



Woking and District Aircrew Association www.aircrew.org.uk/woking **Newsletter**

14 August 2020

Editorial

Sadly we are unable to meet for lunch again this month because the venue is still unable to cater for groups like ours

The ups and downs of the virus lockdown look set to disrupt any plans we make for a while yet, so we are sticking with plan 1, Zoom meetings at 2pm on the 3rd Tuesday of each month, until the situation improves.

This issue concludes John Dixon's recollections of naval aviation from the end of the war up to the mid-1950s. From now on I will struggle to generate content unless more of you pitch in with some contributions. Zoom and newsletters are all we can manage until restrictions ease and meetings of we older folk become more practical. So please get out your old diaries, dig into your old logbooks, or find some other sources of inspiration and let me have something interesting for our members.

As webmaster for the main ACA web site, I am in mid-audit of remaining branches worldwide. Many of the ACA branches that became independent when the main ACA folded at the end of 2011 have faded away without trace and without letting me know to take them off the web contact list.

Responses from around the UK and the world all tell the same story. Either the branch has faded away or COVID restrictions have severely curtailed getting together. Nevertheless, the common message from surviving branches is that they seek to continue the fundamental ethos of the ACA: comradeship amongst members. Woking is not alone!

David Jackson, Editor

ACAW Zoom Meeting 1400 on 18th August

<https://us02web.zoom.us/j/83270821318?pwd=QVkyY251NWpDeDBJZ2lpaWNvMmtrdz09>

Meeting ID: 832 7082 1318 Passcode: 377945

Recent RAF News

RAF A400M Supports Border Force

On 10th August 2020, the Defence Secretary approved the use of a Royal Air Force A400M to support the Home Office and UK Border Force in their operations in the Channel by providing surveillance with a greater field of vision over a wider area.

The aircraft will feed surveillance and intelligence to facilitate the quicker interception of boats. The Border Force will then be able to take the action that best fits the situation, whilst complying with Maritime law.



Voyager in VIP Colours

Following refurbishment, one of the Voyager KC2 tanker aircraft based at RAF Brize Norton has been repainted in a colour scheme incorporating the Union Flag, prompting comment in some quarters that the flag was displayed upside-down- it wasn't. This design has been introduced because, in addition to its air-to-air refuelling duties, this aircraft will be used as a VVIP transport for members of the Royal Family and senior government ministers.



WOKING BRANCH NEWS

by Reg Sturt, PRO Autumn 1993

Our membership continues to rise and the walls of our meeting room at Fair Oaks Airport are beginning to bend outwards under the pressure at each monthly meeting. However, we are well looked after by Fair Oaks when, once again, they provided us with another evening of flying for the members and wives or sweethearts (or both), followed by a magnificent buffet, duly washed down from the well-stocked bar. Following a period of inclement weather, the clouds disappeared, the sun came out, and everyone had a thoroughly enjoyable evening. Well done, and many thanks, Fair Oaks.

Our guest speakers have been excellent, despite occasional problems with the TV and Video set- usually overcome by the 'technicians' amongst us (mostly hammer and chisel). With varied topics and displays they have been well received by the members and extremely appreciated.

Following the very successful evening of Nostalgic Aviation Films early in the year, we are again going ahead with another show in September at the Rhoda

McGaw Theatre in Woking. A wonderful programme is being prepared by the committee.



Les Saunders (Chairman) congratulating Ruby Noble on winning a prize at a recent function. I wonder if Alex Noble (Hon Sec) knows about this. (PS. I think Les wants some L plates.)

The branch has been very active socially, with visits to The Body Shop Factory at Littlehampton, Shepherd Neame Brewery and Lamberhurst Vinery, both in Kent, the Euro Tunnel Exhibition, followed by the afternoon visit to the Kent Battle of Britain Station at Hawkhinge. Here they have a magnificent display and museum, and well worth a visit when in the area.

Later this month (July) 25 members are visiting Odiham on the occasion of the 'Families Day', and in early October a visit to RAF Lyneham has been arranged, whilst in September a tour of the Mars Chocolate

Factory in Slough will be enjoyed by 20 members and wives.

During April, 10 enjoyed a visit to Coltishall, staying overnight they were made very very welcome and wonderfully entertained. It is hoped to make this an annual event. Meanwhile we are busy arranging next year's programme.

Flight Simulators and Computers

[David Jackson looks back on his experiences with flight simulators and early use of computers both in the RAF and when test flying in MOD(PE)].

When I did basic RAF flying training in the early 1960s, the only simulator available was the good old Link Trainer, in which we practised instrument procedures. It was a simple but effective part-task trainer with origins before WWII.



Link Trainer

Bzduk/Wikimedia Commons

My first experience with 'proper' flight simulators was on the Hunter course at RAF Chivenor. No visuals, but a comprehensive systems and instrument-flying device on which we completed 4 sorties before solo followed by regular refreshers on emergencies and procedures. Regular sim sorties continued during squadron Hunter flying thereafter.

My first encounter with a commercial visual system was during a manufacturer's visit as part of my ETPS course. BAe Warton had a fixed cockpit simulator with a very wide projected visual display which was OK for the pilot in the cockpit, but a powerful generator of nausea for those spectating from next to the cockpit - not helped by a late night on the town the previous day.

After ETPS I ended up at RAE Bedford doing aerodynamic research which, in addition to flying a number of different types for real, included simulator flying as a tool for development of CAA handling-quality specifications for large airliners being designed operate into short city-centre runways, which was seen as a possible line of development in the mid 1970s. The sim had a basic TV-based visual

system with pictures generated from a camera moving over a large model board. Quite effective, but bad for the nerves when a giant insect got in the way.



The Hunter simulator cockpit was just like the aircraft

Flying approaches in these big and slow airframes was very different from normal airliners - they were more like airships than airliners with an excess of inertia and limited control power. They felt very alien at first, but one quickly acclimatised to delayed and sluggish response to controls. But they were a not for the inexperienced as a rather overconfident university student with a PPL discovered when, after my demonstration approach, managed to roll inverted and crash almost as soon as he took control. These aircraft also relied on lift augmentation using engine exhaust, which made engine failures on approach rather exiting. I guess there were big sighs of relief all round when this line of development fizzled out.

Another task at Bedford was simulator development, in support of which a scientist and I visited a number of US simulator manufacturers and users in early 1975 to see what was on offer for computer-generated visual displays. Two stand out in my memory.

The first was at Boeing Seattle where they had a visual system on a B747 simulator with a very simple computer-generated monochrome graphical picture of straight lines with patches of solid colour to represent fields and a rectangular. Our interest was military applications, so as part of the evaluation I amused my Boeing co-pilot by doing high-angle bombing profiles. Good job it was a simulator - I suspect the wings would have come off a real 747 at the G levels needed to pull out!

The other was at Williams AFB near Phoenix, Arizona where the USAF was using a simulator for part of their students' basic flying training.

The Advanced Simulator for Undergraduate Pilot Training (ASUPT) had two T-37 side-by-side cockpits inside their own wrap-around domes with a matrix of hexagonal monochrome green displays showing a representation of the local flying area with a central instructor's console for air traffic, injecting emergencies, etc. It was very effective as a visual simulator and was used to flying formal training sorties both solo and with an instructor by students on the USAF basic flying training course.

It was my first encounter with the rigid boundaries then prevalent in USAF flying operations. I flew the sorties with a QFI in the right hand seat. I planned a free-form exploration of the capabilities of the visual system including low flying in the area of maximum ground detail around the airfield. He expected me to obey real-world airspace constraints and climb into the designated general handling area some distance from base. I eventually convinced him that the world wouldn't end if we followed my profile, but he wasn't at all happy as I flew attack profiles and generally flew very low to judge how well one could rely on visual cues with this monochrome display. Despite the lack of colour it was really quite easy to fly very low, but only in the small area of detailed ground features around the airfield. Computers in those days weren't capable of handling that much detail over a wide-enough area for mission training.

Over time ASUPT faded from the scene as it was found that transfer of training in procedures worked well, but shortage of actual air time meant that trainees didn't have sufficient experience of the sensations and stresses of real flying by the end of their course. It seems that this issue has been overcome in today's simulator-heavy training syllabus.

We concluded that computer-generated visuals had a while to go before they were ready to displace the then-current model boards with a moving TV camera.

Back at base, it was decided to upgrade the memory of the computer running our flight simulator software. A huge increase of 32 kilobytes of iron-core memory required a large cabinet in an air-conditioned, particle-filtered room and allowed a FORTRAN program of greater complexity to be developed. Nowadays I have 20,000 times that memory capacity on little SD card in my phone!

After my test-flying tour I was banished to MOD, where they had just introduced word processors for use by desk officers. But only to produce drafts, which then had to be taken as hard copy for final typing by the typing pool. Such was the power of the unions.

From MOD, after a flying refresher course, I returned to the staff at CFS, but soon afterwards I was grounded for 2 years by an injury, but remained in post without being allowed to fly. I could see that a new career might be required, so I bought a second-hand microcomputer (a Sharp MZ-80K), enrolled on an OU maths degree course, and started to learn computer programming, to which I'd been introduced in a simple way during my ETPS course.

My first big programming project was a basic radio-navigation simulator for the Jet Provost on which I had been instructing. No visuals, just a text readout of basic instruments in level flight with a facility to enter differing wind speeds to make the track-keeping task more realistic. It successfully exercised the techniques

required to navigate using Rebecca/Eureka (similar to VOR/DME) and I was able to get a wide range of staff instructors to try it out. As a result, to keep me out of mischief while grounded, I was tasked with writing a report on the possibilities for computer simulation in RAF flying training. My report explored both flying simulation and groundschool training aids, which I illustrated with a BBC micro program that simulated the Jet Provost hydraulic system with a graphical display of the system during operation of flaps and undercarriage. I ended with a vision of future possibilities.

I got little feedback after it went in except that my suggestion, right at the end, that replacing slot machines in the Officers' Mess bars with graphical games that exercised useful mental flying skills to gain rewards was greeted with derision. But I am sure that today's young computer gamers find that their computer and gaming skills are a great help when transitioning to today's complex military cockpits. Despite the apparent lack of interest, I like to think that I contributed in a small way to the initial processes that led to the array of sophisticated computer-based training aids in use today.

After CFS I was able to return to flying for the last time on a base where regular night flying was required. Once a month a clerk in flight planning took 2 days with tables from the Air Almanac to work out the daily times for twilight and night flying start/finish

so that flying supervisors could design their flying programmes for the month ahead. This seemed to me to be an ideal task to computerise, so I obtained a book on celestial mathematics (I was well into my OU maths degree course by then) and wrote a program to reproduce the output of the planning clerk at the press of a button. My monthly printouts were used by the station for the rest of my tour, but there was no interest by higher authority in making wider use and I took the program with me when I left because they didn't have a computer to run it on.

From there I migrated back to RAE at Farnborough, this time on a ground tour as an RAF advisor in areas of mission planning, advanced displays and simulators again. Computers were still relatively primitive by today's standards, but we did the groundwork that underpins today's advanced military cockpit displays.

Luckily, in the years that followed, luddite attitudes towards computers faded away and today's world of Computer Based Training (CBT) and wonderful computer-generated visuals emerged from the shadows.

Next time I plan to discuss flight simulator programs for home computers, the latest of which comes out this month with accurate world-wide visuals that are good enough to fly real VFR routes and even to show individual houses in 3-D. How times have changed!



from Intercom Autumn 2002

Heard On The R/T

Lufthansa inbound to Heathrow: pilot to co-pilot (forgetting the frequency was open) : "We used to come up the Thames and turn here for the docks."

Unknown voice on frequency: "ACHTUNG SPITFEUER!"

ROYAL NAVAL VOLUNTEER RESERVE

Remembered with Affection by Lieutenant (A) John Dickson RD RNVR

I suppose it was towards the end of 1955 that we learnt that we might soon be re-equipped with Gannets. It was rumoured that the decision had been quite controversial as many of our 'Salthorse' Lordships at the Admiralty expressed doubts that part-time aviators who became Naval officers only on alternate weekends and for a couple of weeks each summer were fit to be given charge of an aeroplane that cost as much as a World War II destroyer. £250,000 each was the going rate in those days, so we were told. What seems to have been overlooked is that most of us had lots of experience, having flown in all sorts of conditions during the war. In contrast, large numbers of the next generation of air crew who made up the regular squadrons were still on a learning curve, having been trained after the war. I had noticed from my log book that I had spent very nearly 1,000 hours just flying Fairey aircraft-Swordfish, Fulmars, Barracudas and all marks of Firefly-so I was looking forward eagerly to passing an important milestone!

The Channel Air Division was the southernmost of the five RNVR air divisions, four of which comprised two squadrons and the other, the Southern Air Division, three. We operated in the anti-submarine rôle, as did the Scottish and part of the Northern Air Divisions. Our Ford-based squadrons were the only ones to receive Gannets, the others having to make do with Fireflies and Avengers.



One of the Channel Air Division's Gannets on the taxiway at RNAS Ford.

The aircrew at Ford were in two squadrons, 1840 and 1842, and the idea was that each should operate on alternate weekends, although we joined each other for the two weeks' annual training or whenever there was a special exercise or other event requiring maximum effort. The aircraft, maintenance ratings and administrative and support staff were all 'pooled', and we were watched over by a regular staff officer and a senior Royal Navy pilot who acted as CFI. This was the general basis on which we worked, but it was a fairly loose arrangement and so, depending upon our civilian jobs, it was often possible to attend on weekdays and 'out of hours', when we could do some interesting and useful flying on various aircraft.

In January and early February 1956 three or four pilots at a time were entertained by the management and staff of the 'Rum Turn Tiddly' (i.e., Armstrong Siddeley) factory near Coventry. The groups went there in dribs and drabs, depending upon the requirements of civilian life. We were wined, dined and accommodated in a very smart hotel and spent three or four days in white coats on the factory floor and in lecture rooms discovering the workings of jet engines-new to most of us-and in particular the Double Mamba turboprop that powered the Gannet. Despite travelling in wet, snowy conditions (there were no motorways in those days of course), we all agreed that the few days away from our nine-to-five office routines made an interesting and refreshing change.

I was able to arrange my annual continuous training for the last two weeks in February, when I was delighted to find two Gannet T.2 trainers, in their bright metallic finish, and two AS.1s, in the grey and sea-green camouflage, towering above our Fireflies at the Squadron dispersal. Lieutenant Commander Tim Mahony RN was temporarily posted to us as instructor until such time as all the RNVR pilots had satisfactorily converted to the new aircraft. I do not recall that he had any problems with us!

After a couple of hours' instruction on the T.2, spread over three trips, Tim sent me off solo on the second day. I thoroughly enjoyed myself. By the end of the month I was happily flying the AS.1s and getting used to having two observers to care for. They coped well enough with their new back-seat 'gizmos' and were getting excellent results with the radar. Single-engine handling was a new challenge but not a difficult one, and we completed a programme of single-engine radar let-downs and GCAs among other exercises.

My first impressions of the Gannet were very favourable once I had got used to climbing aboard-access up the vertical starboard side was hardly less terrifying than climbing the north face of the Eiger, and I often wondered whether crampons and ice-pick should have been standard issue! The armchair-like seat was the most comfortable I had ever encountered, the view over the nose of the aircraft, which fell steeply away, was superb and the need to zig-zag while taxiing was now redundant. Ever since my Tiger Moth days I had been taught to keep the stick well back in order to keep the tail of the aircraft down whenever the engine was running on the ground. I could forget all that now that I had a tricycle undercarriage - again, a whole new experience.

Once airborne, the Gannet flew smoothly, with no vibrations even with both engines pushing out maximum revs. The large internal weapons bay, retractable deck hook and radar 'dustbin' were all novel features,

and the 'praying mantis'-like folding wing system was a huge delight. I was able to report to my dearly beloved that the Gannet was indeed a comfortable transport eminently suitable for the carriage of a married man no longer in the first flush of youth. She was quite inclined to believe me!

One Sunday morning during our familiarisation period, one of 1840's pilots was diligently practising shutting down one engine and feathering the prop when he happened to fly by the Royal Sovereign lightship. The vessel's skipper was well on the ball because, having spotted what he assumed to be an aircraft with a total engine failure, he pressed the alarm button and the entire air-sea rescue services of south-eastern England leapt into action. The lightship man must have been distinctly unpopular on a quiet Sunday as, open mouthed, he witnessed our Gannet serenely flying off into the distance!

Over the ensuing four months we received half a dozen more AS.1s, and a replacement for one of the T.2s arrived in October. We also took delivery of a couple of Firefly Mk.7s several weeks after we had become familiar with our Gannets. These three-seater Fireflies, too, had provision for two observers and were meant as 'interims', mainly for observer training, to bridge the gap between our two-seat Firefly AS.6s and the new Gannets. Never mind! We enjoyed playing with them, and often used them for ferrying 'odd bods' around the country.



Bearing in mind that after the end of February we reverted to routine by flying on alternate weekends, it seems remarkable that we were sufficiently worked-up to take part in several important events during the summer months. The Home Fleet was at sea for major exercises, and we were called upon to co-operate. On another occasion we flew down to Culdrose to operate over Devonport during their Navy Day celebrations. We regularly had a submarine pretending to be a 'hostile' sailing from Portland, to act as our target during our hunter-killer exercises. Using the mirror landing aid, we practised deck landings, and although we never took our Gannets to sea - there was never a deck available - we would, I feel sure, have coped well enough. Back in 1952 we had spent a fortnight on board HMS Triumph with our Fireflies and had clocked up over 150 deck landings between us, all without incident. I am sure the Gannets would have proved straightforward as they

were so steady and stable during the approach: there was no need continually to trim and re-trim, and with such an excellent view forward it should have been the proverbial piece of cake. Night-flying presented no difficulties either, and we practised such exercises on a couple of weekends. Most of us had experienced flying over blacked-out Britain during the war years, and so the well-lit towns and seaside resorts made it all seem like child's play.

The RNVR sailors were playing with their minesweepers one weekend, and on the Saturday afternoon I led a flight of four Gannets out over the Thames estuary with the idea of 'attacking' them. The weather was highly marginal, but we managed to stick together while the observers tried to make sense of their new radar displays. After more than half an hour with no joy, I aborted the exercise and returned to base. We needed GCA to get back in, but as we had all renewed our Green instrument ratings I envisaged no problems - and there were none. The observers were full of excuses and assumed that wooden-hulled minesweepers would have given poor radar returns. On checking with Harwich, it transpired that the 'sweepers, not liking the look of the weather, had stayed in harbour! The next day we tried again in no better weather, but this time the sailors were stung into action and must have been really impressed when four Gannets appeared out of the gloom and swept over their mastheads. Our back-seat boys decided that maybe their radar sets were not so bad after all!

At the end of June our base at Ford was open to the public at what was called a 'garden party'. During the air display we demonstrated deck-landing techniques using the mirror landing aid, but our 'party piece' involved a flight of four Gannets lined up like guardsmen, with wings folded, facing the crowds. On the leader's signal four Double Mambas sprang into life amidst puffs of blue smoke. Having settled down with the other engines turning and burning, we executed a smart turn to port and taxied out at close intervals. At a given point just short of the threshold, we spread our wings and took off in succession. When the four aircraft had split up, the leader flashed past the crowd going downwind and downhill with both engines at maximum revs. Meanwhile Number Two staggered back into wind in deck-landing mode with wheels, flaps and hook extended. Number Three (me) banked in front of the upturned faces with the capacious weapons bay open and displaying racks of dummy ordnance and with the radome extended. Number Four's task was to shut down one engine and hope that the prop windmilled to a stop in front of the spectators. At the close of the display, having reformed and carried out a stream landing, we taxied back and parked wing tip to wing tip with military precision. On the leader's signal the wings were folded and the engines shut down in unison.

Duty weekends seldom passed without interest, and my log book records Army co-operation exercises, shipping reconnaissance in the Channel, overland and sea navigation exercises, sonobuoy-laying and mutual

instrument flying in the T.2s and in the pair of Sea Balliol T.21s that we also had on station. On Sunday 16 December 1956, after a two-hour anti-submarine patrol exercise in Gannet AS.1 WN463 (coded '857'/'FD'), I taxied in and helped my two observers out of the back seats with all their paraphernalia. It transpired that this was my last flight in a Royal Navy aeroplane. During the Christmas leave period we received a 'Don't call us-we'll call you' signal from Their Lordships advising us that the RNVR squadrons were being disbanded and that there would be no more flying.



My crew on that last trip were Maurice Humphreys, who had been my regular observer for the past five years, and Denis Rice, whom I had first met at the end of the war when he had joined our ship in Sydney. Both recalled that our last flight together had been problem-free and that the landing had been especially smooth!

We returned to Ford on a couple of occasions, once to hand in all our flying gear and again for a farewell parade attended by Admiral Commanding Reserves. It would be an understatement to say that our hearts were not in it: all our aeroplanes had been redistributed or safely tucked away.

On 10 March 1957 the eleven RNVR air squadrons and twenty-one Royal Auxiliary Air Force squadrons were officially disbanded, and, at the stroke of a pen, more than 500 highly experienced aircrew and a greater number of support personnel were made redundant. However, I doubt whether we would have continued flying Gannets in the anti-submarine role for much longer than we did. To protect convoys, a good-sized flight deck would have needed to be part of the fleet, and, as we now know, the days of the RN's conventional carriers were numbered. I doubt whether many of us would have relished being retrained as helicopter pilots, even if the opportunity had been offered.

Today, as an old man, I look with affection at the Gannets on display in the museums at Duxford and Yeovilton - although my first thoughts are, 'How on earth did I ever manage to climb aboard?' and 'What would it have been like on a wind and rain-swept flight deck?'

[This is the final part of John Dixon's memoirs, which he left with me to publish when an opportunity arose. COVID provided that opening, but unless someone comes forward with some more stories, the next newsletter is going to be very short! Ed]



from Intercom Autumn 2002