

## The Story of Dunsfold :-

Dunsfold Aerodrome was built in 1942 by the Royal Canadian Engineers, assisted by the Canadian Forestry Corps, the Royal Canadian Army Services and the Royal Canadian Ordnance Core. If it had not been for their efforts, the story of Dunsfold, Surrey's most secret airfield, would never have emerged out of the beautiful rural setting.

Dunsfold Aerodrome was home to one of the most unusual, innovative and uniquely British jet fighters ever designed. Located midway between Guildford and Horsham, Dunsfold was the only airfield in England to carry a foreign title, 'RCAF (Royal Canadian Air Force) Dunsfold.

Land clearing started in May 1942 and by using American loaned machinery, ahead of schedule, the Canadians completed the three runways in 15th of August 1942 - Dunsfold was constructed in just nine months. It was an historic moment when the first visiting aircraft a de-Havilland Tiger Moth (BB728) on communication duties, landed on a newly completed section of the perimeter track on twenty 20th of June 1942.

The runway layout was built in the classic Air Ministry triangular style. The main runway was 6000 feet long, the other two 4000 feet long, and all were 150 feet wide, making them suitable for any type of aircraft flying at the time. During construction the Guildford to Horsham Road was re-routed since it lay directly across the proposed main runway. Many houses were demolished and one, Rose Cottage, named in recognition of the blooms covering the external walls, physically moved to the South side of the airfield. It stands there today and is now known as Canada House.

On the 17th of August 1942, a further indication of the planned usage for Dunsfold came when a P51 Mustang from No. 400 Squadron RCAF landed. A keen pilot, Lieutenant Paul Bissky had dropped in to see how the new base was shaping up. Another unexpected visitor, on a transit flight from the United States was a Boeing B17 Flying Fortress heavy bomber.



Just 20 weeks after the official start of work and with the unveiling of a commemorative stone, General McNaughton of the First Canadian Army formally handed over the aerodrome to Air Marshall H Edwards, RCAF Overseas on the 16th of October 1942.

Despite the official opening of the aerodrome, Dunsfold was far from ready and the only aircraft on site were plywood dummies. It was not until December 1942 that it became operational and the station appointed its first Wing Commander R.F. Begg and Mustangs from 400 and 414 Squadron arrived.

The following poem was written by Pilot Officer JG McGee of the Royal Canadian Air Force shortly before his death.

#### AN AIRMAN'S ECSTASY

Oh, I have slipped the surly bonds of earth  
And danced the skies on laughter silvered Wings.  
Sunward I've climbed and joined the tumbling mirth.  
Of sun split clouds and done a hundred things  
You have not dreamed of: wheeled and soared and swung  
High in the sunlit silence. Hovering there  
I've chased her shouting wind along and flung  
My eagle craft through footless halls of air;  
Up, up the long delirious burning blue  
I've topped the wind-swept heights with easy grace,  
Where never Lark nor even eagle flew:  
And while, with silent lifting mind I've trod  
The high, untrespassed sanctity of space,  
Put out my hand and touched the face of  
God.

During the war, the airfield became a hive of activity with B-25 Mitchell bombers, Typhoon, Spitfire, Tomahawks and Ansons all flying into action.



The silent memories of those men who built the Dunsfold Aerodrome and the squadrons that flew from it are encapsulated in the immortal words inscribed on the concrete plinth outside the old control tower. "This aerodrome was built by the Royal Canadian Engineers, assisted by the Canadian Forestry Corps, Royal Canadian Army Services and Royal Canadian Ordnance Core 1942".

At the end of the war between April and June 1945, done so was designated an air arrival centre and was used as a recreation centre with some 47,000 returning prisoners of war. Converted Lancaster, Stirling and Halifax bombers were used in the exercise known as operation exodus. The last unit left unsold in February 1946 and the base was declared inactive by August that same year.

The period after the war was one of great difficulty for the British aviation industry and for a time the airfield at Dunsfold languished occupied only by squatters. However, during this, the ministry granted Skyways Limited a lease of the airfield. Skyways an airfreight and charter airline with an expanding fleet of York, Lancastrian, Dakota, Dove and Rapide aircraft used Dunsfold as its headquarters and maintenance base. A total of 1300 Company staff and in addition some 350 air crew were based there. They recall a good team spirit and almost everyone could quote the company's unofficial motto "there's a right way or wrong way and a Skyways".

Skyways big break for success came with the escalation of the Cold War in Europe and the resultant Berlin airlift. On the 4<sup>th</sup> of August 1948, the civil aircraft effort required to jump the Soviet blockade intensified and Skyways was in from the start. Between June 1948 - August 1949 Skyways Avro Yorks with their nine tonne capacity flew supplies into Berlin. Sadly, Skyways moment of glory was short lived. With the Berlin airlift over and the air-charter industry unable to maintain profits the company made widespread redundancies. The company went into voluntary liquidation in 1950 and re-established its base in a more modest form at Stansted Airport in Essex.

Hawker Aircraft acquired the lease of the airfield in 1950 and moved staff from their Langley plant, which was too close to London's airport's growing commercial air traffic. Dunsfold aerodrome provided final assembly and flight test facilities for the aircraft delivered from its parent factory in Kingston upon Thames, and was to become one of UK's premier flight test centres.

A large bay production Hanger was constructed in the winter of 1952 to accommodate production of Hawker's new design the P1067 Hunter jet fighter.

Development and test flying of Hawker's first jet fighter, the Seahawk, was also transferred to Dunsfold and on the 14<sup>th</sup> of November 1951, Neville Duke flew the first production Seahawk. The final assembly of the first batch of 35 Seahawks were all completed at Dunsfold but in 1953, it became clear that with an ever-increasing order book, Sea hawk production would need to transfer to Armstrong Whitworth plant in Coventry.

This enabled Dunsfold to concentrate all its efforts on production of the P 1067 Hunter jet fighter. Although the first flight of the Hunter took place at RAF Boscombe Down in June 1952 test pilot Neville Duke flew the second aircraft from Dunsfold.



The first production batch of 113 Hunters commenced at Kingston with the first flying from Dunsfold in May 1953. In September 1953 the first Hunter prototype WB188 modified to F3 standard, was flown from Dunsfold to Ford Aerodrome in Sussex for an attempt on the world airspeed record. On the 7<sup>th</sup> of September, Neville Duke set the new record of 727.6 mph.

Hunter production continued through the 50s and the 60s with almost 1000 Hunters flying from Dunsfold. The Hunter was also built in Blackpool and Coventry, which produced some 600 between them and a further 220 in Holland and 240 in Belgium. These totals included the two seater Hunter that flew in July 1955 for the first time.

**For some time seven aircraft a week were coming off the Dunsfold production line.**

Throughout the 1960s and 70s close to 500 Hunter aircraft came back to Dunsfold to be refurbished and upgraded to Mark 6s. Some of these returned to the RAF and the Royal Navy but most were exported to new customers throughout the world. The last delivery was made in 1976.

While the Hunter production was in full swing and because of a considerable overseas interest in piston engine aircraft, Hawker purchased a number of surplus Royal Navy Sea Furies. These Sea Furies arrived at Dunsfold in 57/58 but it transpires that there had been an element of optimism on the part of the sales team. The Sea furies remained unsold and languished in the northeast corner of the aerodrome. At the end of the 60s, these aircraft together with some Hunters also held in store were cut up for scrap.

Rumours were circulating about a revolutionary new concept being developed at Kingston and Dunsfold - was the production of a jet aircraft with vertical/short take-off and landing (VSTO/L) capability really possible?

Work on the construction of a gridded pit, intact to this day, began in the spring of 1960. This pit close to the western end of the main runway was in preparation for the eagerly awaited arrival of the new VVSTO/L aircraft the Hawker P1127. The pit was designed to enable gas dispersal during hover trials. The P1127, powered by an 11,000-pound thrust engine, the Bristol Pegasus, made its maiden flight with

a tethered hover on the 21<sup>st</sup> of October 1960. The chief test pilot, Bill Bedford, had to limp towards the aircraft with his foot in a plaster cast the result of a car accident in Germany.

By 1964, an initial batch of six P1127 development aircraft was completed. Aircraft of this batch XP984 eventually became the Dunsfold Gate Guardian in the late 1990s. The aircraft was further developed to become the P1127 Kestrel. There followed the formation of a Tripartite squadron made up of British, German and American pilots operating the Kestrel FGA one. It was the British who were first persuaded of the merits of the P1127, or Harrier as it was to become known. In 1967, an order for 60 GR.Mk1 aircraft was placed by the ministry, with the first production aircraft flown by Duncan Simpson on the 28<sup>th</sup> of December of that year. Trials continued, leading to the first Harrier being delivered to the RAF on the 18<sup>th</sup> of April 1969. Four days later the first two seat Harrier trainer aircraft, the T. MK2 had its maiden flight. Although this aircraft crashed on a test flight in June of 1969, a second T.Mk2 was already at Dunsfold and this enabled the flight test programme to continue that July.

1970 saw the emergence of yet another variant of the Harrier dynasty when the first Harrier AV8A (Harrier Mark 50) arrived from the Kingston factory and was flown in November of that year by the company Test Pilot John Farley. This was the first of 140 AV8As produced for the US Marine Corps.

After each AV8A had completed its flight test programme the wing was removed in preparation for the aircraft to be delivered to America on board a USAF Lockheed C133 cargo master. This transporter aircraft was one of the largest to regularly operate from Dunsfold - but because of the Aerodrome restrictions, later AV8As were delivered by road to RAF Mildenhall in Suffolk prior to dispatch to America.

A unique collection of historic aircraft, comprising Signet, Tomtit, Hart and Hurricane owned by Hawker Siddeley were based at Dunsfold.



Due to a combination of limited resource and restricted hangar space in 1971 the company regretfully made the decision that they could no longer maintain these aircraft consequently the Hurricane went to the RAF Battle of Britain Memorial flight and the Tomtit, which still flies today, went to the Shuttleworth collection. The Hart and Signet both went to the RAF Museum in Hendon.

Early in 1972 indications of a secure future for Dunsfold came when a wooden cockpit mock up for the latest Hawker design the Hawker Siddeley HS.1182 aircraft was noted at the Kingston plant. The design had first appeared on a drawing board in the late 60s planned as a replacement for the RAFs ageing Gnat, Jet provost and Hunter training aircraft. In March 1972, the RAF confirmed an order for 176 HS.1182s to be assembled at and test flown at Dunsfold. Christened Hawk, roll out of the aircraft took place on the 12<sup>th</sup> of August 1974



followed by the flight test on the 21<sup>st</sup> of August, in the capable hands of cheese test pilot Duncan Simpson. The flight was a great success but the aircraft had to be towed off the runway at the end of the flight due to early teething problems with the nose-Wheel steer.

In 1973 Dunsfold began to receive all RAF Harrier GR.Mk. 1s the conversion to GR.Mk. 3 standard, which added an extended nose to house the Ferranti Laser Range finder. Twelve new single seat and four two-seat aircraft were ordered, in addition to the conversion programme.

Thanks to the long runway in close proximity to Gatwick Airport, Dunsfold was classified as an Emergency Reserve Airfield and was the venue for disaster exercises like Operation Anvil, which simulated the crash landing procedure of a British Airways Tri Star crippled by engine problems. Unfortunately, the real life incident of John Cunningham's HS 125 bird strike crash in which the aircraft overshot the runway and careered across the A281 Horsham to Guildford Road in November 1975, served to emphasised the importance of such emergency exercises.

Not all of Dunsfold's dramas have involved aircraft. The body of a water board official, shot to death, was found close to the aerodrome in April 1979. A huge manhunt throughout the south east of England and across the Channel Islands was conducted, followed by the arrest of 2 brothers and their returned to Dunsfold aboard a Cessna 404. On a lighter note an escaped circus bear, seen heading across the runway, was the cause of another, more minor, incident!

During 1975 and 1976 the initial batch of six Spanish Harrier Matador AV8S's and two T. Mk.8S two seat aircraft were delivered. Due to political sensitivity over armament sales to President Franco's Spain delivery took place via the USA to the Spanish aircraft carrier de 'Dedalo' without the aircraft displaying any Spanish navy markings. More work was secured for Dan sold in 1978 when the RAF ordered a further 24GR3 and 4T Mark four aircraft to be delivered between 1980 and 1983.

During the seventies the aerodrome was awash with Hawker aircraft as Hawk, Harrier and returned to work Hunters all jostled for space in the crowded hangers. Many overseas Air Force pilots continued to visit Dunsfold, keen to see at first hand, not only the Harrier, but also the New Hawk trainer. The Hawk, with its much simpler design, held greater interest for the world's smaller budget conscious airforces. The seventh production Hawk was designated Mk.50 and as a private venture aircraft, it received the dual identity of military serial number ZA101 and the civil registration G-HAWK. It took to the air on the 17<sup>th</sup> of May 1976 and joined the Harrier two seat demonstrator, G-VTOL, on vigorous trials, in demonstrations and marketing campaigns. G-VTOL is now on permanent display at the Brooklands Museum Weybridge.

While initial attempts to secure sales were disappointing in early 1975 the Argentinian Navy expressed an interest in the Hawk as an A4 Skyhawk replacement. Because of the extensive modifications required to enable carrier operations, the company would not commit themselves to a potential small batch order. This was particularly ironic in view of the later events during the 1982 Falklands campaign. It is interesting to consider how such unsold built aircraft would have fared in combat against the royal Air Naval Dunsfold Built Sea Harriers!

The first Sea Harrier FRS Mk.1, XZ450, took to the air on the 20<sup>th</sup> of August 1978 with Chief Test Pilot John Farley at the controls. The Sea Harrier stemmed from a 1971 requirement for a fleet defence fighter for the Royal Navy. This resulted in an initial order for thirty-four aircraft in 1975. Deliveries commenced in 1979 with Sea Harrier XZ451.



The turn of the decades saw Dunsfold still buzzing with activity even to the extent that a two seat Hunter T.Mk.8M was once again seen gracing Dunsfold's skies. In addition to Royal Air Force Harrier and Royal Navy Sea Harrier production the Spanish Government had ordered a second batch of Matadors (AV8S) and, free from the political sensitivity of the first order, Spanish pilots could now ferry the aircraft directly to Spain from Dunsfold.

Between 1974 and 1989, three-hundred Hawk aircraft were delivered, with 88 RAF aircraft returning to Dunsfold during this time for update to T Mk. 1A standard.

The first flight of the single-seat Hawk (ZG200) took place on the 19<sup>th</sup> of May 1986. Sadly, this aircraft was lost in a tragic accident when it crashed at Dunsfold killing the pilot Jim Hawkins. A replacement for lost aircraft was manufactured and flown within the same year.



Deliveries of the Hawk trainer to the RAF now reached their aerobatics display team - the Red Arrows, which converted from its Dunsfold supplied Folland Gnat to the Hawk aircraft in the winter of 1979/80. This maintained the strong links between the aerodrome and the famous display team.



Sometimes, when operating in the Southeast region, the Red Arrows would use Dunsfold as a base, it was not unknown for the work force to be seen outside watching the now familiar red white, and blue smoke trails as the team arrived back from a public display. Hawk sales now approached respectably with orders from Kenya, Indonesia and Finland. British Aerospace optimistically painted Hawk ZA101 in mock US Navy markings, before it left for a tour of the USA in a bid to tempt them into replacing their aging jet trainers with a version of the Hawk to be later named T-45 Goshawk.

A chapter of Dunsfold history closed when two Hawk aircraft left for Australia in 1988. While the tour underlined the Hawks fine capability and serviceability record, they were destined to return to Wharton in Lancashire. It was here that the production and development line

had been transferred. The Hawk's move was part of a rationalisation programme, which followed the £5 billion Al-Yamamah defence support contract with Saudi Arabia.

The ultimate proof of the Harriers effectiveness was provided in the South Atlantic following the Argentinian invasion of the Falkland Islands. Whilst the naval task force was defended by its own sea Harriers, RAF GR. Mk.3 aircraft were sent to supplement numbers. Hasty conversion work at Dunsfold enabled Harrier GR.Mk.3s to carry sidewinder air-to-air missiles, the Sea Harriers already having this capability. The Sea Harriers was so successful that none was lost during air-to-air combat and this left the RAF contingent free to concentrate on ground strikes against Argentinian positions.

By the end of the campaign, over two-thousand combat sorties had been flown by twenty-eight Sea Harrier and 10 GR. Mk.3 aircraft. Six Sea Harriers and four GR3s were unfortunately lost through accidents and enemy ground fire, whilst in the air combat at least twenty-eight Argentinian aircraft were shot down by Harriers. The British government, quick to appreciate how crucial the Harrier had been in the success of the task force, immediately ordered another fourteen Sea Harriers.

A visually startling concept was demonstrated at the aerodrome in 1983 when the 'Skyhook' system was proved to be a viable proposition. This was a large crane-like structure, suitable to fit onto small naval ships, the concept being to launch a Harrier from the structure. On recovery, the aircraft would manoeuvre back under the crane positioned by an optical guidance system and attach itself to the docking pad before engine shutdown. Although the idea, which could have increased the level of airborne protection at sea, generated much interest the concept sadly never processed beyond the development stage.

In the latter part of the 1980s, assembly and flight tests continued at Dunsfold with further orders for 'Big Wing' Harrier II aircraft, including RAF Harrier GR.Mk.5s and the rear fuselage of the American export version the AV8B. Despite numerous rumours of imminent closure during the nineties, Dunsfold was able to celebrate its 50<sup>th</sup> anniversary in 1992. Production continued with the many return-to-work programmes such as the GR. Mk.5 to GR.Mk.7 night attack conversion and the midlife update of the Sea Harrier FRS1 to FRS2 standard.

Recognising a shrinking military market British Aerospace announced its decision to close Dunsfold's parent factory at Kingston by the end of 1992. In the short term, this was to Dunsfold's benefit as it took over the Harrier production line receiving jigs and tools for GR 7 and AV8B in June 1991. The future workload for the site looked increasingly bleak during the mid-nineties apart from some return to work programmes and completion of the Sea Harry and New Build contract. In 1996 a project to resurface Dunsfold's main operational runway fuelled hopes that the aerodrome still had a promising future.

The Association of Dunsfold Aerodrome and the Hawker/BAE companies came to an end after 49 years of aircraft production on the 24<sup>th</sup> of June 1999, when an announcement was made to close the facility by the end of 2000. The closure of Dunsfold marks the end of what was Hawker Aircraft Limited, which started at Cranbury Park Road Kingston upon Thames in 1921, when H.G. Hawker Engineering Limited was formed out of the Sopwith Aviation Company.

Whatever the future now holds in store for the Aerodrome, Dunsfold will always be remembered as the birthplace of three incredible world beating products the Hawker Hunter the Hawk and the Harrier. Dunsfold will also be remembered for its dedicated and motivated team of



highly skilled people who will never again be together under one roof and for its friendly warm family atmosphere but most of all for its pride and passion in its greatest ever product the HARRIER.

What must be remembered about Dunsfold Aerodrome is that it was certainly not all 'work, work, work' but that many other enjoyable activities had taken place here over the years. That over 58 years the aerodrome has nestled deep in the heart of the Surrey countryside and had played a vital role in the lives of its employees and the local community.

For many employees, Dunsfold's team spirits has been a part of their everyday working lives, making them feel part of a much larger family. Dunsfold had hosted many family events most notably its annual air day. Intended initially for employees and their families, these air days, which in the mid-nineties were extended to the general public, were witness to spectacular air displays including many of the aircraft and Dunsfold Historic Past.

The air day often concluded with a display by the 'Home Team' of Harrier and Hawk demonstrating the pride that everyone at Dunsfold took in its latest products.

For many years employees teamed up to raise thousands of pounds for charity. Events, such as the Harrier Pull and Santa's arrival by Harrier to give Christmas presents to local children, had become a regular part of the Dunsfold calendar. Neighbours to the aerodrome benefited through the company's proud involvement with local community and educational projects. Many social activities were made possible by the facilities available on site. Employees were able to tee-off on the golf course, smash an ace on the tennis court, lift a tonne in the gym, sweat it out on the squash court, watch fireworks with their children and enjoy a drink in the bar all thanks to the Dunsfold Sports and Social club.

Dunsfold encapsulated great camaraderie, support and companionship. A unique spirit will live on in the memories of the many people who had worked there.