in providing satisfactory control characteristics without resorting to power, whereas the American designer has...got beyond the stage of power boosting and gone to full power irreversible control systems. The virtual abandonment of power boosting arises from the fact that they have found it impracticable to provide sufficient power for control in the high subsonic region and beyond."

To put the F-86 into perspective, the P.1067 Hunter flew on July 20 1951 and entered service three years later. It had fully powered ailerons from the start but initially a boosted elevator and rather slow, electrically actuated tailplane trim. By the time it entered service the trim rate had been uprated and worked in conjunction with a fully powered elevator to create a type of "flying tail". Sadly, 'Wimpy' never got to compare it with the Sabre.

AN ADDENDUM TO 'PEGASUS: THE FIRST YEARS'.

Ralph Hooper has recorded the evolution of the propulsive nozzle design from 'bent pipe' with internal cascade to the, now familiar, exit vaned type.

In about November 1957 Frank Cross demanded to know what aerodynamic torque was to be expected on the nozzle drive system as he was in contact with Plesseys over possible air motor actuation.We had already made a stab at frictional torque and were ignoring the possible effect of exhaust flow swirl on the assumption that any such effect would be self cancelling, port and starboard. The problem was that the, then, 'bent pipe' nozzles undoubtedly projected into the forward flight air stream on deflection. We could have made a guesstimation but certainly could not wait for elaborate testing to provide guidance. In pondering this impasse I got to wondering how much the end of the (bent pipe) ducts could be cut back, and a few doodles later the idea of oblique nozzles with guide vanes, which also provided the final contraction in area, looked promising. We dubbed these 'nozzling guide vanes', although 'cascade vanes' or 'oblique nozzles' became more popular. These now scarcely projected beyond the airframe nozzle fairings, when deflected downwards, and we felt able to claim negligible aerodynamic torque. The first formal Hawker drawing is dated January 1958. All subsequent aerodynamic design of the nozzles was, of course, done at Bristol.

In response, Gordon Lewis recalled extensive interchange of ideas between Bristols and Hawkers followed by a comprehensive series of rig tests on the nozzles, the rear 'trouser piece' and the fan outlet system. The solution adopted for the nozzles had a slightly higher internal loss than the original cascade bend followed by

final contraction, but with less projection into the airstream, and this configuration most likely originated at Kingston.

HAWKERS IN THE '60S

Karl Smith spent just 2 1/2 years at Richmond Road but nevertheless has fond memories, as he recounts.

I joined Hawkers in April 1960 after some years spent at Handley Page, Cricklewood. I lived at Croydon and the main reason for wanting to leave HP was the stress and frustration of travel across London, twice daily. When I started as a teenager the journey was a bit of an adventure, buying a 1s/7d 'Workman's Return' to Victoria the night before, so that I didn't have to cross the railway twice, sneaking in through the coal yard and climbing onto the 'up' platform.

Later I had my first new motorcycle, but increasing congestion took its toll with the morning time increasing from 35 minutes to nearly an hour and the homeward journey taking even longer. Winter rain added to the discomfort because waterproof kit of that era simply wasn't; especially gloves. Cobbles, old tramlines and wet woodblock paving added adrenaline to the system - my average was one spill a fortnight. This all led me to build a car; a Rochdale special based on a Ford 5 cwt milk van. And that was what came to Kingston.

I had successfully applied for a job in the Installations Department and joined John Apted, under Dr Gabbay, on P.1127 cabin conditioning. John Davey was 'our man' in the Hangar and we worked increasingly together on the Cockpit Test Rig. Much of the time I found myself doing performance calculations in the morning and joining John in the afternoon for test runs. I can't think of a better way of working because one's work can be validated (or not) immediately. Being right gives one a hell of a lot of satisfaction and flawed assumptions are found quickly before they are used on other work. John and I started a sort of time trial to get a complete set of spot readings of pressure, temperature, cold air unit speed and anything else relevant as quickly as possible. I think we got the time down to 2 minutes for reading and writing down the instrument indications; quite unlike today's automated instrumentation.

Before the P.1127's first hovers I composed the pre-first-flight air conditioning installation Test Schedule. John Davey and I devised instrumentation points, wrote Test Procedures, got blanking plates made and worked out how to use shop air-line pressure and a ground air starter to pressurise all ducting. On the Great Day John Apted told me that he and I were wanted at Dunsfold for these tests. We set off on a Monday lunchtime in John's Hillman Husky, the only car I've ever known with four-point seat belts.

Work began later that afternoon but it was by no means completed when the day shift ended. We went off for a meal and returned with the night shift. And so the night dragged on, with frequent cups of tea and coffee to keep us going; but I must admit to snatching an hour or so flat out on a board on the hangar floor. We had breakfast in the canteen and resumed work with the day shift who commented "You're here early this morning!" That was a night to remember. In fact, John and I carried on until after Tuesday lunch when we were relieved by Stan Williams. Sadly neither John nor Stan are around to dispute my version of events, but this is as I remember it.

Ironically, when the time for the first hovers came around, all 105 lb of our system were removed to reduce weight. Maybe that wouldn't have been necessary if slim Hugh Merewether had been the pilot instead of the more substantial Bill Bedford! I count myself fortunate in being at Dunsfold when those early tethered hovers were made over the pit and I value those memories and the friendships made at the time.

BOSCOMBE - 1961

Ralph Hooper recalls a memorable visit to the Empire Test Pilots School (ETPS).

Mike Adams spoke of the ETPS during his recent address to our Association. He set me thinking of past visits to Boscombe Down, one of which resulted from Bill Bedford persuading me to give a talk to the 1961 ETPS course.

At Dunsfold, we were soon to do our first transitions with the P.1127 and I was to speak about our experiences and expectations. It was to be one of a series of half hour talks, by members of industry, to the students of the ETPS at the end of their course.How could I go wrong? I had a unique subject to introduce to a dedicated and intelligent audience in the presence also of the instructing staff and the Commanding Officer.

I was 'on' at 2.30 or 3.00 pm. We had been generously treated at lunch and it was a warm afternoon. About half way through my 'spiel ' I became aware of a sound that any speaker must dread - a snore. It was a relaxed snore; one could say a contented snore; the snore of someone who had enjoyed his lunch, was seated comfortably and was at peace with the world. And the snore persisted. I tried to ignore it; not easy. I dared not survey the teaching staff because, oh horror, suppose it was the C.O. himself. I managed covert glances in the general direction of the sound and at last, there the culprit was, chin on chest and flanked by two people who were trying even harder than me to pretend that they had noticed nothing amiss.

What was worse was that this was the man on whom I depended to lead the applause; or at the worst to be the applause. In fact, the man without whom I would not have been there at all. But, dear old Bill, he came to

as I finished and helped me out during the question and answer session and I don't think he was aware of his temporary audible absence!

AWB (along with another great Englishman, Winston Churchill) had the ability to cat-nap at any time of the day; in the theatre, between test flights and once, famously, in a taxi with a formidable female journalist to whom he had been asked to convey the Company line. I think I may have some idea of how she must have felt.

STARTING AT HAWKERS

As I, your Editor, keep asking Members to write about their memories of 'Hawkers', I thought I'd better set an example myself. So, we return to 1960...

As a final year aero. student at Northampton College London I was invited for an interview at Hawkers following the then usual company 'milk round' visits to universities. Paul Boon was with me at NCL and we went to Kingston together to be interviewed by the Chief Designer, Roy Chaplin. I remember he was very kind to us and took us round the factory and into Experimental. Here we saw the then very secret P.1127 under construction; VTOL, what a thrill. I was instantly sold on working for this Company and this project. As we left I was told that I would be hearing from Hawkers as to whether or not they would accept me as a graduate trainee for just one year ("Quite long enough" according to Chaplin) instead of the usual two.

Time passed and I received an offer from DeHavilland following an interview at Hatfield. They wanted me in their flight test instrumentation department, but I still preferred what I had seen at Kingston; so I wrote to the Personnel Department asking if they wanted me. I received a 'phone call telling me that of course they wanted me and that they thought they had told me!

So, I got the job offer and after satisfactory finals results, (a) got married and (b) reported to the Apprentice Training School at Richmond Road. Here I was given a form to fill in and amongst the questions was: "Which department to you think you would like to work in on completion of your course?" I looked at the list and unhesitatingly selected Flight Development. The first few weeks were to be spent in the Training School and after that I was to set off on a tour of the company, gaining experience in various departments selected by the School. I soon received my itinerary and scanning the list could not find my first choice, Flight Development! On pointing this out to the Apprentice Supervisor, I was told that the programme had been set up and it was too late to change...but they were sure that when I was in the Dunsfold shops I could have a word with Chief Flight Development Engineer, Fred Sutton, and fix something up.

That is what I did and Fred took me in for a couple of weeks with the agreement of the production Hangar foreman. I enjoyed my time in the department which then was very small (Fred, Ambrose Barber, Alan Gettings, Charlie Phillips and Brian Beaumont, who sadly died this January) and occupied the ground floor of the control tower together with the pilots, a nice, cosy arrangement. As I left Dunsfold I asked Fred if he would take me on at the end of my training period, and he agreed. Eventually I completed Personnel Department procedures and was instructed to report to Dunsfold Personnel on a particular Monday in June 1961. On arrival at the 'old parachute building' housing the office, a conversation roughly as follows took place. Me: "Good morning, I'm Chris Farara due to start work in Flight Development today." After a greeting from Personnel there was much opening of filing cabinet drawers and shuffling of papers. Pers: "Are you sure? We don't seem to have any record." Me: "Yes, it was all agreed with Mr Sutton and handled by your colleagues at Kingston." Pers: "Oh, they never tell us anything! Do you know where to go?" Me: "Yes." Pers. "Well, off you go then and we'll sort it out later." And that is just what happened. My first weekly £16 pay packet even arrived on time.

By that time Flight Development had moved into the Production Hangar in an office near the front at the west end, where Peter Wreford-Bush had joined as Fred's Deputy and Eric Ellis was working from his wheelchair. My happy career in Flight Development and at Kingston is another story but there is an amusing footnote.

Twenty five years later I received the traditional engraved Longines gold wristwatch, kindly arranged by Personnel. It was a lovely watch, but they still couldn't get it quite right - they spelt my name wrongly!

INFORMATION REQUEST

Giles Fendle is searching for information about his grandfather, William Charles Fendle who was born in 1903 and died circa 1970. He worked for Hawker Siddeley in Kingston and subsequently was a landlord of a public house. If anyone remembers William Fendle, knows what his job was or has any other information please contact Richard Cannon on 01932 786636 or e-mail richard@cannon.me.uk or giles.fendle@ntlworld.com.

NOT CRICKET

The editor of 'Flight International' has allowed us to reproduce the following report from the House of Lords which appeared in 'Flight' on 16th July, 1954. (Contributed by Ralph Hooper).

"Lord Hawke mentioned a recent visit to Dunsfold where he had experienced at first hand the noise effect of engine testing of Hunters. It seemed to him that the noise was most intense at a position which he could

best describe as being that of third man and long leg if the nose of the engine was facing the bowler. This analogy amused their Lordships vastly."

HAWKER ASSOCIATION MEMBERS - MARCH 2005

A: Mike Adams, Ken Alexander, Peter Alexander, John Allen, Terry Ansty, Alma Apted, Steve Apted, John Arthur, Alan Auld, Bryan Austin. **B:** Colin Balchin, Ambrose Barber, Ray Barber, Derek Barden, Peter Barker, Geoff Barratt, Graham Bass, Ken Batstone, Dennis Baxter, Colin Bedford, Anne Beer, Guy Black (A), Keith Bollands, Paul Boon, Cliff Bore, Steve Bott, Pat Bott, Bob Bounden, Alan Boyd, Roy Braybrook, Clive Brewer, Laurie Bridges, Ian Brine, Doug Britton, Peter Brown, Christopher Budgen, Roy Budgen, George Bunt, Reg Burrell**,** Robin Burton, Ron Bryan, .**C:** Bert Callan, Richard Cannon, Maurice Carlile, Chris Carter, Bob Catterson, Ken Causer, Jeremy Cawthorne, John Chacksfield, Colin Chandler, Jenny Chandler, Keith Chapman, Gerry Clapp, JF Clarke, John Cockerill, Bob Coles, Percy Collino, Brian Coombes, David Cooper, Paul Cope, Patricia Cosgrove, Ron Cosgrove, George Cotterell, Nick Cox, Eric Crabbe, Shirley Craig, John Crampton, Russ Culley, RG Curtis. **D:** Roger Dabbs, Clive Dalley, Andy Dalton, John Danse, Afandi Darlington, John Davie, Ken Davies, Philippa Davies, Trevor Davies, Diana Dean, Norman Deviell, Mike Dodd, Lambert Dopping-Heppenstal, Jack Dowson, Dick Duffell, Jean Duffell, Peter Drye, Neville Duke, Chris Dunhill, Mike Dyke. **E:** John Eacott, John Eckstein, Andy Edwards, Dave Edwards, Tony Elliott, Norman Evans, Roy Evans, Frank Ewen. **F:** Ian Falconer, Mike Fantham, Chris Farara, John Farley, John Farrow, Geoff Fieldus, Mike Finlay, Wilf Firth, Ann Fletcher, Richard Fletcher, Colin Flint, Dave Fowler, Mike Frain, Harry Fraser-Mitchell, Geoff French, Mike French, Heinz Frick. **G:** Roy Gaff, Mike Gane, John Gardner, Patricia Gardonio, Peter Gates, Sandie Gear, Mark Gerrard, Alan Gettings, Tony Gibbs, John Gilbert, Maurice Gilson, John Glasscock, Roy Goodheart, Eric Goose, John Gough, Andy Green, John Green, James Griffin, Barry Grimsey. **H:** Douglas Halloway, Clive Handy, Liz Hargreaves, Simon Hargreaves, Bryan Harman, Dawn Harris, Guy Harris, Thelma Harris, Brian Harvie, David Hastie, Eric Hayward, Bob Head, Sheila Hemsley, Ted Hemsley, Jock Heron (A), Tony Herring, Keith Hertzenberg, Frederick Hewitt, Merlin Hibbs, Richard Hickey, Peter Hickman, Reg Hippolite, Keith Hobbs, Chris Hodson, Gordon Hodson, Derek Holden, Doc Holliday, Ralph Hooper, Linda Hopkins, Paul Hopkins, Jean Hopper, Mike Hoskins, Dawn Howes, Terry Howes, Simon Howison, Gordon Hudson, Gavin Hukin. **I:** Pete I'Anson, John Ieronymides, Len Illston, Maive Impey, David Ince (A), Brian Indge. **J:** Keith Jackman, John Janes, Gordon Jefferson, David Jelley, John Johnson, Ian Jordan, Trevor Jordan, Robin Jowit, Alf Justin. **K:** Brian Kent, Dennis Ketcher, Bill King, Dave King, Martin King, Charles Kirk, Ralph Kuhn. **L:** Barry Laight, Mike Laker, Charles Lamb, Richard Lane, George Latham, Pam Lawrence, Valerie Lawrence, Andrew Lawson, Ron Leader, Geoff Lee, Mark Lewis, Vernon Lidstone, Andrew Lloyd, Gary Lockley, David Lockspeiser, Norman Long, Gordon Lorrimer, David Lovell. **M:** Albert Magee, Al Mahoon, Mick Mansell, John Marsh, Bill Marshall, Bob Martin, Dennis Mason, Brian Maton, Don McGovern, June McKeon, Ronald Mears, Mike Mendoza, Jim Middleton, Kit Milford, Jack Mills, Brian Monk, Pat Moon, Leslie Moore, Pauline Moore, Pat Moran, Nicholas Morland, Pete Munday, Carole Murphy, Gloria Murphy. **N:** Martin Nash, Anthea Newman. **O:** Roger O'Brien-Hill, John O'Sullivan, Robin Owen. **P:** Les Palmer, John I Parker, John L Parker, John Partridge, John Pearce, Barry Pegram, Martin Pennell, Bill Phillips, Ted Pincombe, Dick Poole, Don Pratt, Dave Priddy.**Q:** John Quinn. **R:** Clive Radley, Frank Rainsborough, Colin Raisey, Brian Ralton, Paul Rash**,** Diane Raymond, Vanessa Rayner, Douglas Reallf, David Rees, Peggy Remmington, Francis Rhodes, Geoff Richards, Bill Richardson, Chris Roberts, John Rodd, Eric Rubython, Malcolm Ruscoe-Pond, Peter Ryans. **S:** Helen Sadler, Roger Samways, Bernie Scott, Alex Seaman, Ray Searle, Arthur Sharpe, Peter Sibbald, Bill Sherwood, Jack Simmonds, Sadie Simmonds, Duncan Simpson, Derek Sims, Gerry Sims, Charles Smith, Don Smith, Harold Smith, John Smith, Karl Smith, Pete Smith, Selwyn Smith, Roy Sparrow, Peter Spragg, Cora Stanbury, Vivian Stanbury, June Stephens, John Strange, Carroll Stroud, Mike Stroud, Christine Strudwick, Tony Strudwick, Douglas Stubbs, Bill Swinchatt. **T:** Brian Taylor, David Taylor, Stuart Taylor, Brian Tei, Reginald Thompson, Geoff Tomlinson, Graham Tomlinson, **T**erence Tompkins, Rod Tribick, Ron Trowell, Frank Tuck, Bert Turner. **U:** John Underhill. **V:** Herbert Valk. **W:** Brian Walden, Terry Walker, David Ward, John Webb, Harry Webb, Patrick Webb, Graham Weller, Rob Welsh, AP West, Bryan West, Judith Westrop, Jenny Wheatley, Phil Wheatley, James While, Jan White, Mick White, Roy Whitehead, Annette Williams, Sally Williams, Colin Wilson, George Wilson, Paul Wilson, Dick Wise, Helen Woan, George Woods, Trevor Woods, Len Woodward, Alan Woolley.

We are sad to record the death of **Reg Chester.** Our sympathies go out to his relatives and friends. Members will also be sad to hear that **Charles Plantin** died in November at the age of 92.

DON'T FORGET OUR WEBSITE <www.hawkerassociation.org.uk> for up-to-date news. The Webmaster is Richard Cannon who would love to hear from you. Log-in and speak-up!