



**ROYAL  
AERONAUTICAL  
SOCIETY**  
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## **Chasing Bears in the Phantom**

Captain Nick Anderson

Virgin Atlantic and ex-RAF fighter pilot

Our speaker introduced himself as a contributor to podcasts, and there was a strong link between that and his delivery - the content navigated a course that was at an easy pace and packed with information. It danced through with nuances and humour, and carried his audience through his flying career, highlighting his period flying the McDonnell-Douglas F-4K Phantom in the RAF. This was sandwiched between a prologue of his early flying experiences, and a concluding overview of his later flying career.

He outlined that getting into an aviation career was a prolonged process. Desperate to fly he looked into civil aviation training as a time when opportunities for ab-initio trainees were too few to accommodate him, but at the age of 19½ he succeeded in being recruited by the RAF. He was able to take aircrew training and he talked through his training years, that included flying Jet Provost T3, and later T5, at Linton-on-Ouse and led up to his acceptance for further training.



*An RAF Jet Provost similar to the type on which the speaker trained*

It was the Cold War era, and he used statistics of aircrew fatalities – a situation he could reflect on in even during his training when he represented the Service at a colleague's funeral. In that period it was still commonplace for military flying to be regarded as necessarily dangerous. For 1976 he reported on 43 aircraft and 27 personnel being lost on duty and in training. A tale of this period referred to a flight of 8 Hawker Hunters caught out by low visibility conditions that outpaced forecasts as easterly winds slipped over East Anglia faster than had been expected. All 8 of the aircraft were diverted to RAF Marham, a more inland station, but gradually that

was also becoming a victim of low visibility and cloud-base conditions. The station's GCA radar team were able to coax two aircraft to a safe arrival, but this left six aircraft that were low on fuel thwarted by the weather and unable to complete successful approaches. All were doomed to crash within distances between 1-3 miles from the Norfolk village of Swaffham, and one of those added another fatality to statistics.

The most significant aspect of post-WW2 relationships was the development of nuclear weapons, and the USSR was the most significant threat to, then, Western Europe. The speaker had reason to introduce its most powerful asset, the 50 Megaton Tsar Bomba (just called H-bomb in the press). It was dropped and detonated on 30 October, 1961 on Novaya Zemlya (you can see the crater on Google Earth 73° 48' 26" N, 54° 58' 54" E). This terrifying weapon – its technology already central to western nation activities – had to be delivered by air, and the Tupolev Tu-95 (NATO codename 'Bear') was the carrier of choice. Any incursion that Soviet reconnaissance made into European airspace was unwelcome, and was intercepted and shadowed: meanwhile any equivalent incursion into Soviet airspace was not. This was all background to our speaker until he had finalised his RAF pilot training,



*A poor picture - but rare - this shows a Tsar Bomba being released by a Tupolev Tu-95. Almost certainly this shows a weapon replica used for a separation trial prior to the test in 1961.*

In 1976, his first stage, initial, training completed successfully, the speaker was posted to RAF Valley where he undertook advanced jet training, largely using the diminutive Folland Gnat. This was the period in which he had been citing the attrition rates that crew faced, but it has been considerably better since then. When he qualified, in 1978, and was

allocated to a fast-jet Squadron, No 43 (the Flying Cock's), one of two Squadrons - the other was No 111 (Treble-One) – based at Leuchars, adjacent to St. Andrew's in Scotland, he got access to aircraft that were far more reliable than the earlier jet fighters types.



*RAF No 43 Squadron McDonnell Phantom F4K – refuelling probe extended*

No.43 Squadron had McDonnell Douglas F-4K (FG.1) Phantoms: originally Royal Navy aircraft. The UK aircraft was a considerable re-design of the original US F-4, the most notable change being the installation of Rolls Royce Spey 203 engines. This turbo-fan engine replaced the pure-jet General Electric J79 engines in the original aircraft: the change delivered more thrust at sea level, but less at altitude, that reduced climb rate and maximum ceiling and level speed. The up side was that the engine was more fuel efficient. He recollected his joy of just setting eyes on such a sturdy and distinctively shaped 20-tonne monster. It was the machine that was going to carry him into the Cold War.

The equipment in the F-4 was far superior to anything available in other RAF combat aircraft. The Doppler-radar could interpret returning signals and cancel the display of ground returns, and in so doing would reveal moving targets below them: but not without some limitations that the craftier crews being attacked on exercises could partially outflank. Navigation systems were of a generation that outpaced anything in other existing aircraft types, but not without limitations – especially on the ex-navy aircraft, as they did not have as reliable a navigation as was desirable. However, when airborne, they would receive, on request, datum fixes from the air-refuelling tankers: these were usually VC-10s but could be Victors or Vulcans, as they had superior navigation systems.

The F-4K had a 20mm cannon that was housed in a pack on the centreline pylon., and external load could be a combination of 8 (typically four each AIM9 Sidewinder and AIM7 Sparrow air-to-air missiles) plus two underwing fuel tanks. With air-to-air refuelling support a crew's endurance was entirely limited by the scant provision of sanitary support. The presenter recalled a 6hr50min sortie on one occasion.

Two aircraft were kept on alert at all times. If they were scrambled two more aircraft would be prepared for service ... and so on, if it was a busy day. The majority of their work was to intercept and escort Soviet reconnaissance operations conducted by the Tupolev Tu-95. The Soviet aircraft were specifically equipped to gather electronic intelligence and usually loitered over the seas around the UK, European and Scandinavian coastlines at high altitude - around 30,000ft. Not to intercept the intruders would have been a senseless action, as these were identical to the aircraft that would be carrying ordnance that could range from clusters of small bombs to a nuclear weapon: and most of these could have been free-fall or self-propelled.

The fighters at Leuchars were the most essential components of the nation's shield throughout the Cold War. It was a task the crews made into something more than just a clinical reminder to the Soviet crews they so often intercepted. Each side took photographs of each other's aircraft, seeking evidence of new sensors and gathering intelligence of their use of the electromagnetic spectrum. In the tail of the 'Bear' was a blister window on either side, and the speaker spoke of how they would manoeuvre the Phantom as they saw the Soviet crew observer struggle to get a long-lens camera



*A typical example of the close photographs (this of a Tu-95 tail section), taken by intercepting RAF crews.*

aligned (in a very tight space) with their aircraft, and as he settled, they would slip down, slide underneath the aircraft's tail, then rise into view through the blister on the other side: and do it again ... until the fun ran out! UK crew navigators would also take photographs, equivalently gathering data on equipment, and used Nikon cameras: but why, the speaker noted, did they not shoot with a Canon?

He had a wonderful tale with a photo that showed a Tu-95 with three US Marine Corp and Navy F-4 Phantoms in

echelon formation. It was taken by the speaker from his RAF F-4, and he commented about the delight of the American crews, who rarely got the chance to see any Soviet aircraft at close quarters. They started to ask for copies of the picture to be sent 'home. and were soon passing personal data such as names and addresses: all of this was when they were directly alongside the most capable Soviet listening station they were ever likely to see!

After his tour at Leuchars, Nick returned to RAF Valley, as an instructor, and was later posted to fly with the Royal Australian Air Force (RAAF) where he climbed into the next generation US fighter type: the McDonnell Douglas F-18 Hornet. He quoted stunning manoeuvrability figures, long range (but still not really long enough for the vast country) and an ergonomically-designed cockpit that



*An RAAF McDonnell Douglas F-18 Hornet.*

had three multi-function electronic displays, head-up display and relatively carefree handling qualities.

As the time came to end life as a military pilot he joined Virgin Atlantic, and has flown long-range services with the company for over two decades. He voiced great compliments to the Airbus

A340-600, on which he now flies as a Captain: and admitted that his remaining flying days are numbered: he will retire after 25 years with the airline.



*Virgin Atlantic Airbus A340-600.*

This was a lecture that stretched across a man's life-time as a pilot, and it dwelt most of all on the period when he had the most interesting, occasionally most funny, and also the most serious job of all. He faced a multitude of questions and had clearly opened so many facets of interest that we could be sure the vast majority of the 140 or so attendees were well satisfied with such an informative and enjoyable presentation.

*Lecture notes by Mike Hirst*