RAF COLLEGE CRANWELL
“Aircraft through the Ages”

Training Aircraft at RNAS & RAF Cranwell

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A Review Written in 1961

Training Aircraft of the RAF College

WHEN the Royal Air Force College was officially opened in 1920, training equipment consisted of the well-tried and faithful Avro 504K, the D.H.9A, the Sopwith Snipe and a Vimy or two for wireless training. The Avros, with their old-fashioned rotary engines, remained in service until the late twenties, when they were replaced by the 504N, or Lynx-Avro, which had a re-designed undercarriage, fixed radial engine, and a correspondingly increased performance. The Sopwith Snipes, with a maximum speed of 121 m.p.h., were used for solo experience for Senior Flight Cadets, and in 1920 were still front-line fighters. (How about bringing in a few Lightnings?) The next aircraft to arrive at the College was the dual Bristol Fighter, which proved an excellent trainer, witness this comment in the College *Journal* of 1930:

"Consider now the slotted 'Biffs'
They stall not, neither do they spin,
And yet a Christmas Tree in all its glory
Was not arrayed like one of these."

Another change in equipment took place in 1931 when the Armstrong-Whitworth Atlas arrived, a large cumbersome army co-operation machine. This replaced the D.H.9A. The Snipe had also been replaced by the dual controlled Siskin, another fighter type aircraft, with a maximum speed of 150 m.p.h. The Lynx Avros soldiered on until 1933, when thev were replaced by the Avro Tutor, an attractive biplane which had considerable aerobatic potentialities. Also in 1938 the Hawker Hart trainer, a delightful aircraft to look at, replaced the ugly 'Atlas' and remained in service until 1939. They also were superb machines for aerobatics in spite of the fact that their basic design was that of a light bomber, and they had a maximum speed of 165 m.p.h. The Siskin was replaced by the two-seater Bristol Bulldog in the middle-thirties, which had a scintillating performance. As well as being a trainer, they were front-line fighters until 1937, when the last squadron of Bulldogs was re-equipped with Gladiators. Tiger Moths and Magisters began to appear, until in 1939 the College was closed on the outbreak of the war.

There were also other less well-known aircraft which flew from Cranwell between the wars, notably those of the Long Range Flight. In 1927 a Hawker Horsley attempted to fly from Cranwell to India, but was forced to ditch in the Danube, without serious casualities. The same year another Horsley was slightly more successful and flew 3,470 miles in 34½ hours until forced down in the Persian Gulf. This record stood for two years, until Lindbergh broke it on his New York—Paris flight. The Fairy Monoplane completed four notable flights from Cranwell. In April 1929 it flew 4,130 miles to Karachi in 50 hours, and touched down with eight gallons to spare. The next attempt was less successful, and the aircraft crashed in the Atlas Mountains on the way to South Africa, killing both pilots. Another aircraft was built and in 1931 it flew from Cranwell to Egypt. Then in February 1933 it flew from Cranwell to Walvis Bay, 6,309 miles in 57 hours 25 minutes. This was a world long-distance record.

Another aircraft associated with the College was the Cranwell light aeroplane, of which there were two versions. The first flew in 1925 and was somewhat underpowered. The second aircraft followed a short time later and was reasonably successful. Also used at Cranwell for radio instruction (not for the College) were the Vickers Vimy, Virginia and Valentia, and the D.H.86B.

During the War, the College was closed, but at Cranwell there was an F.T.S., an Instructors' Course, and numerous other trade groups under training. As the College was closed, this period will not be examined in detail. However, the famous first flight of the Gloster-Whittle E.28/39, on 15th May, 1941, Britain's first jet aircraft, took place on the South Airfield, a special runway being constructed for the occasion.

When the College reopened in 1946, its equipment consisted of the perennial Tiger Moth, and the Harvard. The Tiger needs no introduction, and was much beloved, despite the fact that in winter, when the Lincolnshire north-easter blew, the open cockpit was very unpleasant. The North American Harvard was the advanced trainer, its main characteristic being its peculiar rasping note caused by the high tip speeds of its directly driven propeller.

In the summer of 1948, the ever faithful Tiger Moth departed, not without pangs of regret from instructors and pupils. To replace it, the Percival Prentice arrived, a brand new British trainer. This was a three-seat, low wing monoplane with fixed undercarriage and an enclosed hood, and also with full radio aids, flaps, brakes and variable pitch airscrew, a great advance over the Tiger Moth. However, the usual teething troubles accompanied the Prentice, and an unceasing duel between aircraft and airfield took its toll ; tyres burst, stern posts cracked, and the Prentice fleet grew smaller until eventually there were insufficient aircraft to continue the operation, and the Tiger was used again ! However, by January 1949 everything had been cured, and the aircraft was demonstrated to the Press. at Cranwell.

In the winter of 1952, the Prentices were replaced by a new primary trainer, the De Havilland Chipmunk. This aircraft, designed in Canada, was powered by a D.H. Gipsy Major engine and used tandem seating. It was a great advance over the Prentice in that it was fully aerobatic, and was much lighter. The noisy Harvard was also due for replacement, and, in 1953, this was replaced by the Boulton Paul Balliol T.2. This machine was powered by a Rolls Royce Merlin 35, had side by side seating, and a maximum speed of 288 m.p.h. at 9,000 ft. It had one Browning machine gun, and provision for four 60 lb rockets. Balliols served only at Cranwell and at one other F.T.S., their production being cut back in favour of the new jet trainers.

Jet aircraft had now appeared at Cranwell in the form of the Meteor 7, of which there were three, despite the fact that no runways had yet been constructed. In November 1954, the Chipmunk was replaced by the Hunting Percival Provost, which remained at Cranwell until 1960. This was a much more powerful aircraft, being sturdily and robustly built, with side by side seating and a maximum speed of 200 m.p.h., and with a service ceiling of 25,000 ft. The aircraft was capable of a rate of roll of better than 90° per sec. and had excellent aerobatic qualities. Provosts flew from the North Airfield during the construction of the runways, and from Spitalgate when Cranwell and Barkston were used by jets.

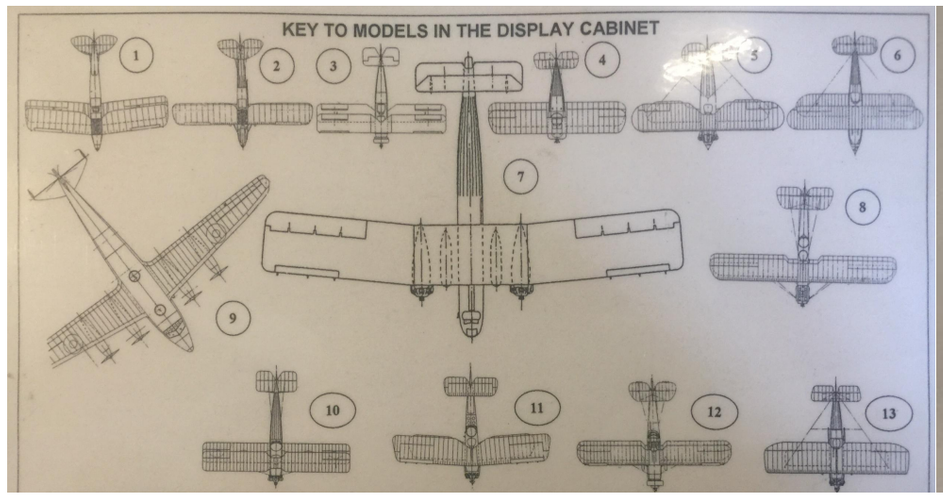
In 1956, upon completion of the South Airfield's runways, the De Havilland Vampire advanced trainer arrived to replace the Balliol. This was Cranwell's first jet trainer, and it is only just leaving us now. A great advance over anything used before at Cranwell, with glamorous pieces of equipment like " Bang-seats " and bonedomes associated with it, the Vampire had a maximum speed of 550 m.p.h. and a service ceiling of 40,000 ft. Cranwell entered the jet-age at last. The Provost/Vampire scheme of training was now used, in conjunction with the rest of Flying Training Command. Cadets now passed out having completed their advanced training.

Valettas and Varsities were then, and still are, used for navigator training. Meteors still flew from Cranwell, mainly for the benefit of those cadets, who, because of their excess stature, could not squeeze themselves into the somewhat cramped cockpit of the Vampire. In 1960, the next big change took place. The " New System " meant that cadets started straight away on jets ; advanced training was carried out after leaving the College. The faithful Chipmunk reappeared on the North airfield, to give once-weekly flights to those who were not yet flying on jets, and has gained quite a reputation. Jet Provosts, the last word in modernity and spaciousness, are taking over from the Vampire, and cadets now start on them. With a maximum speed of about 330 m.p.h. they are excellent aircraft, and will be supplemented later by the Mark 4 version. Finally, there are the weekend aircraft—Tiger Moths, Turbulents and gliders which fly from the North airfield on Saturday and Sunday afternoons making a welcome change from the noisy jets.

Evolution of RAF Cranwell in 1920s

Cranwell Training Facilities 1920s

College Models on Display

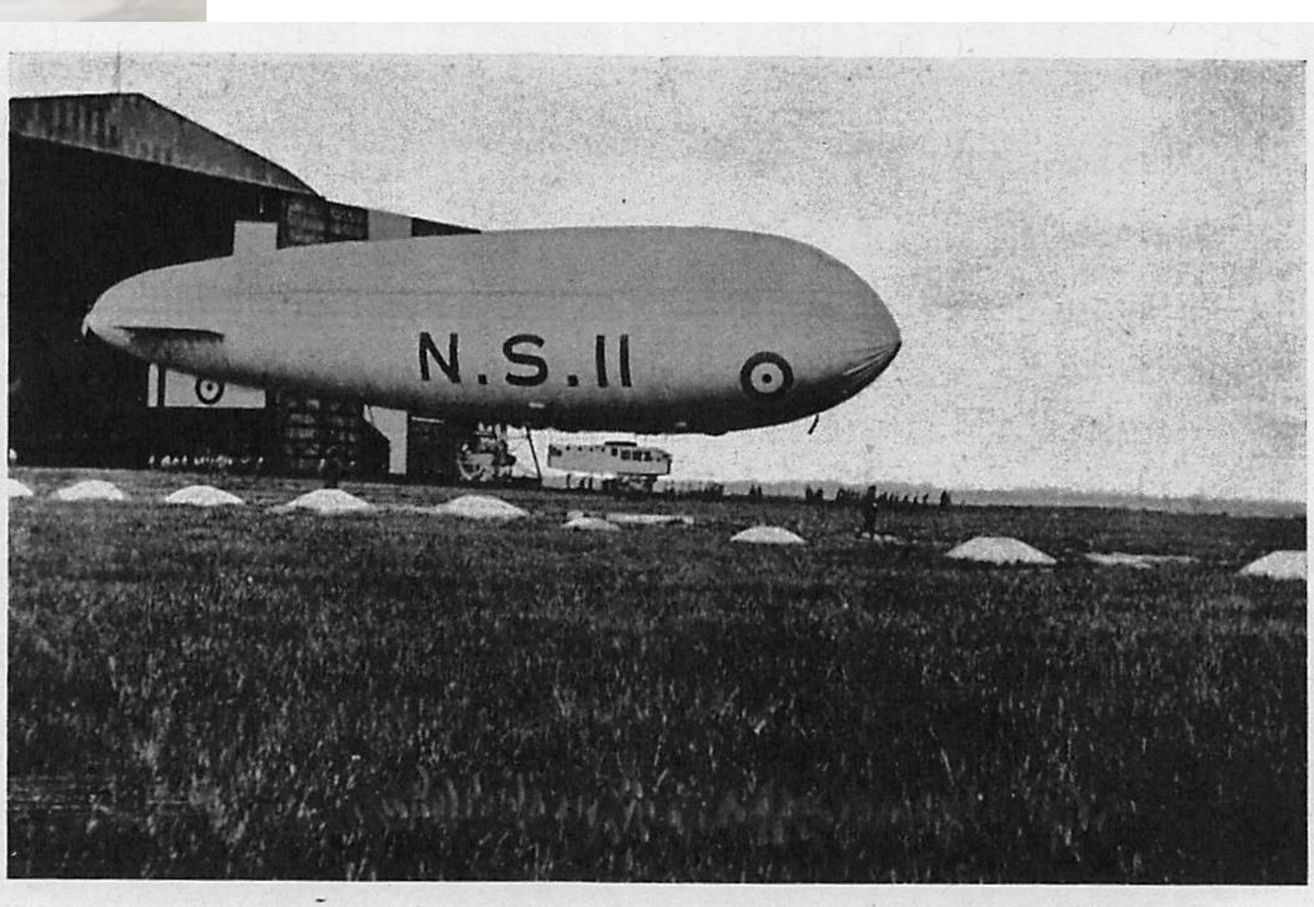


1. De Havilland DH.82A Tiger Moth – Cranwell 1932-47; 2. De Havilland DH.60M Gypsy Moth (Ser.No. K 1215) – AB INITIO Trainer Cranwell 1928-32; 3. Avro Tutor (Ser.No.K 3215) – Intermediate Trainer — Cranwell 1933-39; 4. Sopwith Snipe (Dual Control) – Advanced Fighter Pilot Training – Cranwell 1920-26; 5. Bristol Bulldog TM – Advanced Fighter Pilot Training – Cranwell 1928-36; 6. Hawker Fury – Advanced Fighter Pilot Training – Cranwell 1931-39; 7. Vickers Valentia "Flying Classroom" (Ser.No. K 2345) – Wireless Operators School – Cranwell 1936-41; 8. De Havilland DH.9A (Ser.No. J 7317) – "B" Flight 1925 – Cranwell 1920-27; 9. De Havilland DH.86B – 1937-42; 10. Avro 504N (Ser.No. J 8720) – AB INITIO Trainer – 1923-33; 11. Armstrong Whitworth Atlas (Ser.No.K 1172) – Advanced Trainer – Cranwell 1928-34; 12. Westland Wallace "Flying Classroom"(Ser.No. K 5082) – Wireless Operators School – Cranwell 1935-40; 13. Armstrong Whitworth Siskin (Dual Control) – Advanced Fighter Pilot Training – Cranwell 1924-31.

These models represent aircraft that flew from RAF Cranwell from 1918 to 1939. They were hand built from scratch to 1/48 scale by Peter Stephenson who lives nearby and produced them to supplement presentations that he gave locally on the history of RAF Cranwell between the two World Wars. These models are no longer used and Mr Stephenson donated them to the College in February 2009. All the models bear the airframe serial numbers allocated to actual aircraft during their period of service at RAF Cranwell.

Airships 1916 to 1918

Operated by:
RNAS Central Training Establishment Apr 1916 - March 1918
Airship Training Wing April 1918 - 1919
NOT OPERATED BY THE RAF COLLEGE



[*Photo : W. K. Morton & Sons, Ltd., Sleaford.*

AIRSHIP N.S.II LEAVING ITS SHED, CRANWELL.

BE2 and BE2c - 1916 to 1920

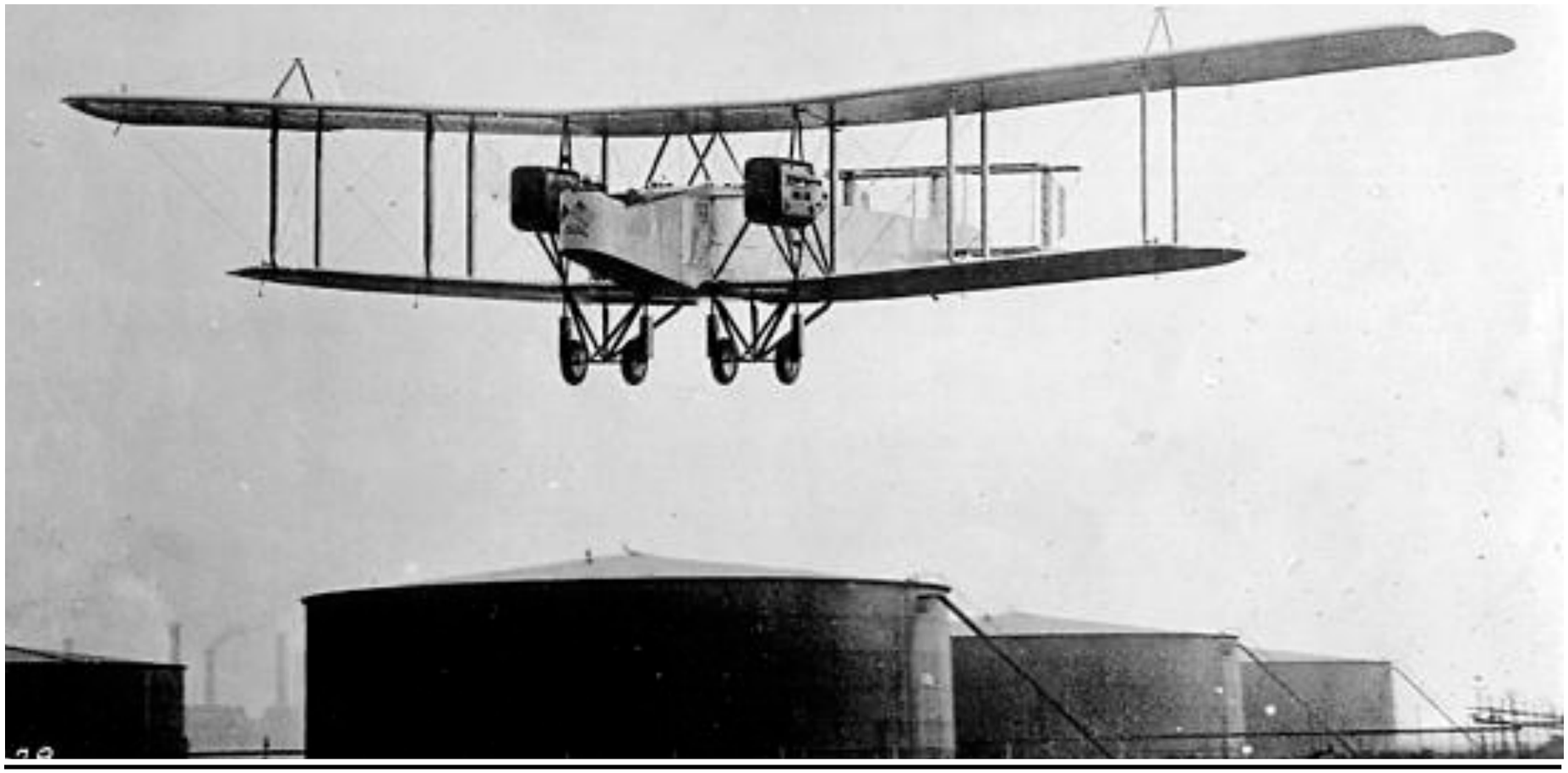
According to Peter Green and Mike Hodgson, operated by:
BE2 RNAS Central Training Establishment Apr 1916 - March 1918
BE2c 202 Training Depot Station Early 1918
BE2 56 & 57 Training Depot Stations July 1918 - February 1920
NOT OPERATED BY THE RAF COLLEGE

The BE2 was initially used as a front-line reconnaissance aircraft and light bomber; modified as a single-seater, it proved effective as a night fighter, destroying several German airships. By late 1915, the B.E.2 was proving inadequate in defending itself against German fighters. The B.E.2 has always been a subject of controversy, both at the time and in later historical assessment. From the B.E.2c variant on, it had been carefully adapted to be "inherently stable"; this feature was considered helpful in its artillery observation and aerial photography duties, most of which were assigned to the pilot, who was able to fly without constant attention to his flight controls. Despite a tendency to swing on takeoff and a reputation for spinning, the type had a relatively low accident rate. The stability of the type was however achieved at the expense of heavy controls, making rapid manoeuvring difficult.

Handley Page O/400 - July 1918 to 1919

According to Peter Green and Mike Hodgson, operated by:
58 Training Depot Station July 1918 - 1919
NOT OPERATED BY THE RAF COLLEGE

The Handley Page Type O was a biplane bomber used by Britain during the First World War. When built, the Type O was the largest aircraft that had been built in the UK and one of the largest in the world. There were two main variants, the Handley Page O/100 (H.P.11) and the Handley Page O/400 (H.P.12). The aircraft were used in France for tactical night attacks on targets in German-occupied France and Belgium and for strategic bombing of industrial and transport targets in the Rhineland. Some aircraft were temporarily diverted to anti-submarine reconnaissance and bombing in the Tees estuary in 1917 and two aircraft operated in the eastern Mediterranean. The impression made by the Type O was such that for many years after the war any large aircraft came to be called a "Handley Page" in Britain and entered the dictionary as such. The aircraft were used in France for tactical night attacks on targets in German-occupied France and Belgium and for strategic bombing of industrial and transport targets in the Rhineland. Some aircraft were temporarily diverted to anti-submarine reconnaissance and bombing in the Tees estuary in 1917 and two aircraft operated in the eastern Mediterranean. The impression made by the Type O was such that for many years after the war any large aircraft came to be called a "Handley Page" in Britain and entered the dictionary as such.



Sopwith Camel - 1918 to 1920

According to Peter Green and Mike Hodgson, operated by:
RNAS Central Training Establishment Apr 1916 - March 1918
201 Training Depot Station 1918
56 T& 57 Training Depot Stations July 1918 - February 1920
NOT OPERATED BY THE RAF COLLEGE

The Sopwith Camel was introduced on the Western Front in 1917 a a single-seat biplane fighter aircraft. It was a successor to the Sopwith Pup and became one of the best known fighter aircraft of the Great War. Though difficult to handle, it was highly manoeuvrable in the hands of an experienced pilot, a vital attribute in the relatively low-speed, low-altitude dogfights of the era. A two-seat variant served as a trainer.

Sopwith Cuckoo - 1918 to 1923

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos

The Sopwith T.1 Cuckoo was a British biplane torpedo bomber used by the Royal Naval Air Service (RNAS), and its successor organisation, the Royal Air Force (RAF). The T.1 was the first land plane specifically designed for carrier operations, but it was completed too late for service in the First World War. After the Armistice, the T.1 was named the Cuckoo.

Boulton Paul P9 - Early-1920s

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos

Gloster Grebe - 1923 to 1929

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos

Believed to be Grebe II J7380 of 29 Sqn - courtesy Paul McMillan

DH 9a Trainer - 1918 and 1920 to 1929

According to Peter Green and Mike Hodgson, operated by:
DH9 202 Training Depot Station Early 1918
DH9a RAF College February 1920 - January 1929

Upon entering service, the DH.9's performance was found to be unsatisfactory. The Adriatic engine was unreliable and failed to provide the expected power, which gave the DH.9 poorer performance than the aircraft (DH4) it had been meant to replace. The performance deficit was blamed for the heavy losses they suffered over the Western Front. The redesigned DH.9A was fitted with a more powerful and reliable American Liberty L-12 engine, which rectified the shortcomings of the original DH.9 model.

DH9a Crash Cranwell Possibly J7318 hit by Snipe E6310 taking off; pilots survived; 8/6/26 - courtesy Paul McMillan

Avro 504, K & N - 1916 to 1939

According to Peter Green and Mike Hodgson, operated by:
Avro 504 RNAS Central Training Establishment Apr 1916 - March 1918
Avro 504K 213 Training Depot Station June - July 1918
Avro 504 56 & 57 Training Depot Stations July 1918 - February 1920
Avro 504K 58 Training Depot Station July 1918 - 1919
Avro 504K/N RAF College Cranwell February 1920 - August 1939

Production during the war totalled 8,970 and continued for almost 20 years, making the Avro 504 the most-produced aircraft of any kind that served in the First World War, in any military capacity, during that conflict. More than 10,000 were built from 1913 until production ended in 1940. The two-seat 504K training aircraft had a universal mount to take different engines, and became the standard RAF trainer at the College throughout the inter-war era; the College also operated 504Ns, with its 160 hp (120 kW) Armstrong Siddeley Lynx engine, from January1929.

Avro 504Ks of 2 Sqn

Sopwith Pup - 1916 to 1918

According to Peter Green and Mike Hodgson, operated by:
56 Training Depot Station July 1918 - February 1920
NOT OPERATED BY THE RAF COLLEGE

With pleasant flying characteristics and good manoeuvrability, the Sopwith Pup proved very successful. Student pilots completing basic flight training in the Avro 504K often graduated to the Pup as an intermediate trainer. The Pup's docile flying characteristics also made it ideal for use in aircraft carrier deck landing and takeoff experiments.

Flying Parade A Flt - 1922

This photo was found amongst RAF College archived photos

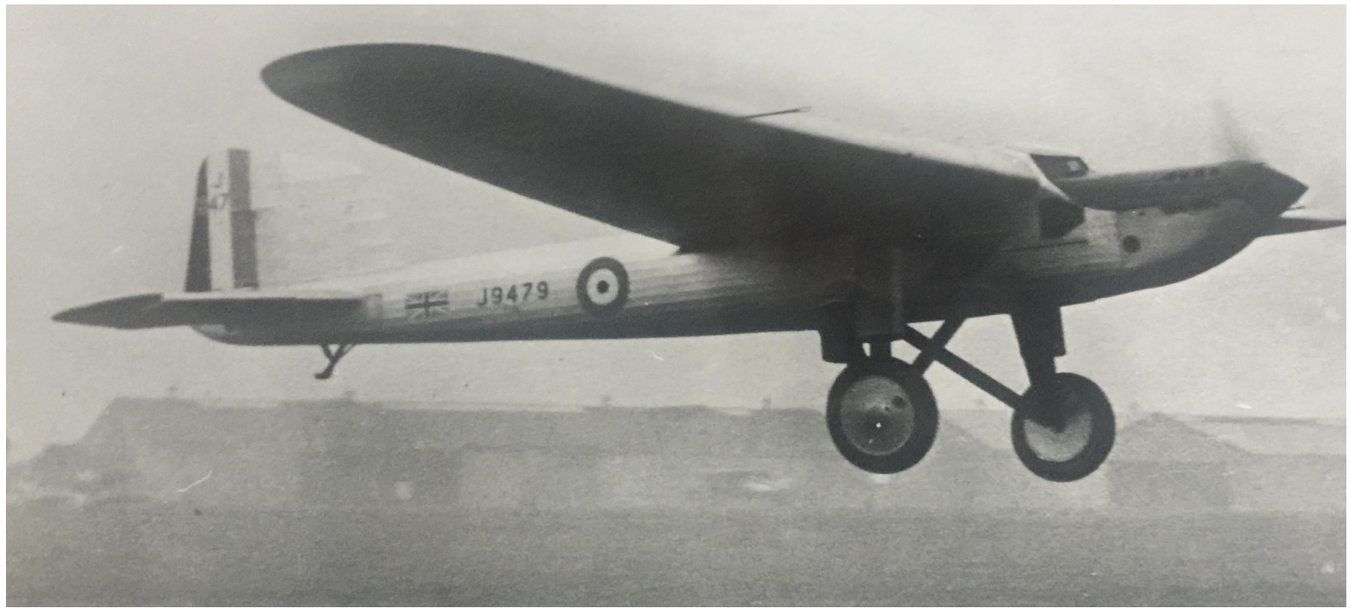
Vickers Vimy Bomber - 1919 to 1925

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos

Long Distance Flights of 1920s

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos

Capt Lindberg at Gosport 31-5-27



Miss Columbia at Cranwell 1927

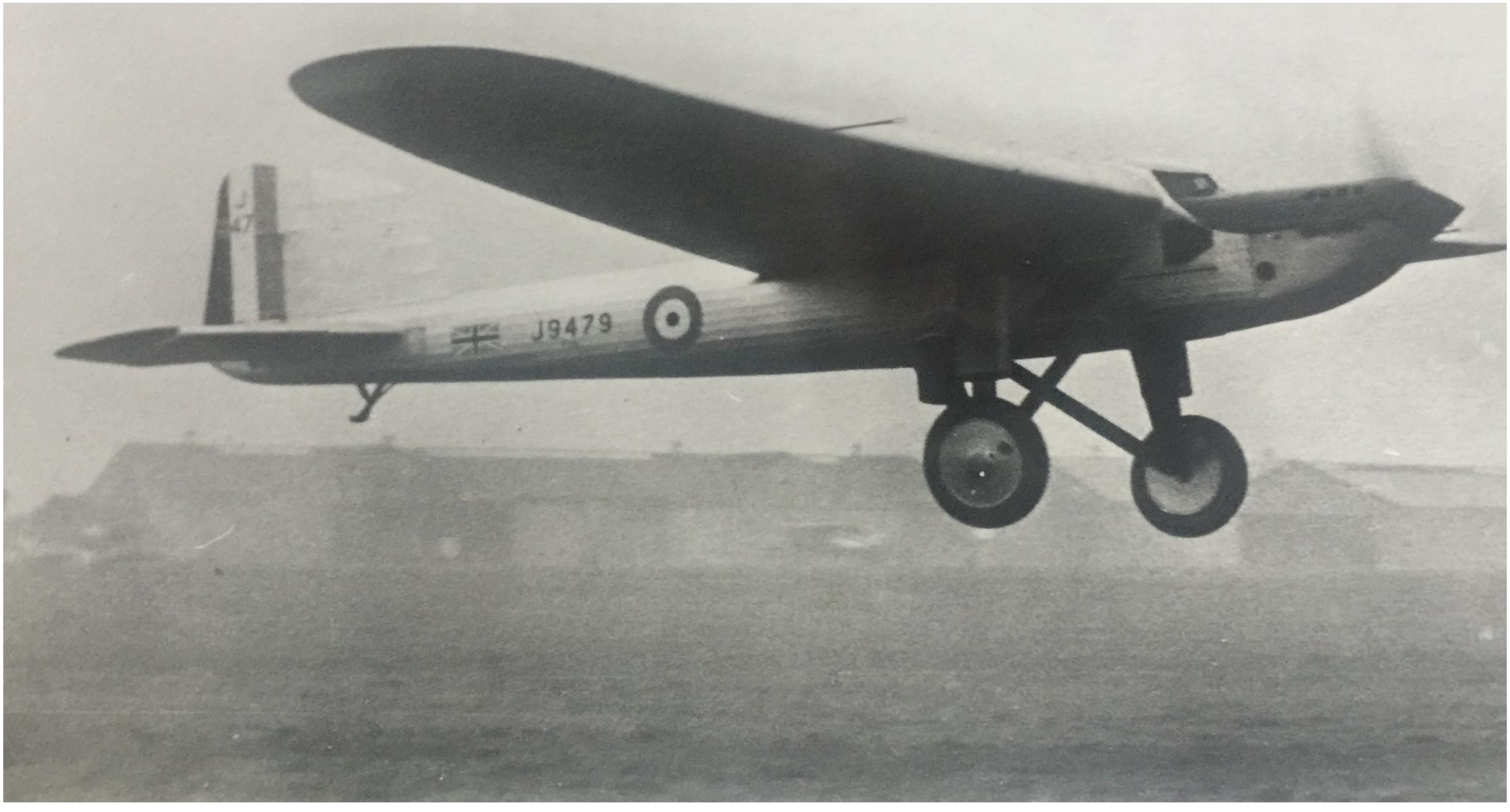
[Photo : Sport & General Press A


Cranwell-Karachi Non-stop 29-5-22


Fairey Long Distance Monoplane
Cranwell-Tunis December 1929

Fairey Long Range Monoplane 1929

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos



Sopwith Snipe - February 1920 to January 1929

According to Peter Green and Mike Hodgson, operated by:
RAF College February 1920 - January 1929 *(sic);* possibly until 1926

The Sopwith Snipe came into squadron service a few weeks before the end of WWI, in late 1918. The Snipe was not a fast aircraft by the standards of its time, but its excellent climb and manoeuvrability made it a good match for contemporary German fighters. It was selected as the standard postwar single-seat RAF fighter and the last, as fighters, were not retired until 1926; there is some doubt when they ceased to operate as trainers at Cranwell.

AW Siskin 111 A - February 1920 to January 1929

According to Peter Green and Mike Hodgson, operated by:
RAF College February 1920 - January 1929 *(sic);* possibly only 1924 - 1931

The Armstrong Whitworth Siskin was a British biplane single-seat fighter aircraft of the 1920s produced by Armstrong Whitworth Aircraft. The Siskin was one of the first new RAF fighters to enter service after the First World War, and was noted for its aerobatic qualities. The Siskin III was popular in service, being highly manoeuvrable, although slightly underpowered. The improved Siskin IIIA was first delivered to No. 111 Squadron in September 1926.[15] The Siskin was used by 11 RAF squadrons. The last operational RAF Siskins were replaced in October 1932 by Bristol Bulldogs.

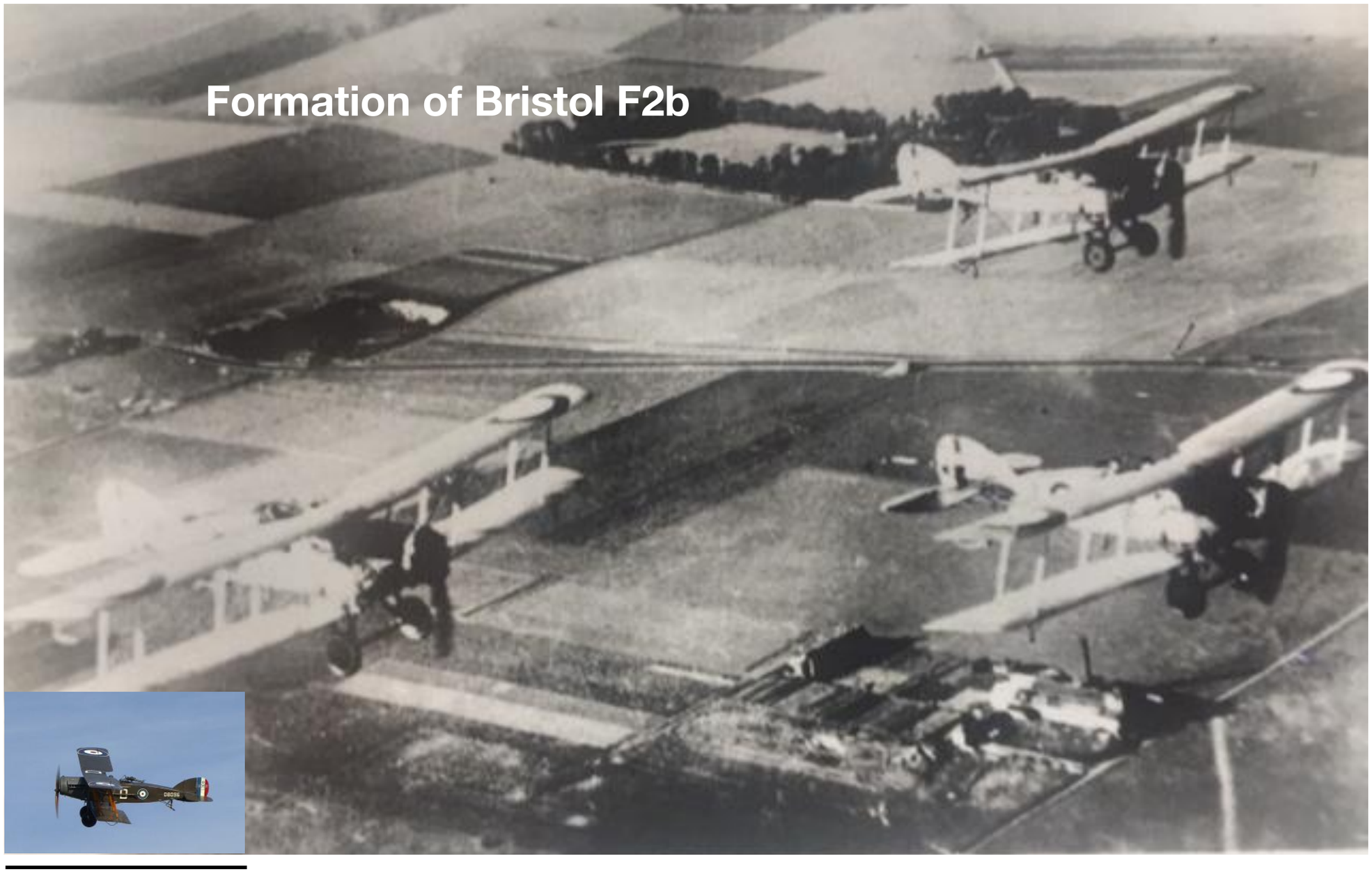
AW Siskin 111A

Siskin IIIa crashed by Flight Cadet Clarkson. Landing with drift caused this type of prang - which was fairly common! Known in those days as a 'Chinese Three Pointer' - one wheel, one wing and the tail skid.

Bristol F2b - February 1928 to August 1938

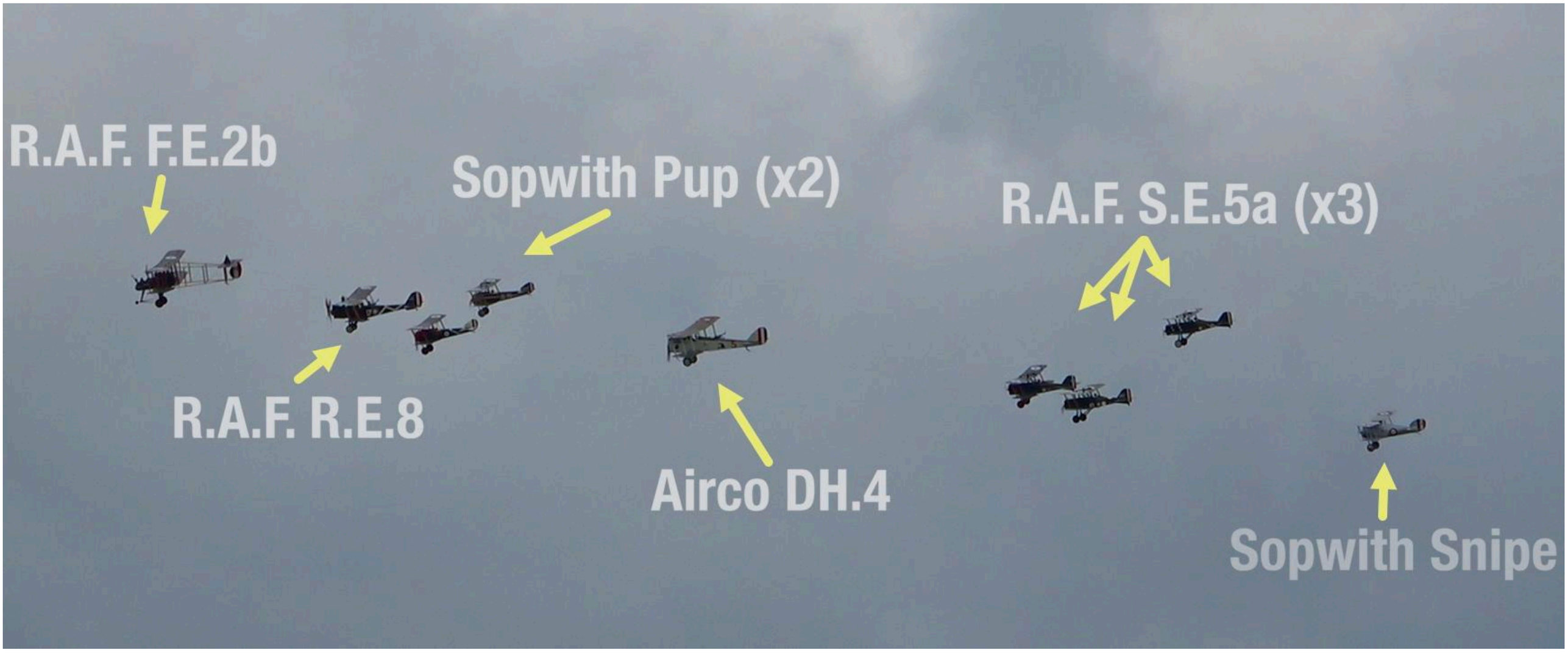
According to Peter Green and Mike Hodgson, operated by:
RAF College February 1920 - August 1938

The Bristol F.2 Fighter was a British two-seat biplane fighter and reconnaissance aircraft of the First World War developed by Frank Barnwell at the Bristol Aeroplane Company. It is often simply called the Bristol Fighter**,** other popular names include the *"Brisfit"* or *"Biff"*. Although the type was intended initially as a replacement for the pre-war Royal Aircraft Factory B.E.2c reconnaissance aircraft, the newly available Rolls-Royce Falcon V12 engine gave it the performance of a two-seat fighter. Despite a disastrous start to its career, the definitive F.2B version proved to be an agile aircraft that was able to hold its own against opposing single-seat fighters; its robust design ensured that it remained in military service into the 1930s. Some surplus aircraft were registered for civilian use, and dedicated civilian versions proved popular.



New Zealand 2019 - Flyby of Vintage Aircraft

The author found this photo on social media shortly after the commemorative flight



DH 10 - Mid/late-1920s

NOT OPERATED BY RNAS CRANWELL OR THE RAF COLLEGE
However, this photo was found amongst RAF College archived photos

Gypsy Moth DH60M - 1928 to 1932

According to aero-modeller Peter Stephenson, operated by:
RAF College 1928 - 1932

The de Havilland DH.60 Moth was a 1920s two-seat touring and training aircraft developed into a series of aircraft by the de Havilland Aircraft Company. Although the DH.60T was aggressively marketed as a military trainer, response was rather lukewarm. In particular the RAF initially purchased only a handful of aircraft for testing and found that many aspects of the Moth did not suit their method of military flight training. However, by 1931 the RAF had acquired 124 DH.60M Moths and these were used by the Central Flying School and other training units until 1939.

Armstrong Whitworth Atlas - 1928 to 1934

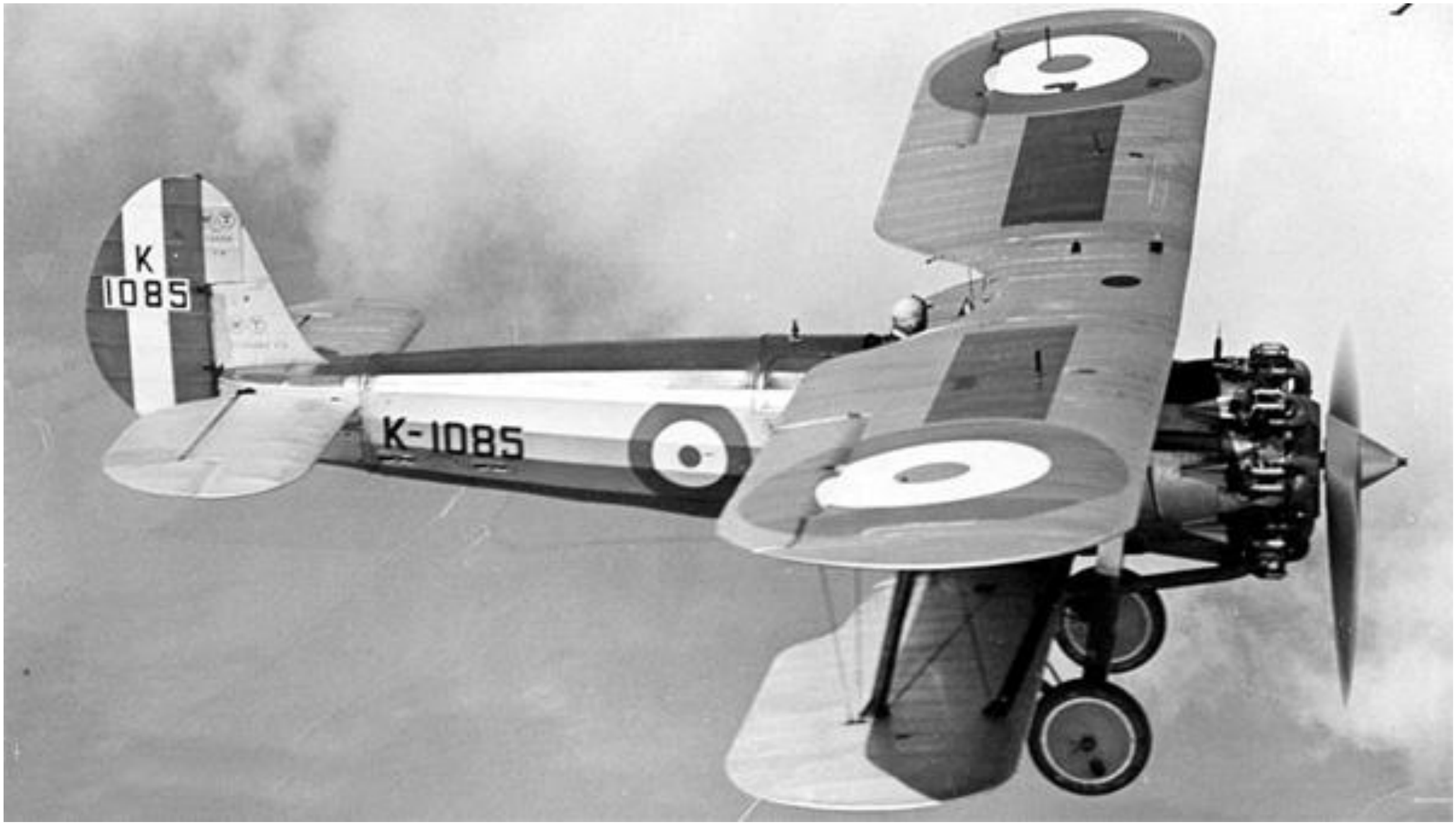
According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939 *(sic),* possibly only 1928 - 1934

The Armstrong Whitworth Atlas was a British single-engine biplane designed and built by Armstrong Whitworth Aircraft. It served as an army co-operation aircraft for the Royal Air Force (RAF) in the 1920s and 1930s. It was the first purpose-designed aircraft of the type to serve with the RAF. Once the initial handling problems had been solved by the fitting of slats, the Atlas proved well suited to the army co-operation role, serving both at home and overseas, with 208 squadron, being the first squadron to operate Atlases outside Britain, replacing Bristol fighters at Heliopolis, Egypt in 1930. Atlases were also used for communications duties[3] and as advanced trainers, with 175 dual-control models built. The Atlas continued in service in the army co-operations role until replaced with the Hawker Audax, a variant of the Hawker Hart, with the last operational squadron, 208, re-equipping in 1935. It was also replaced in the advanced trainer role in 1935 by the Hawker Hart Trainer.

Bristol Bulldog TM - 1928 to 1936

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939 *(sic),* possibly only 1928 - 1936

The Bristol Bulldog was a British RAF single-seat biplane fighter designed during the 1920s by the Bristol Aeroplane Company. More than 400 Bulldogs were produced for the RAF and overseas customers, and it was one of the most famous aircraft used by the RAF during the inter-war period. 59 of a two-seat training version,TM (Type 124) were also built.



Fairey Fox - January 1929 to August 1939

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939

The Fairey Fox was a light bomber and fighter biplane of the 1920s and 1930s. It was originally produced in Britain for the RAF, but continued in production and use in Belgium long after it was retired in Britain. The Fox III was the variant used for a British built, Kestrel powered demonstrator (later designated Fox IV).

Hawker Hart - January 1929 to 1940

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939
SFTS Cranwell September 1939 - 1940

The Hawker Hart was a British two-seater biplane light bomber aircraft of the RAF. It was designed during the 1920s by Sydney Camm and manufactured by Hawker Aircraft. The Hart was a prominent British aircraft in the inter-war period, but was obsolete and already side-lined for newer monoplane aircraft designs by the start of the Second World War, playing only minor roles in the conflict before being retired. A specialised Hart Trainer was also built which dispensed with the gunner's ring.

Avro Tutor - January 1929 to June 1941

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939 *(sic)*, possibly only 1933 - 1939
2 Flying Instructors School/2 CFS September 1940 - June 1941

The Avro Type 621 Tutor was a two-seat British radial-engined biplane from the interwar period. It was a simple but rugged basic trainer that was used by the Royal Air Force as well as many other air arms worldwide. The Avro Model 621 was designed by Roy Chadwick as an Avro private venture metal replacement for the Avro 504. Conceived as a light initial pilot trainer, the biplane design featured heavily staggered equal-span, single-bay wings; the construction was based on steel tubing (with some wooden components in the wing ribs) with doped linen covering. A conventional, fixed divided main undercarriage with tail-skid was used in all but the latest aircraft, which had a tailwheel.

Biplanes over Cranwell 1931 - Hawker Furies?

This photo was found amongst RAF College archived photos

Drawn by F./O. W. E. Johns.] *[By Courtesy of the Aircraft and General Fine Art Company.*

OVER CRANWELL.

Hawker Fury - 1931 to 1940

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939 *(sic)* more likely 1931 - August 1939
SFTS Cranwell September 1939 - 1940

The Hawker Fury was a British biplane fighter aircraft used by the Royal Air Force in the 1930s. It was a fast, agile aircraft, and the first interceptor in RAF service capable of speed higher than 200 mph (321 kmh). It was the fighter counterpart to the Hawker Hart light bomber. After their front line service ended, they continued in use as trainers.

Hawker Audax - 1935 to August 1939

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939 *(sic)* more likely 1935 - 1939
STFS Cranwell September 1939 - 1940

The Hawker Audax was a Hart variant, designed for army cooperation, seeing much service in the British Empire. The first Audax flew in late 1931 and over 700 Audaxes were produced (including export). The Audax was similar to the Hart, though had some modifications, including a hook to pick up messages. The Audax was armed with a single .303 in (7.7 mm) Lewis light machine gun and a .303 in (7.7 mm) Vickers machine gun. The Audax was powered by a version of the Kestrel engine and had a maximum speed of 170 mph (274 km/h).

Hawker Hector - 1937 to August 1939

According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939 *(sic)* more likely 1937 - 1939

The Hawker Hector was a British biplane, army co-operation and liaison aircraft of the late 1930s; it served with the Royal Air Force and saw brief combat in the Battle of France in May 1940. Some Hectors were later sold to Ireland. It was named after the Trojan prince Hector. Hectors were used by the RAF from 1940 as target-tugs, and for towing General Aircraft Hotspur training gliders.

Westland Wallace - 1935 to 1941

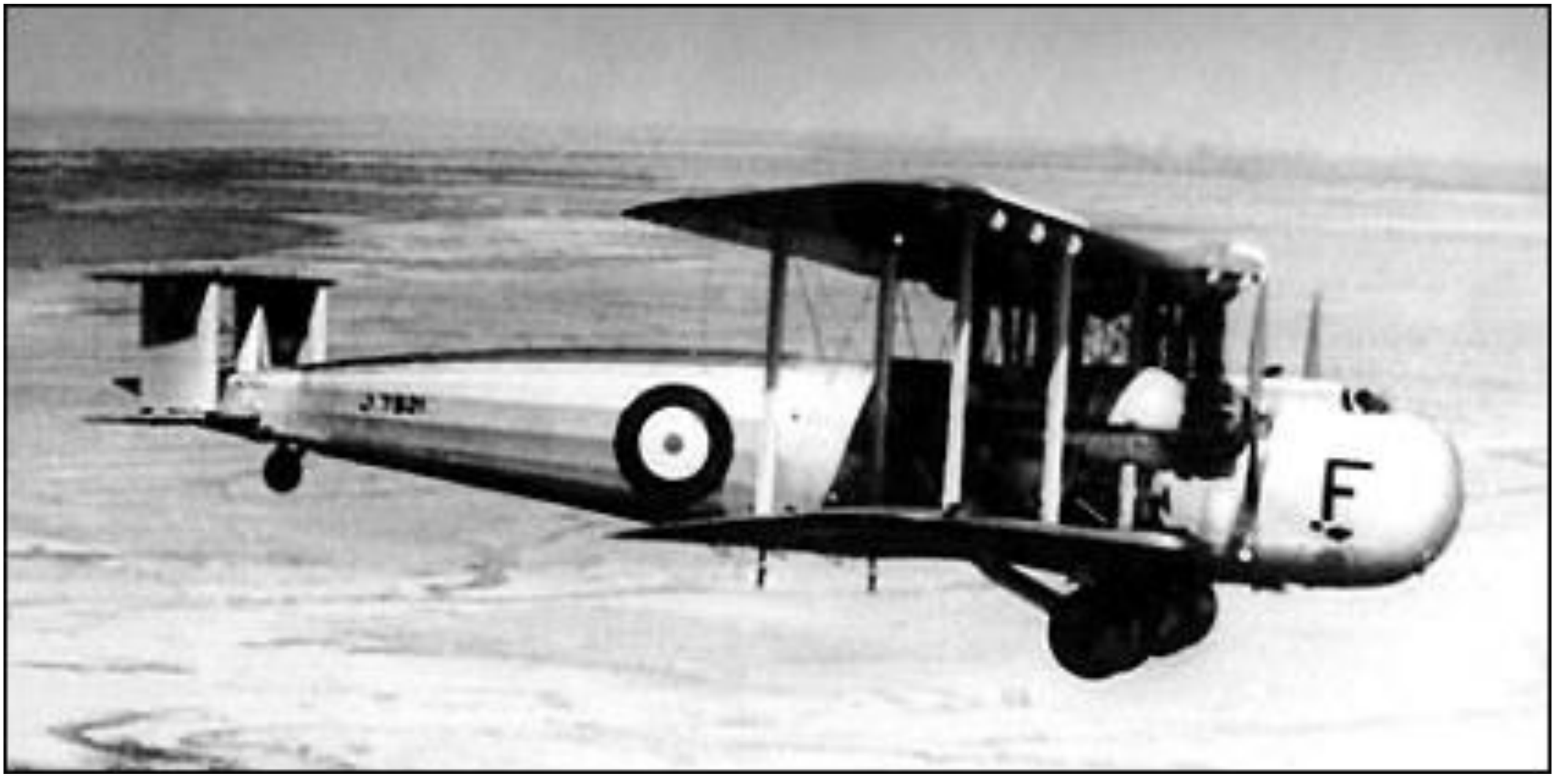
According to Peter Green and Mike Hodgson, operated by:
1 E&W School August 1929 - September 1940 *(sic)* possibly only 1935 - 1940
1 Signals School August 1940 - January 1941

The Westland Wallace was a two-seat, general-purpose biplane of the RAF, developed by Westland as a follow-on to their successful Wapiti. As the last of the interwar general purpose biplanes, it was used by a number of frontline and Auxiliary Air Force Squadrons. Although the pace of aeronautical development caused its rapid replacement in frontline service, its useful life was extended into the Second World War with many being converted into target tugs and wireless trainers. In 1933, a Westland Wallace became the first aircraft to fly over Everest, as part of the Houston-Mount Everest Flight Expedition.

Vickers Valentia - 1936 to 1941

According to Peter Green and Mike Hodgson, operated by:
1 E&W School August 1929 - September 1940 *(sic)* possibly only 1936 - 1940
1 Signals School August 1940 - February 1942

The Vickers Valentia (company designation Type 264) was a biplane cargo aircraft built by Vickers for the RAF. The majority built were conversions of the earlier Vickers Victoria. Valentias were extensively used for transport operations in the Middle East, and when necessary used for bombing operations with bomb racks under the wings. Valentias were also experimentally fitted with loudspeakers used to address people being overflown (in this case potentially rebellious tribes during air policing duties). The Valentia was also used for experiments with aerial refuelling by Alan Cobham.



Notes Found on RAFC at War (1)

These notes are believed to have been made by a Staff Officer as part of a brief for the RAF College Commandant. There is no indication of when his brief was prepared, but is likely to have been during the 1960s.

BRIEF NOTES ON ROYAL AIR FORCE CRANWELL OCTOBER 1939 TO MAY 1940

All Instructional Staff and Flight Cadets were recalled from leave to the College on 30 August 1939 in view of the grave international situation. Immediately after the declaration of war against Germany, the Royal Air Force College ceased to function as such and was formed as the Royal Air Force College Flying Training School. There was no change of staff or students, but the normal Flight Cadet syllabus was dropped and all emphasis was on Flying Training. The FTS had an Intermediate Training Squadron and an Advanced Training Squadron.

The last PROPER Flight Cadet Entry to pass out was the September 1937 Entry which passed out on 28 July 1939. The following entries were at various stages of instruction (normally the Flight Cadet Courses lasted 2 years) at the outbreak of war:

January 1938 Entry.
April 1938 Entry.
September 1938 Entry.
January 1939 Entry.
April 1939 Entry.
The Entry due in in September 1939 was already recruited and in the pipeline; this was sent initially to No 9 Elementary Flying Training School at Royal Air Force Ansty. Later they came back to Cranwell in April 1940 to join the FTS and was called the April 1940 Entry.

All the Flight Cadets in these 6 entries were listed as Aircraftmen 2 (AC2) on 7 September 1939, then on 8 September 1939 as Leading Aircraftmen (LAC).

The Senior Flight Cadet Course, ie January 1938 Entry, were posted at the outbreak of war to Specialist Courses or to Operational Training Units. The rest of the 5 Flight Courses formed the nucleus of the first 5 Courses of FTS at Cranwell.

These 6 Flight Cadet Courses did NOT complete the proper Flight Cadet Training Course.

These first 5 FTS Courses were a mixture of ex-Flight Cadets, Royal Air Force Volunteer Reserve Pilots and ex-University Air Squadron Pilots.

The last ex-Flight Cadets (ie April 1940 Entry) were trained on No 9 Course FTS and were joined by 16 Australians. They passed out late August-early September 1940.

The May 1940 Course, ie No 10 Course FTS, were recruited from the Initial Training Squadrons and Elementary Flying Training Schools.

At some time early in this period (I cannot trace the actual date) the title of Royal Air Force College Flying Training School changed to Royal Air Force Service Flying Training School (RAFSFTS).

The length of the Course in Intermediate Training Squadron was 6 months, and concentrated on Flying Training with some ground school studies (navigation etc).

The Advanced Training School length of Course is not known, but they made detachments to West Freugh and Warmwell for gunnery and bombing practice. During May 1940 the Advanced Training School was dropped and the Intermediate Training School doubled in size to accelerate the flow of replacement pilots to the squadrons.

The average Course was about 39 students and the pilot wastage was approximately 25%.

The aircraft flown were:

Hawker Audax.
Hawker Hind.
Hawker Hart.
Hawker Fury.
Hawker Hector.
Miles Master.
Airspeed Oxford.
and the single-engined aircraft were given up cMay 1940 in favour of the twin-engined Oxfords.

Accommodation was in the College Hall Building. The 'old' single rooms of the Flight Cadets were now double rooms. The larger rooms like the games rooms, lecture rooms etc were used as dormitories - there was gross overcrowding in all rooms. With the overcrowding, life in the Mess was a lot more informal and less rigid.

Cooks and dining hall staff were mainly all Women's Auxiliary Air Force (WAAF's). There was almost continuous flying, therefore meals were at all times. Strict food rationing was in force in the UK and meals were difficult to produce, eg early diners got meat, later ones got gravy!! Local farmers were asked to supply extra produce, meat and vegetables, for the 'War Effort'.

In the time span of October 1939 to May 1940 there was a particularly hard winter. From 1 to 25 February 1940, instructors and pupils were give leave because of the thick snow and the ice-bound state of the airfield.

* * * *

The above facts were gleaned from various notebooks, journals and papers deposited in the Royal Air Force College archives - there is no ONE definitive source. Indeed, as the College was officially closed and SFTS records were taken with them when they left in 1944, it is very difficult to piece together accurate details of College life 1939-1944.

Notes Found on RAFC at War (2)

These notes are believed to have been made by a Staff Officer as part of a brief for the RAF College Commandant. There is no indication of when his brief was prepared, but is likely to have been during the 1960s.

CRANWELL

COMMAND	21 Group Training Command 1939-40 21 Group Flying Training Command 1940-45	
SATELLITE AIRFIELDS	Barkston Heath	1941-43
	Fulbeck	1941-42
	Caistor	1943-44
	Wellingore	1943-45
	Coleby Grange	1944-45

During the Second World War, Cranwell was one of the largest training centres in the RAF and housed up to 5000 personnel. Courses were conducted for both air crew and ground staff and large numbers of flying instructors, pilots and airborne wireless operators, as well as many crews for Coastal Command squadrons were trained here.

In September 1939 the RAF College and No 1 Electrical & Wireless School were the principal occupants of the Station. At the outbreak of war the College's Flying Wing was mobilised as a Service Flying Training School and was equipped with Audaxes, Hinds and Oxfords, plus a smaller number of Harts and Furies. As such it was split into Intermediate and Advanced Training Squadrons, and in the first six months of war part of the course was carried out by detachments at such stations as West Freugh and Warmwell where bombing and gunnery training was undertaken. During May 1940 Master Aircraft were introduced and in that fateful summer the school took on a further changeable appearance when it was rapidly reorganised, firstly to drop Advanced Training and double the Intermediate output in order to accelerate the flow of replacement pilots to the squadrons, and shortly afterwards to give up its single engined aircraft and concentrate on twin engined training with Oxfords. The Luftwaffe were not slow to realise the importance of the Station and several raids were made on Cranwell during June and September that year.

No 2 Flying Instructors' School was formed in September 1940 alongside the College SFTS for the purpose of training selected pilots as instructors which were urgently needed as the Air Force rapidly expanded. The new unit was equipped with Oxford and Tutor aircraft and after a few weeks was renamed No 2 Central Flying School. It quickly became an important unit in its own right, and moved out in June 1941 to a new airfield at Church Lawford.

The College SFTS meanwhile was growing both in size and importance, and by the Spring of 1941 was operating a fleet of over 150 Oxfords. To relieve the consequent congestion and facilitate night flying, Relief Landing Grounds were therefore brought into use at Fulbeck and Barkston Heath. In January 1942 the function of the unit was again changed to provide half single and half twin-engined training, and a number of Oxfords were replaced again by Master aircraft.

Pilots of many nationalities were a notable feature at Cranwell and in May 1942, for example, countries represented included Belgium, France and Turkey. British Army officers transferred to the RAF were also given training here. During 1943 Refresher Courses were introduced for pilots who had been on non-flying duties and during the latter half of the war a regular flow of Turkish aircrews passed through the School, and carried out an abridged operational training course on special flights of Spitfire and Blenheim aircraft. By 1943 the original Relief Landing Grounds at Fulbeck and Barkston Heath had been earmarked for development by Bomber Command and the satellite airfields at Caistor and Wellingore were taken over in their place. Coleby Grange airfield was also adopted as a relief landing ground in the autumn of 1944 when it had ceased to function as an operational night fighter station.

The SFTS was moved out of the College buildings in January 1944 and a few weeks later was redesignated 17 SFTS. Following the Invasion in June it was required to deal with increasing numbers of aircrew released from POW captivity and the training given to these pilots, as well as to aircrews from a number of countries overseas, including Iraq and Persia, formed the main duty of the unit in the last months of war. During this period the complement of Oxfords and Masters was augmented by Harvards, Blenheims and Spitfires and immediately before VE day the unit moved to Grantham (Spitalgate). Its place was taken by 19 FTS which commenced to form with Harvard aircraft on 1st May 1945.

The departure of No 2 CFS in June 1941 had meanwhile left room for the arrival of No 3 (Coastal) Operational Training Unit which was reformed at Cranwell in August as a lodger unit. Wellingtons and Whitleys formed the principal equipment of the unit, which also used a number of Ansons, and its function was to train crews for Operational Squadrons in Coastal Command.

In addition to conversion training on to large aircraft, the bombing and gunnery practice, the 3 OTU syllabus included long cross country and overseas training flights from Cranwell; one regular exercise route extended out to Rockall and required some 980 miles of flying.

It was a Whitley of 3 OTU which, during night flying on 18th March 1942, crashed into the roof at the west end of the College, killing its crew of three and causing extensive damage to the building. A year later the last Whitleys were withdrawn from service, and the unit received additional Wellingtons, some of which were equipped with Leigh Light equipment. No 3 OTU remained at Cranwell until June 1943 when it moved to Haverfordwest.

Returning to September 1939, Cranwell was also the home of No 1 Electrical and Wireless School, which was responsible for the training of airborne Wireless and Radar Operators and ground electrical and wireless tradesmen. The Schools' flying activities were carried out by the Signals Squadron, which in 1939 was mainly equipped with Wallace aircraft and was located on the North aerodrome. Other types

used included Magisters and DH 86s as well as one or two ancient Valentias, which continued in use as flying classrooms until the last was retired in February 1942.

The flying element of 1 E&WS became part of No 1 Signals School during a reorganisation in August 1940, and shortly afterwards its fleet of Wallaces was replaced by more modern Proctors. These bore the brunt of airborne W/OP training and were assisted by a smaller number of DH 86 and DH 89 aircraft. The unit was again redesignated in January 1943 becoming No 1 Radio School, but its functions and equipment remained the same and it continued its training programme until it was disbanded in may 1944.

Before the war Cranwell had become one of the first airfields to be equipped with a concrete runway, which was provided for the experimental long distance flights made by Wellesley aircraft in 1938. This facility subsequently proved valuable for trials of aircraft requiring a long take-off run, such as the massive Hamilcar glider which carried out some of its early flying from here. On 15th May 1941 an event of the utmost importance took place. On that day the Gloster E28/39 prototype was wheeled out of a guarded hangar and after running up its experimental jet engine took off from the runway for its flight. Though few were there to witness it at the time because of the need for top security, this was to be a historic moment not only for Cranwell but for the whole of British aviation. Trials with this aircraft continued at Cranwell and elsewhere and within two years a number of F9/40 development aircraft were ready for trials. One of these was also sent to Cranwell and on 5th March 1943 made its first flight here. Fourteen months later Meteors were joining the squadrons as the first jet aircraft to enter service in any of the allied Air Forces.

Notes Found on RAFC at War (3)

These notes are believed to have been made by a Staff Officer as part of a brief for the RAF College Commandant. There is no indication of when his brief was prepared, but is likely to have been during the 1960s.

CRANWELL

PRINCIPAL UNITS

From	Date	Unit	Aircraft	Mark	Code	Date	To
-	-	RAF College Service Flying Training School				20.3.44	Redesig
			Audax	(9.39-40)			
			Hind	(9.39-40)			
			Oxford	(9.39-3.44)			
			Hart	(9.39-40)			
			Fury	(9.39-40)			
			Master	(5.40-9.40) (1.42-3.44)			
			Spitfire	(43-3.44)			
			Blenheim I	(43-3.44)			
					det West Freugh	23.9-22.10.39	
					det West Freugh	6-21.12.39	
					det West Freugh	10.1-6.2.40	
					det Warmwell	21.2-6.4.40	
					det Warmwell	26.4-9.5.40	
					det Dumfries	25.8.43-9.43	
					det Dumfries	23.11.43-12.43	

From	Date	Unit	Aircraft	Mark	Code	Date	To
RAFC SFTS	20.3.44	17 Service Flying Training School				1.5.45	Spitalgate
			Oxford	(3.44-5.45)			
			Master	(3.44-5.45)			
			Spitfire	(3.44-5.45)			
			Blenheim I	(3.44-5.45)			
			Harvard	(9.44-5.45)			
			Blenheim V	(3.45-5.45)			
-	-	1 Electrical and Wireless School				1.8.40	Redesig
			Wallace	(9.39-40)			
			Magister	(9.39-40)			
			Mentor	(9.39-40)			
			DH.86	(9.39-40)			
			Envoy	(9.39-40)			
			Valentia	(9.39-40)			
			Harvard	(9.39-40)			

From	Date	Unit	Aircraft	Mark	Code	Date	To
1 E&WS	1.8.40	1 Signals School				1.1.43	Redesig
			Wallace	(8.40-40)			
			Proctor	(11.40-1.43)			
			DH. 86	(8.40-42)			
			Dominie	(40-1.43)			
			Valentia	(8.40-2.42)			
1 SS	1.1.43	1 Radio School				31.5.44	Disbanded
			Proctor	(1.43-5.44)			
			Dominie	(1.43-5.44)			
Formed	10.9.40	2 Flying Instructors School				14.11.40	Redesig
			Oxford	(9.40-11.40)			
			Tutor	(9.40-11.40)			
2 FIS	14.11.40	2 Central Flying School				15.6.41	Ch Lawfd
			Oxford	(11.40-6.41)			
			Tutor	(11.40-6.41)			
Reformed	6.8.41	3 Operational Training Unit				20-23.6.43	Havfdwest
			Wellington	(8.41-6.43)			
			Whitley	(8.41-4.43)			

From	Date	Unit	Aircraft	Mark	Code	Date	To
			Anson	(8.41-4.43)			
			Lysander	(8.41-43)			
			Martinet	(43)			
					det Templeton	30.11.42-22.6.43	
Reformed	1.5.45	19 Flying Training School				-	-
			Harvard	(5.45)			
			Anson	(5.45)			
			Tiger Moth	(5.45)			

OTHER UNITS

-	-	21 Group Communication Flight				44	Spitalgate
Shawbury	25.10.41	11 SFTS					
			Oxford	II		11.41	Shawbury
Snailwell	8.43	2 Heavy Glider Maintenance Unit				44	

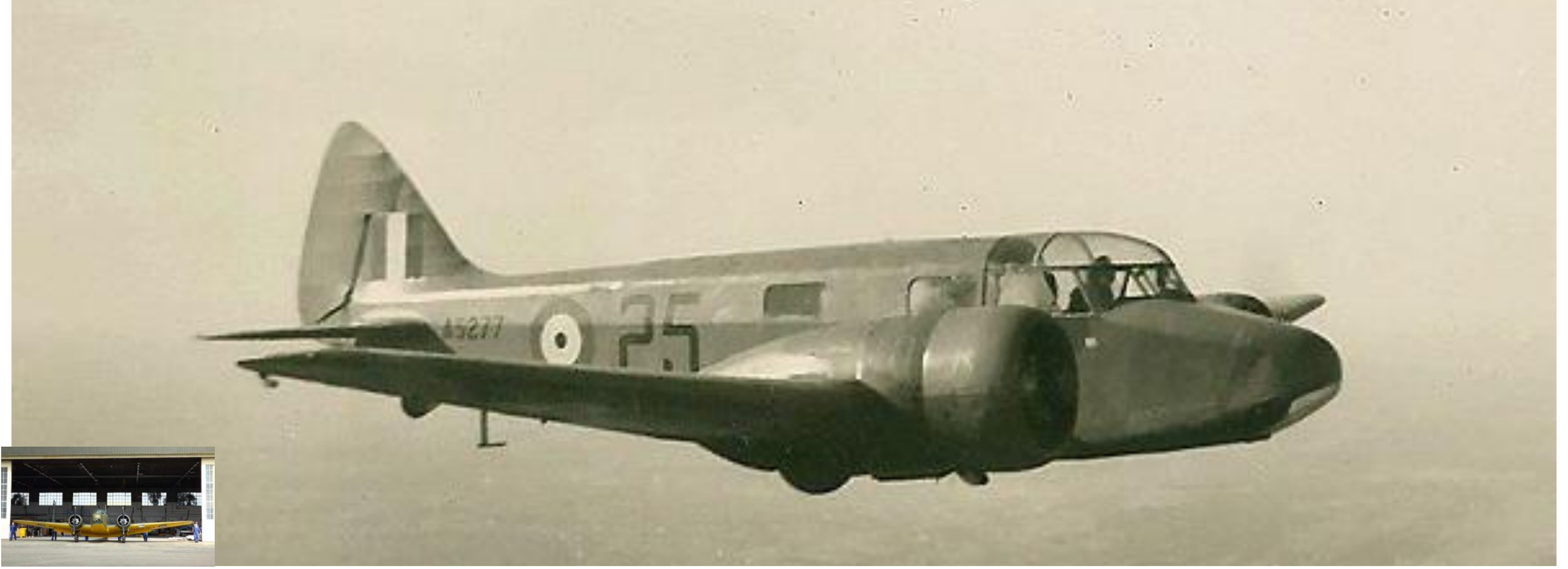
Hawker Hind - September 1939 to 1940

STFS Cranwell September 1939 - 1940

Airspeed Oxford - June 1937 to December 1950

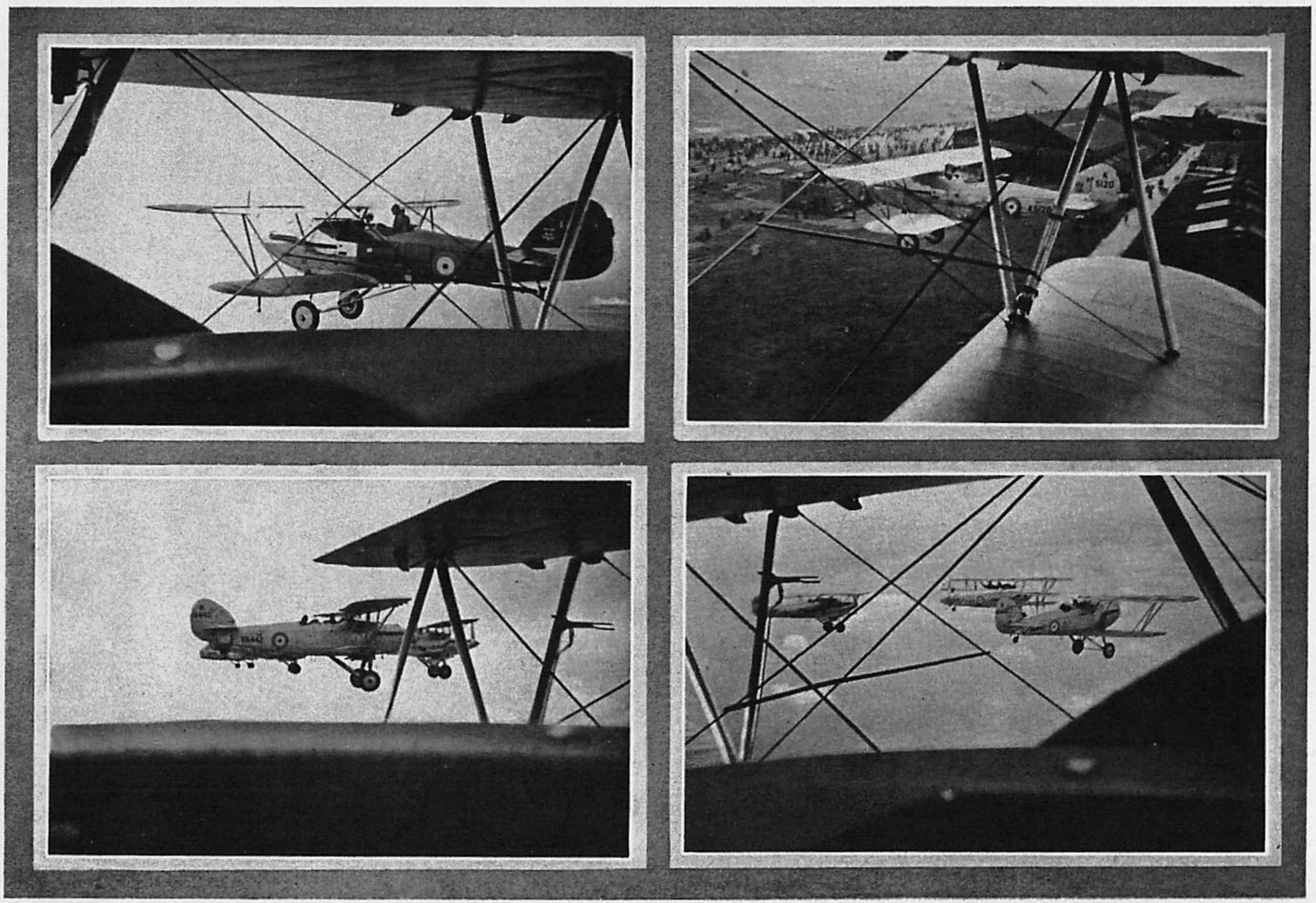
According to Peter Green and Mike Hodgson, operated by:
RAF College January 1929 - August 1939
SFTS/17FTS Cranwell September 1939 - May 1945
2 Flying Instructors School/2 CFS - September 1940 - June 1941
1 Signals School September 1940 - January 1941
19 FTS (vice 17FTS) May 1947 - April 1947
11 SFTS Oxford II November 1941
6 Radio School October 1950 - December 1950

The Airspeed AS.10 Oxford was a twin-engine monoplane aircraft developed and manufactured by Airspeed. It saw widespread use for training British Commonwealth aircrews in navigation, radio-operating, bombing and gunnery roles throughout the Second World War. The Oxford was developed by Airspeed during the 1930s in response to a requirement for a capable trainer aircraft that conformed with Specification T.23/36, which had been issued by the British Air Ministry. Its basic design is derived from the company's earlier AS.6 Envoy, a commercial passenger aircraft. Performing its maiden flight on 19 June 1937, it was quickly put into production as part of a rapid expansion of the RAF in anticipation of a large-scale conflict.



Tiger Moths - 1937

This photo was found amongst RAF College archived photos
Not operated from Cranwell till May 1945 with 19 FTS



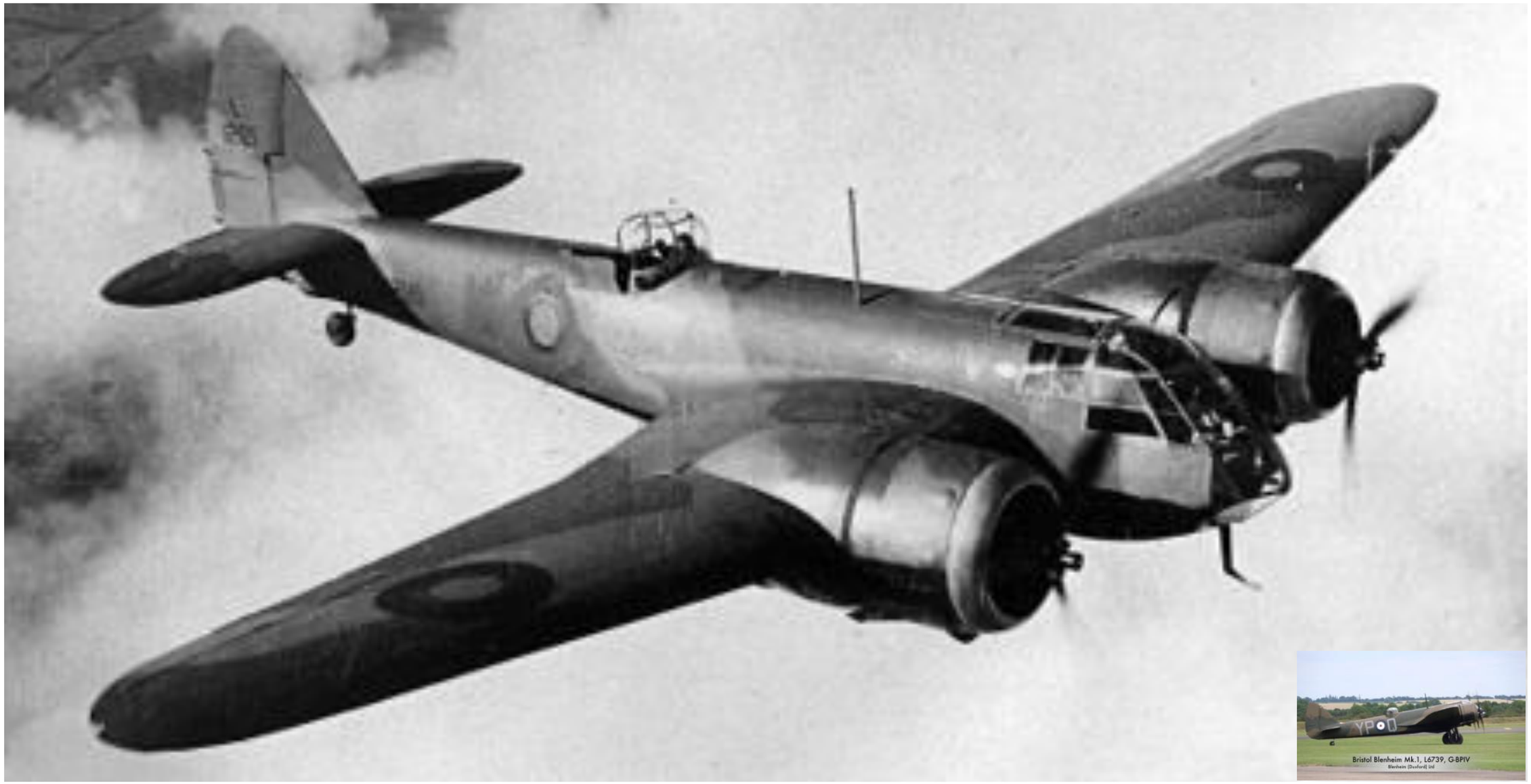
[*Photographs by "Flight Cadet."*

EMPIRE AIR DAY AT CRANWELL.

Bristol Blenheim I - August 1939 to May 1945

According to Peter Green and Mike Hodgson, operated by:
SFTS/17 FTS Cranwell August 1939 - March 1944 (sic), likely 1943 - May 1945

The Bristol Blenheim was a light bomber aircraft designed and built by the Bristol Aeroplane Company (Bristol) which was used extensively in the first two years and in some cases throughout the Second World War. The aircraft was developed as *Type 142*, a civil airliner, in response to a challenge from Lord Rothermere to produce the fastest commercial aircraft in Europe. The *Type 142* first flew in April 1935, and the Air Ministry, impressed by its performance, ordered a modified design as the *Type 142M* for the RAF as a bomber. Deliveries of the newly named Blenheim to RAF squadrons commenced on 10 March 1937. The three-seat twin-engined Mk I was powered by two 840 hp (630 kW) Bristol Mercury VIII radial piston engines, armed with a 0.303 in (7.7 mm) machine gun in the port wing, plus a 0.303 in (7.7 mm) Vickers K gun in the dorsal turret, maximum bomb-load 1,000 lb (450 kg); 1,552 were built.



Miles Master - August 1939 to March 1944

According to Peter Green and Mike Hodgson, operated by:
SFTS Cranwell/17 FTS August 1939 - March 1944 *(sic)*, more likely May - September 1940 & January 1942 - May 1945

The Miles M.9 Master was a two-seat monoplane advanced trainer designed and built by aviation company Miles Aircraft Ltd. It was inducted in large numbers into both the RAF and FAA during the Second World War. Typical service use of the Master primarily revolved around *(Pilot) Advanced Flying Units*, where they were used for training aircrew in preparation for service with frontline squadrons. Amongst other parts of the training syllabus, pilots would often be first exposed to fighter tactics while flying the aircraft. By 1942, advertisements claimed that the Master was being flown by every RAF fighter pilot-in-training. Several hundred Master IIs were either delivered in, or subsequently converted to, a configuration that allowed their use in the glider-towing role. Such aircraft would have the lower portion of their rudder cut away to allow fitting of a towing hook. Starting in 1942, Miles Masters were extensively used as tugs for General Aircraft Hotspur gliders at various Glider Training Schools. Examples were also operated by multiple Anti-aircraft Co-operation Units of the RAF as a liaison aircraft with British Army units.

Spitfire Mk V - 1943 to May 1945

According to Peter Green and Mike Hodgson, operated by:
SFTS Cranwell/17 FTS 1943 - May 1945

The basic Mk V was a Mk I with the Merlin 45 series engine. This engine delivered 1,440 hp (1,074 kW) at take-off, and incorporated a new single-speed single-stage supercharger design. Improvements to the carburettor also allowed the Spitfire to use zero gravity manoeuvres without any problems with fuel flow. Several Mk I and Mk II airframes were converted to Mk V standard by Supermarine and started equipping fighter units from early 1941. The majority of the Mk Vs were built at Castle Bromwich

North American Havard - September 1939 to April 1947+

According to Peter Green and Mike Hodgson, operated by:
17 FTS September 1944 - May 1945
1 E&W School September 1939 - 1940
8 Radio School January 1943 - June 1946 *(sic)*, but no mention in College archived notes
19 FTS May 1945 - April 1947, likely longer as an RAF College asset

The real lineage of the Harvard began in 1937 with a USAAF competition to develop a basic trainer. The requirements were for a type capable of basic instruction as well as simulating the controls and feel of an actual combat aircraft. It also had to be able to carry guns and bombs as necessary. North American's new design was based on their NA-16, but was vastly improved. It incorporated the Wasp engine, A Hamilton Standard variable pitch prop, a hydraulic system to power the flaps and the new inward-folding retractable landing gear. Later a stressed skin fuselage, a new rudder and angular wingtips were added. This prototype (called the NA-26) won the competition. It went into production as the BC-1. (BC for "basic trainer") The Royal Air Force initially ordered several hundred of this variant, with British instruments and radios, in 1938. The Brits coined the name "HARVARD" for it. (by which name it would become known in all the commonwealth countries....except for Australia, where it was called the "WIRRAWAY") This version retroactively became known as the MK I.

Bristol Blenheim V - March 1944 to May 1945

According to Peter Green and Mike Hodgson, operated by:
17 FTS Cranwell March 1944 - May 1945 *(sic)*, likely March 1945 - May 1945

The last bomber variant was conceived as an armoured ground attack aircraft, with a solid nose containing four more Browning machine guns. Originally known as the Bisley, (after the shooting competitions held at Bisley), the production aircraft were renamed Blenheim Mk V and featured a strengthened structure, pilot armour, interchangeable nose gun pack or bomb-aimer position and another Mercury variant with 950 hp (710 kW). The Mk V was ordered for conventional bombing operations, with the removal of armour and most of the glazed nose section. The Mk V (Type 160) was used primarily in the Middle East and Far East. The Blenheim served as the basis for the Beaufort torpedo bomber, which led to the Beaufighter, with the lineage performing two evolutions of bomber-to-fighter.

Miles Magister - September 1939 to 1940

17 FTS September 1939 - 1940

Beechcraft Mentor - September 1939 to 1940

1 E&W School September 1939 - 1940

The Beechcraft T-34 Mentor is an American propeller-driven, single-engined, military trainer aircraft derived from the Beechcraft Model 35 Bonanza. The earlier versions of the T-34, dating from around the late 1940s to the 1950s, were piston-engined. These were eventually succeeded by the upgraded **T-34C Turbo-Mentor**, powered by a turboprop engine. The T-34 remains in service more than six decades after it was first designed.

DH 86 Express - September 1939 to 1942

According to Peter Green and Mike Hodgson, operated by:
1 E&W School September 1939 - 1940
1 Signals School August 1940 - 1942
Possibly RAF College 1937 - 1939

The de Havilland Express, also known as the de Havilland D.H.86, was a four-engined passenger aircraft manufactured by the de Havilland Aircraft Company between 1934 and 1937. The D.H.86 was conceptually a four-engined enlargement of the successful de Havilland Dragon, but of more streamlined appearance with tapered wings and extensive use of metal fairings around struts and undercarriage. The most powerful engine made by de Havilland, the new 200 hp (149 kW) Gipsy Six, was selected. For long-range work the aircraft was to carry a single pilot in the streamlined nose, with a wireless operator behind. Maximum seating for ten passengers was provided in the long-range type; however, the short-range Holyman aircraft were fitted with twelve seats.

DH 89 Dominie - 1940 to 1946

According to RAF College archived notes and Peter Green and Mike Hodgson, operated by:
1 Signals School 1940 - January 1943
1 Radio School January 1943 - May 1945
Possibly 8 Radio School January 1943 - June 1946

When WWII began, 205 examples of DH.89 aircraft had been built. Many of them were pressed into British military service under the designation of DH.89 Dominie. They were typically used for passenger transporting and radio navigation training. Furthermore, the British military ordered over 500 DH.89 Dominie aircraft with the more powerful Gipsy Queen engines. To increase production, the firm Brush Coachworks Ltd. was contracted to build these aircraft as well, and this firm ended up building the larger portion of this contract. By the end of the war, 731 examples were built.

Airspeed Envoy - September 1939 to 1940

1 E&W School September 1939 - 1940

The Envoy was a twin-engined low-wing cabin monoplane of all-wood construction apart from fabric covered control surfaces. It had a rearward retracting main undercarriage with a fixed tailwheel. The aircraft was built in three series, the Series I was the initial production variant which did not have trailing-edge flaps, seventeen built. Thirteen Series II variants were built with split flaps and the Series III (19-built) was similar but had detailed improvements. Each series of the Envoy was sold with a choice of engines including the Wolseley Aries, Armstrong Siddeley Cheetah V or Armstrong Siddeley Lynx IVC radial engines. These different engines were housed under a variety of cowlings, mostly short chord Townend rings but also wider chord cowlings with and without blisters for cylinder heads.

Percival Proctor - November 1940 to June 1946

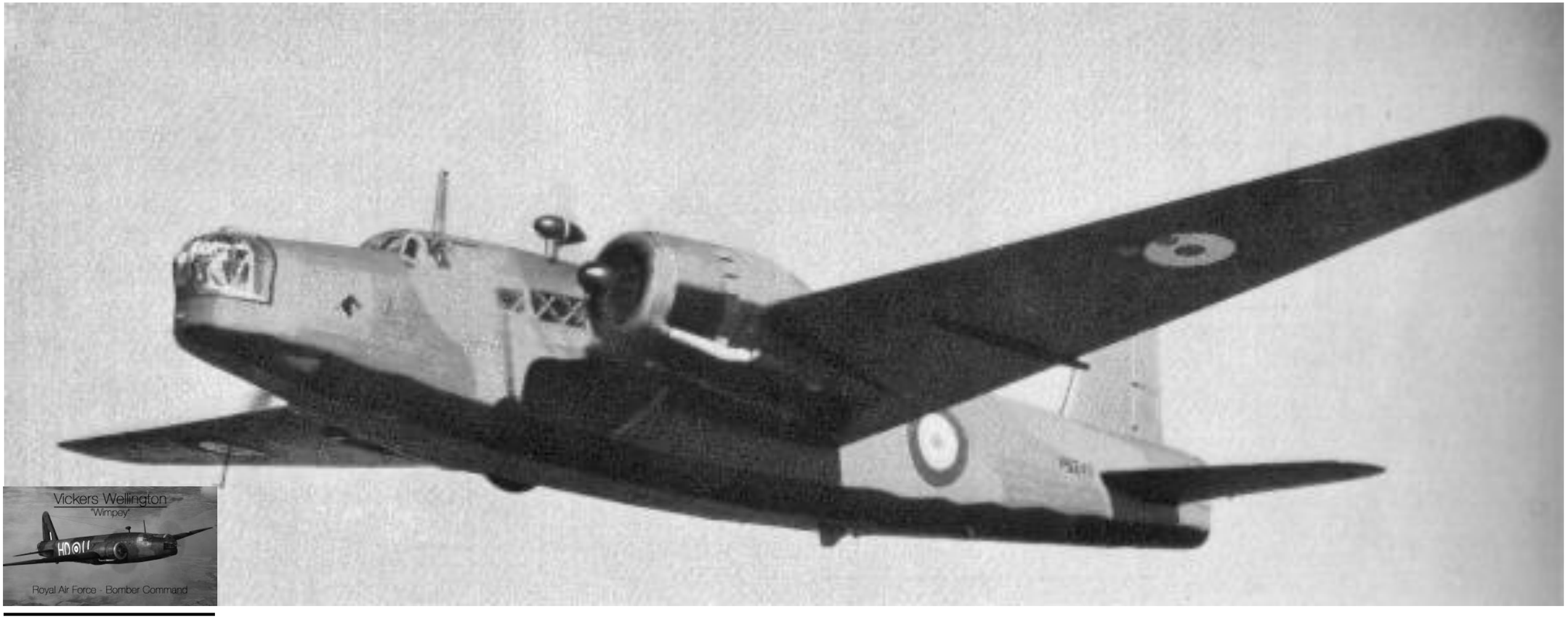
According to Peter Green and Mike Hodgson, operated by:
1 Signals School/1 Radio School November 1940 - January 1943 *(sic)*, actually May 1944
8 Radio School January 1943 - June 1946

The Percival Proctor was a British radio trainer and communications aircraft of the Second World War. The Proctor was a single-engined, low-wing monoplane with seating for three or four, depending on the model. In 1941, the Air Ministry issued Specification T.9/41 for a four-seat radio trainer. The P.31 – originally known as the "Preceptor" but finally re-designated the Proctor IV – was developed for this requirement with an enlarged fuselage. One Proctor IV was fitted with a 250 hp (157 kW) Gipsy Queen engine. This was used as a personal transport by AVM Sir Ralph Sorley but production models retained the 210 hp (157 kW) motor of earlier marks.

Vickers Wellington - August 1941 to June 1943

According to Peter Green and Mike Hodgson, operated by:
3 (Coastal) OTU August 1941 - January 1943 *(sic)*, more likely June 1943

The Vickers Wellington was a twin-engined, long-range medium bomber. It was designed during the mid-1930s at Brooklands in Weybridge, Surrey. Led by Vickers-Armstrongs' chief designer Rex Pierson; a key feature of the aircraft is its geodetic airframe fuselage structure, which was principally designed by Barnes Wallis. Development had been started in response to Air Ministry Specification B.9/32, issued in the middle of 1932, for a bomber for the Royal Air Force. The Wellington was adopted by Coastal Command, in which it contributed to the Battle of the Atlantic.[27] It was used to carry out anti-submarine duties; on 6 July 1942, a Wellington sank its first enemy vessel. Specialised DWI variants, fitted with a 48 ft (14.63 m) diameter metal hoop, were used for exploding enemy mines by generating a powerful magnetic field as it passed over them.[27] In 1944, Wellingtons of Coastal Command were deployed to Greece and performed various support duties during the British intervention in the Greek Civil War.



Avro Anson - August 1941 to April 1947+

According to Peter Green and Mike Hodgson, operated by:
3 (Coastal) OTU August 1941 - January 1943 *(sic)*, more likely April 1943
1 Signals School September 1940 - January 1941
19 FTS (vice SFTS/17FTS) May 1945, - April 1947 possibly with the RAF College till the 1960s

The Avro Anson was a twin-engined, multi-role aircraft built by the aircraft manufacturer Avro. Large numbers of the type served in a variety of roles for the RAF, FAA, RCAF and numerous other air forces before, during, and after the Second World War. It was initially used in the envisioned maritime reconnaissance operation alongside the larger flying boats. After the outbreak of the Second World War the Anson was soon found to have become obsolete in front line combat roles. Large numbers of the type were instead put to use as a multi-engined aircrew trainer, having been found to be suitable for the role, and became the mainstay of the British Commonwealth Air Training Plan. The type continued to be used in this role throughout and after the conflict, remaining in RAF service as a trainer and communications aircraft until 28 June 1968.

Whitley Mk V - January to April 1943

According to Peter Green and Mike Hodgson, operated by:
3 (Coastal) OTU August 1941 - January 1943 *(sic)*, more likely April 1943

The Armstrong Whitworth A.W.38 Whitley was one of three twin-engined, front line medium bomber types that were in service with the RAF at the outbreak of the Second World War. Alongside the Vickers Wellington and the Handley Page Hampden, the Whitley was developed during the mid-1930s in accordance with to Air Ministry Specification B.3/34, which it was subsequently selected to meet. In 1937, the Whitley formally entered into RAF squadron service; it was the first of the three medium bombers to be introduced. Following the outbreak of war in September 1939, the Whitley participated in the first RAF bombing raid upon German territory and remained an integral part of the early British bomber offensive. In 1942 it was superseded as a bomber by the larger four-engined "heavies" such as the Avro Lancaster. Its front line service included maritime reconnaissance with Coastal Command and the second line roles of glider-tug, trainer and transport aircraft. The type was also procured by British Overseas Airways Corporation as a civilian freighter aircraft. The aircraft was named after Whitley, a suburb of Coventry, home of one of Armstrong Whitworth's plants. It was a Whitley that caused the only war damage to the RAF College, crashing into the cupola en route from Skellingthorpe, searching for the South air field in poor visibility.

Westland Lysander - August 1941 to 1943

According to Peter Green and Mike Hodgson, operated by:
3 (Coastal) OTU August 1941 - January 1943

The Westland Lysander is an army co-operation and liaison aircraft produced by Westland Aircraft used immediately before and during the Second World War. After becoming obsolete in the army co-operation role, the aircraft's exceptional short-field performance enabled clandestine missions using small, improvised airstrips behind enemy lines to place or recover agents, particularly in occupied France with the help of the French Resistance. RAF army co-operation aircraft were named after mythical or historical military leaders; in this case the Spartan admiral Lysander was chosen.

Miles Martinet - 1943

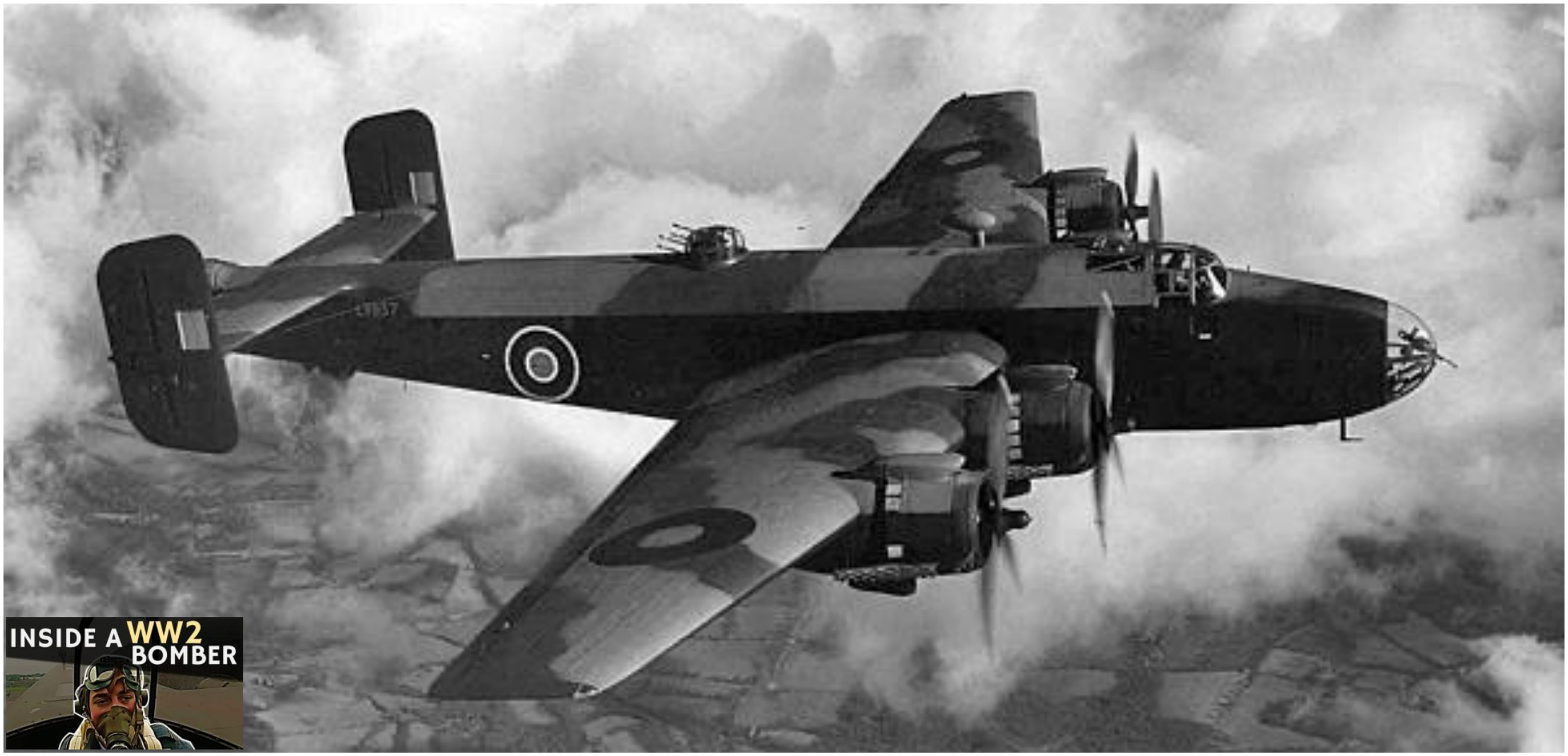
According to RAF College archived notes, operated by:
3 (Coastal) OTU 1943

The Miles M.25 Martinet was a target tug aircraft of the Royal Air Force and Fleet Air Arm that was in service during the Second World War. It was the first British aircraft to be designed specifically for target towing. Based upon the Miles Master II, the Martinet featured a strengthened airframe to handle the stresses of towing a target drogue. Other differences from the Master included a longer nose, higher cockpit and greater wingspan, but otherwise the two aircraft shared many common components. The targets and towing gear were contained in a fairing beneath the fuselage and were retracted by an external, wind-powered winch.

Handley Page Halifax - January 1943 to June 1946

According to RAF College archived notes, operated by:
8 Radio School January 1943 - June 1946 (no mention in College archived records)

The Handley Page Halifax is a British RAF four-engined heavy bomber of the Second World War. It was developed by Handley Page to the same specification as the contemporary twin-engine Avro Manchester. The Halifax has its origins in the twin-engine *HP56* proposal of the late 1930s, produced in response to the British Air Ministry's Specification P.13/36 for a capable medium bomber for "world-wide use." The HP56 was ordered as a backup to the Avro 679, both aircraft being designed to use the underperforming Rolls-Royce Vulture engine. The Handley Page design was altered at the Ministry to a four-engine arrangement powered by the Rolls-Royce Merlin engine; the rival Avro 679 was produced as the twin-engine Avro Manchester which, while regarded as unsuccessful mainly due to the Vulture engine, was a direct predecessor of the famed Avro Lancaster. Both the Lancaster and the Halifax would emerge as capable four-engined strategic bombers, thousands of which would be built and operated by the RAF and several other services during the War.



Tiger Moth - May 1945 and likely till the 1950s

According to Peter Green and Mike Hodgson, operated by:
19 FTS (vice SFTS/17FTS) May 1945 - April 1947, likely staying at the College until the 1950s

The de Havilland DH.82 Tiger Moth is a 1930s biplane designed by Geoffrey de Havilland and built by the de Havilland Aircraft Company. It was operated by the RAF and many other operators as a primary trainer aircraft. In addition to the type's principal use for *ab-initio* training, the Second World War saw RAF Tiger Moths operating in other capacities, including maritime surveillance and defensive anti-invasion preparations; some aircraft were even outfitted to function as armed light bombers. The Tiger Moth remained in service with the RAF until it was succeeded and replaced by the de Havilland Chipmunk during the early 1950s.

Vickers Valetta T3/T4 - 1951 to 1960s

The Vickers Valetta was a twin-engine military transport aircraft of the late 1940s, with an all-metal mid-wing monoplane and a tailwheel undercarriage. The Valetta C.1 entered service with the RAF in 1948, replacing the Douglas Dakota with RAF Transport Command and with transport squadrons in the Middle and Far East. The Valetta was used to carry out parachute drops in the 1956 Suez Crisis, and was used to provide transport support for a number of other British Military operations in the 1950s and 1960s, such as during the Malayan Emergency and operations in Aden. The Valetta T.3 was built to provide a navigational trainer for service with the RAF College and with No.1 and No.2 Air Navigation Schools. 40 were delivered from August 1951, with the last being WJ487 in September 1952. 18 Valetta T.3 aircraft were later converted to T.4 standard with a longer nose to fitted to accommodate a radar scanner in order to train crews in the AI (Airborne Interception) role.

Vickers Valetta T.3 of the RAF College at Blackbushe airport in September 1956. Note the cabin-top astrodomes and aerials for navigational training

Vickers Varsity T1 - 1951 to 1976

The Vickers Varsity is a British twin-engined crew trainer operated by the Royal Air Force for 25 years from 1951. The Varsity was based on the Viking and Valetta to meet Air Ministry Specification T.13/48 for a twin-engined training aircraft to replace the Wellington T10 and the Valetta T3 and T4. The main differences were the wider-span wings, longer fuselage and tricycle undercarriage. There was also a ventral pannier to allow a trainee bomb aimer to lie in a prone position and a bomb bay with a capacity for 24 x 25lb smoke & flash bombs. The first prototype Type 668 Varsity VX828 was first flown by J 'Mutt' Summers and G R 'Jock' Bryce from Wisley on 17 July 1949. The Varsity was withdrawn from service with the RAF in May 1976, its role as a pilot trainer being taken over by the Scottish Aviation Jetstream T1, and as a navigation trainer by the Hawker Siddeley Dominie T1.

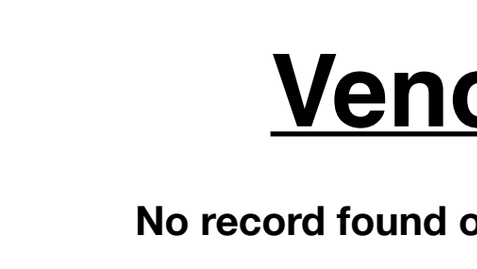
Percival Prentice T1 - November 1947 to 1953

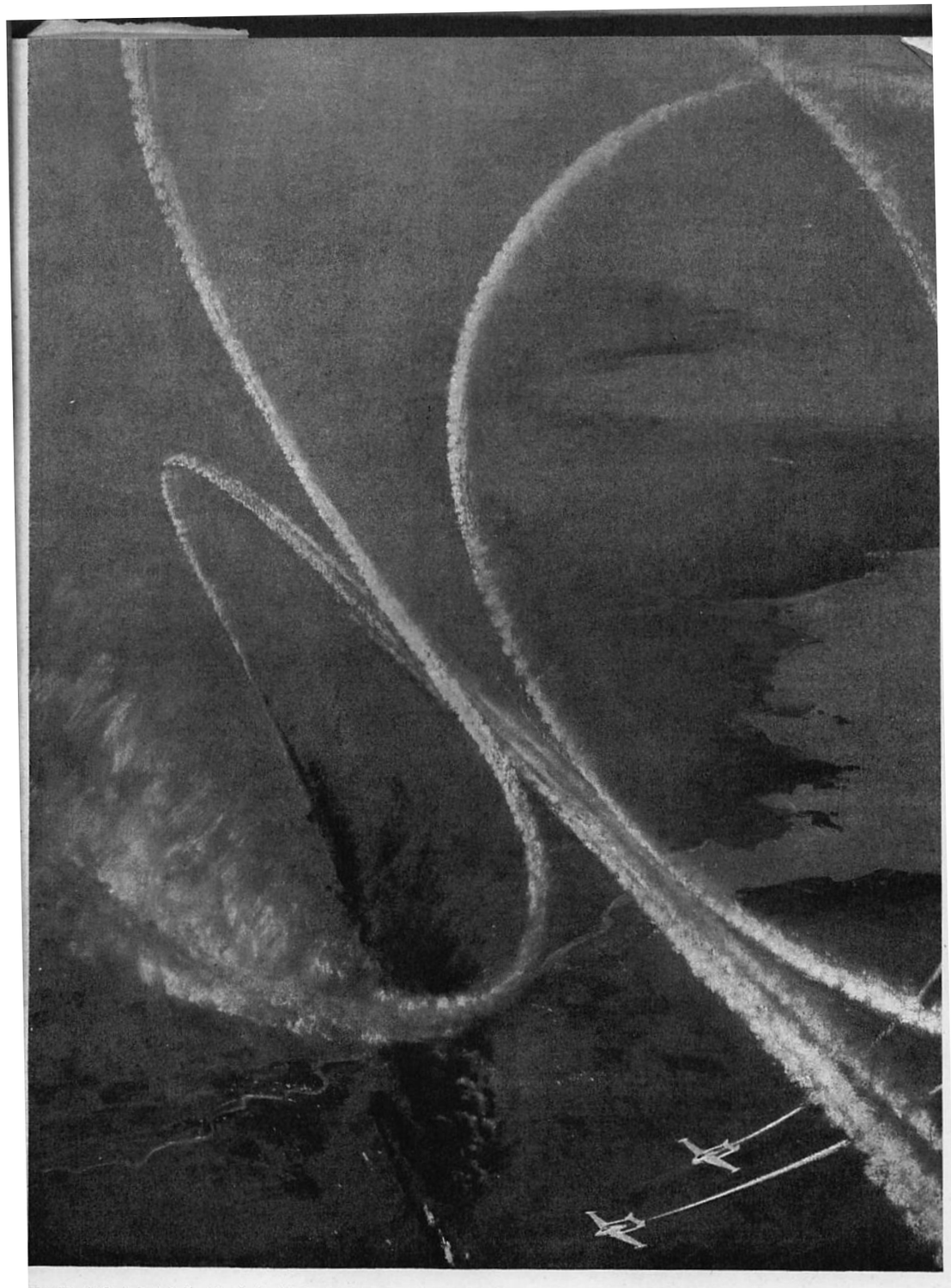
The Percival Prentice was a basic trainer of the RAF in the early postwar period. It is a low-wing monoplane with a fixed tailwheel undercarriage. Front seating was in a side-by-side configuration with a rear seat provided. Designed to meet Air Ministry Specification T.23/43, the Prentice was the first all-metal aircraft to be produced by the Percival Aircraft Company. The prototype Prentice TV163 first flew from Percival's factory at Luton Airport, Bedfordshire on 31 March 1946. Early trials revealed inadequate rudder control, resulting in a revised rudder and a large cutout in the elevators. After these modifications, the Prentice was passed into RAF service, initially with the regular Flying Training Schools (FTS) including the RAF College, Cranwell where they replaced the remaining de Havilland Tiger Moths. The aircraft were later modified with turned-up wingtips. Over 370 were delivered to the RAF between 1947 and 1949.

The left-hand photograph of the two below appeared in an RAF College Journal, implying the aircraft was a Gypsy Major 10 Mk2; this in fact was the 6-cylinder air-cooled inverted in-line piston engine, 296 hp (221 kW) supercharged, used by the Prentice T1.

Venom - Winter 1949 College Journal

No record found of the Venom having operated from the RAF College despite its appearance in the `journal

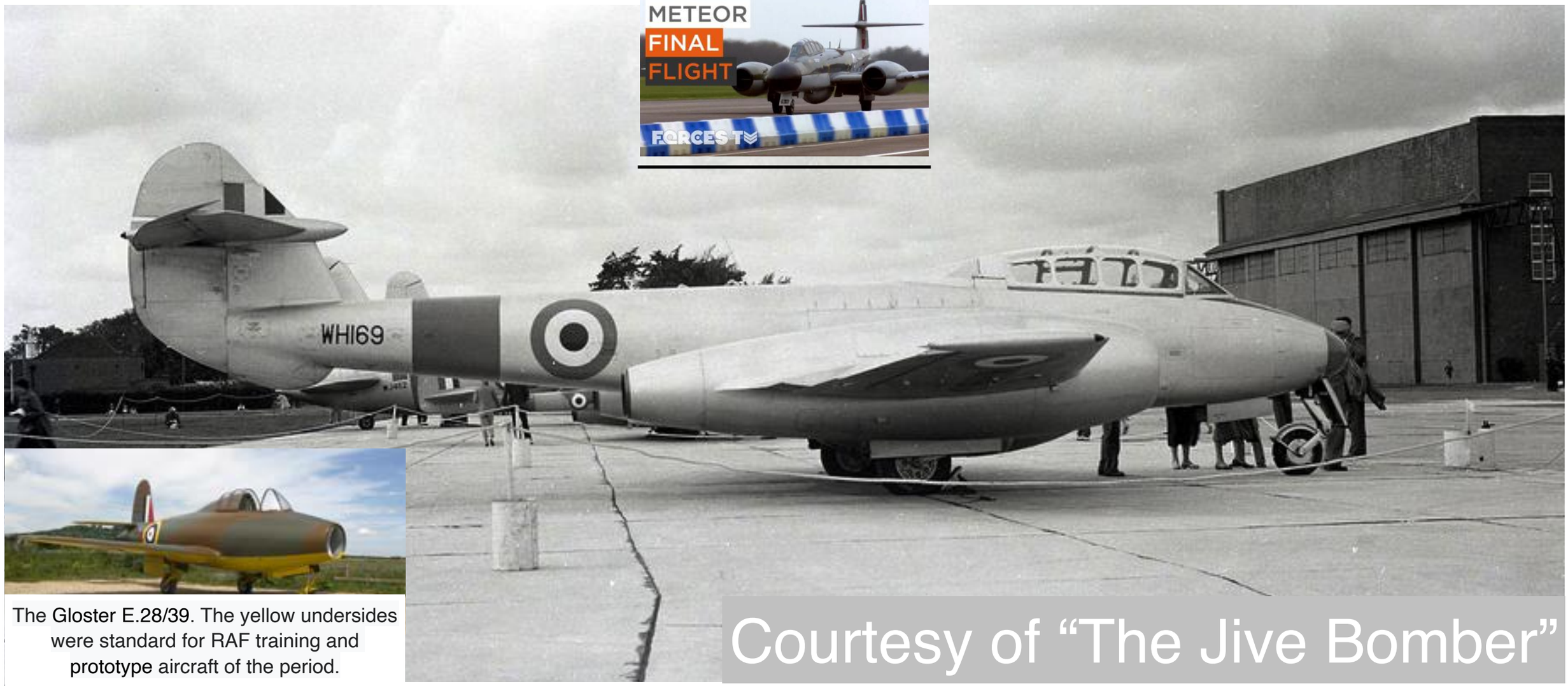




DE HAVILLAND VENOM—*Climb, speed and manœuvrability at altitude*

Gloster Meteor T.7 - 1950 to 1961

The Gloster Meteor was the first British jet fighter and the Allies' only jet aircraft to achieve combat operations during the Second World War. The Meteor's development was heavily reliant on its ground-breaking turbojet engines, pioneered by Frank Whittle and his company, Power Jets Ltd; the pioneering E28/39 made its inaugural flight at RAF Cranwell on 15 May 1941. Development of the aircraft began in 1940, although work on the engines had been under way since 1936. The Meteor first flew in 1943 and commenced operations on 27 July 1944 with No. 616 Squadron RAF. The Meteor was not a sophisticated aircraft in its aerodynamics, but proved to be a successful combat fighter. Gloster's 1946 civil Meteor F.4 demonstrator *G-AIDC* was the first civilian-registered jet aircraft in the world. Several major variants of the Meteor incorporated technological advances during the 1940s and 1950s. Thousands of Meteors were built to fly with the RAF and other air forces and remained in use for several decades.



The Gloster E.28/39. The yellow undersides were standard for RAF training and prototype aircraft of the period.

Courtesy of “The Jive Bomber”

Meteor WH169 is pictured on its home turf of RAF Cranwell in the late 1950s. As a two-seater, it was used primarily for training and in such a scenario the aircraft crashed and ended up in the scrapyard in 1960. Lurking behind it are two other Cranwell mainstays of the 1950s: a de Havilland Vampire and a Vickers Valetta (WJ462).

Chipmunk T Mk 10 - 1951 - 1955

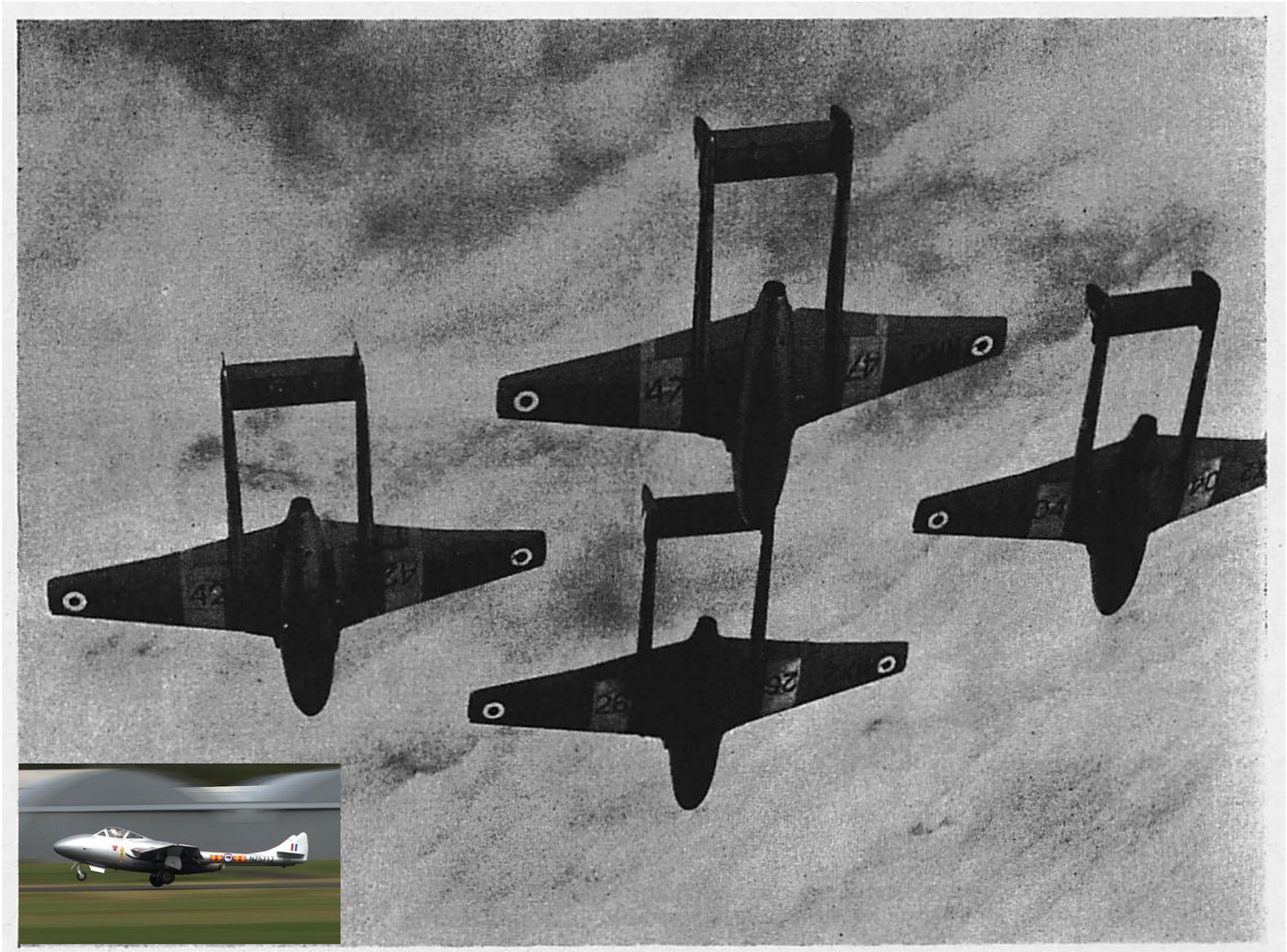
3 Initial Training Squadron January 1951 - March 1953

Unclear when the T Mk 10 officially ceased operations at the RAF College

The de Havilland Canada DHC-1 Chipmunk was a tandem, two-seat, single-engined primary trainer aircraft designed and developed by Canadian aircraft manufacturer de Havilland Canada. It was developed shortly after the Second World War and sold in large numbers during the immediate post-war years, being typically employed as a replacement for the de Havilland Tiger Moth biplane. Based upon a favourable evaluation of three aircraft by AAEE Boscombe Down, the Air Ministry proceeded to formulate and release Air Ministry specification T.8/48 around the type as a replacement for the RAF's Tiger Moth biplanes then in use. This specification was also contested by the rival Fairey Primer, which lost out to the Chipmunk and ultimately did not enter production. The fully aerobatic Chipmunk was ordered to serve as an *ab initio* trainer for new pilots. Until 1996, Chipmunks remained in service with Air Training Corps (ATC) for Air Experience Flights (AEFs); the final of these AEF flights to use the Chipmunk was No. 10 Air Experience Flight, RAF Woodvale, when they were replaced by the Scottish Aviation Bulldog.

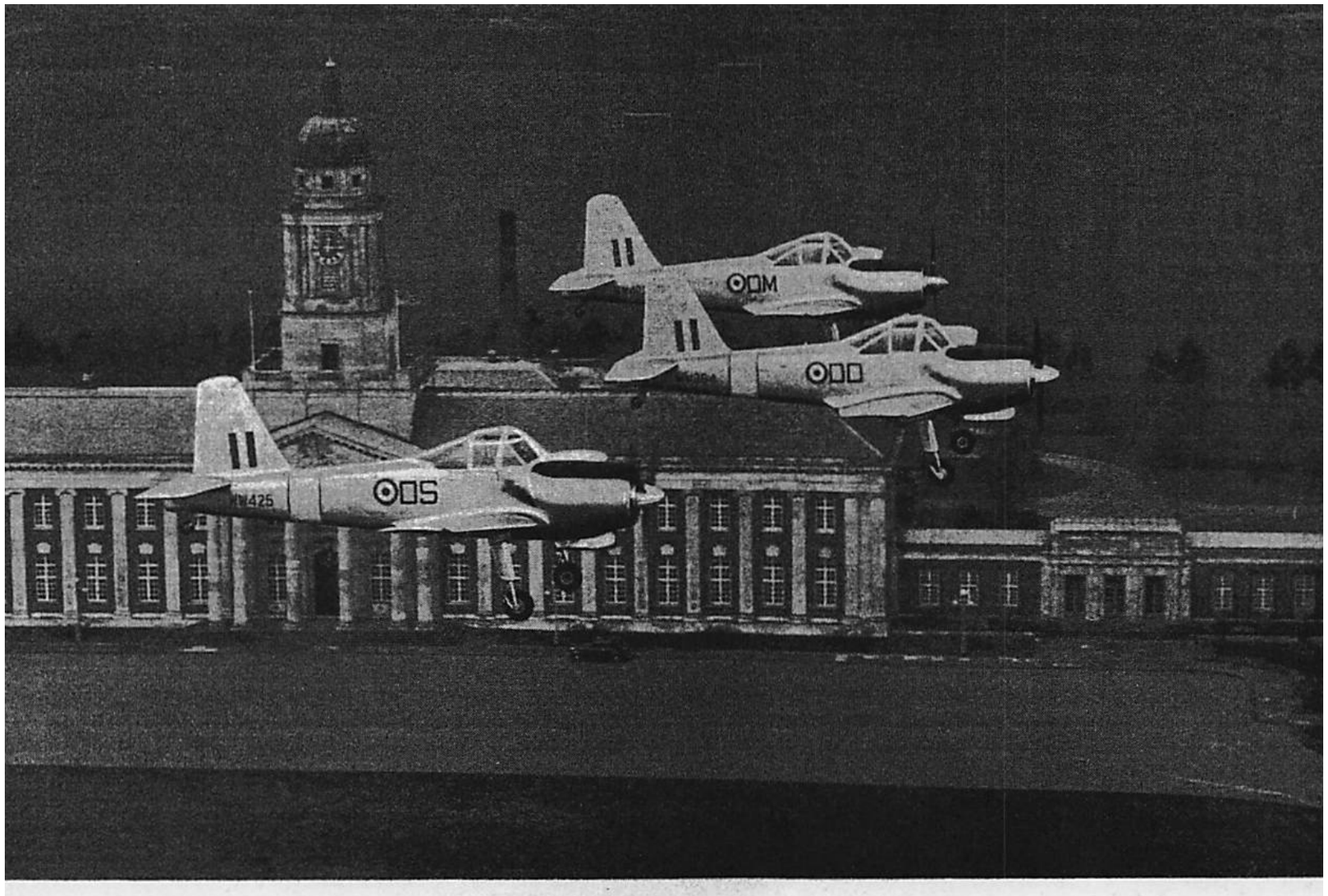
Vampire - 1952 to 1961

The final variants of the Vampire were the T (trainer) aircraft. Being first flown from the old Airspeed Ltd factory at Christchurch, Hampshire on 15 November 1950, production deliveries of the Vampire trainer began in January 1952. Over 600 examples of the T.11 were produced at Hatfield and Chester and by Fairey Aviation at Manchester Airport. By 1965, the Vampire trainer had been mostly withdrawn, its replacement in the advanced training role being the Folland Gnat; only a small number of Vampire T.11s remained in service, typically for the training of foreign students until these too were retired in 1967.



The Cranwell Aerobatic Team

Percival Provost - 1955 to 1960



Hunting Percival Provosts in Formation

The Hunting Percival Provost, a much more powerful aircraft than the De Havilland Chipmunk, which it has replaced, has now become the basic trainer at the Royal Air Force College, a prelude to the arrival of the Vampire T11 later in the year

Percival Provost - Restoration

The author was advised in 2019, through the Cranwellian Association, that two Cranwellian Provosts were being restored. This may have been abandoned

Dear Sir

I hope you don't mind my contacting you ?

I'm currently having one of two Percival Provost T.1 training aircraft restored to airworthiness. The two aircraft in question served at RAF Cranwell during the 1950's. They shall be going back into their original Cranwell colour scheme and codes, as it is only correct they should.

I thought the association maybe interested in hearing this news, and that your more than welcome to visit these aircraft. Please see attachment for a little more information.

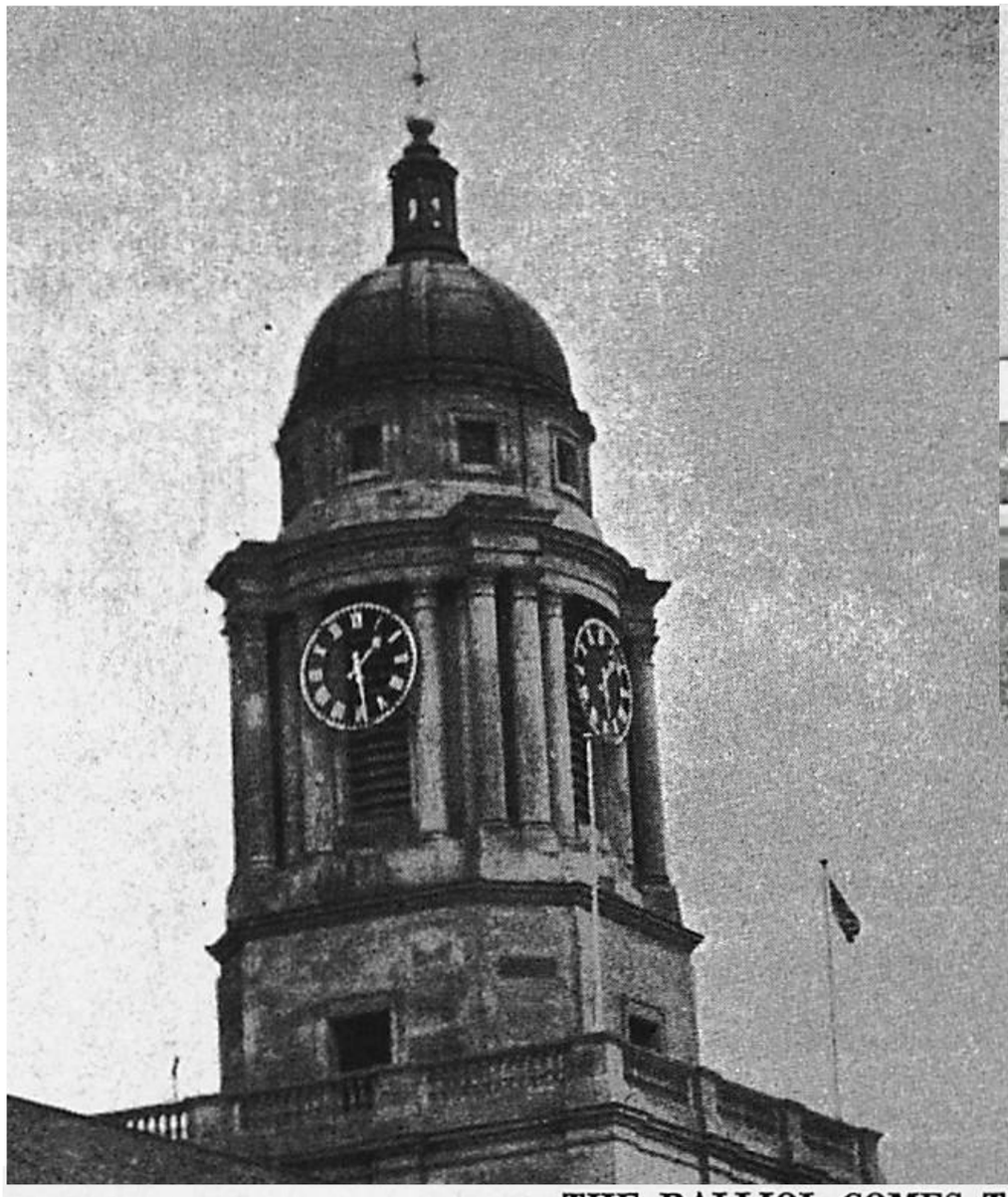
Best wishes and thank you for you time.

James Atkinson
Director Provost Preservation

Boulton Paul Balliol Aircraft - Mid-1950s

Photograph taken from the June 1954 RAF College Journal (snapped at 1328!)

The Boulton Paul Balliol was a monoplane military advanced trainer aircraft built for the RAF and the FAA by Boulton Paul Aircraft. Developed in the late 1940s, the Balliol was designed to replace the North American Harvard trainer. It used the Rolls-Royce Merlin engine.



THE BALLIOL COMES TO CRANWELL

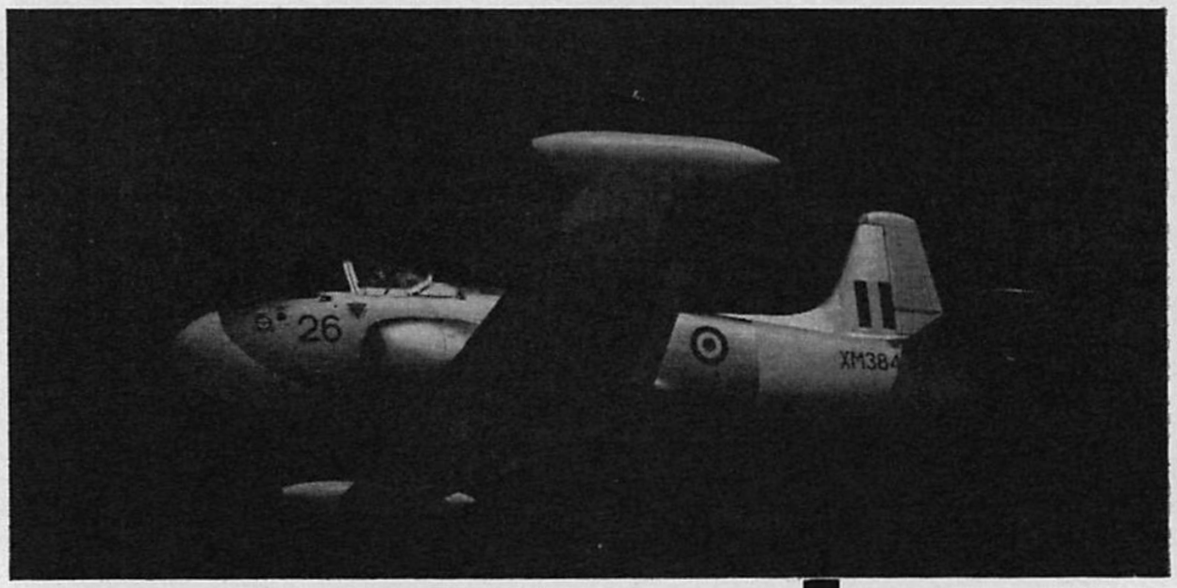
This term the Balliol has taken the place of the Harvard for advanced flying training. Two squadrons are at present based at Barkston. The picture above, one of many taken earlier this term, shows a Balliol piloted by O.C., Headquarters Flight (Squadron Leader J. E. Townsend) flying low over the College

Javelin, Vampire and Varsity - 1960

Photograph appeared in the Autumn 1960 College Journal)

Review of the Flying Wings—Her Majesty with Wg Cdr C. F. Green

Jet Provost - College Journal Autumn 1960



Jet Provost

Powered by one Bristol Siddeley Viper ASV 8 or ASV 11

Now in regular service at Royal Air Force Flying Training Schools. Also in service with the Royal Ceylon Air Force.

Entering service with the Royal Air Force in 1961. The Jet Provost T.Mk. 4 takes off in 1030 ft lands in 1415 ft climbs to 30,000 ft in 13.3 minutes has a max. level speed of 357 kt and a max. range of 600 n.m.

HUNTING AIRCRAFT LIMITED

Member Company of British Aircraft Corporation

Jet Provosts Mk 3 and Mk 5 - 1961 to 1989

The BAC Jet Provost was a jet trainer aircraft that was in use with the RAF from 1955 to 1993. It was originally developed by Hunting Percival from the earlier piston engine-powered Percival Provost basic trainer, and later produced by the British Aircraft Corporation (BAC). In addition to the multiple RAF orders, the Jet Provost, sometimes with light armament, was exported to many air forces worldwide. The design was also further developed into a more heavily armed ground attack variant under the name BAC Strikemaster.

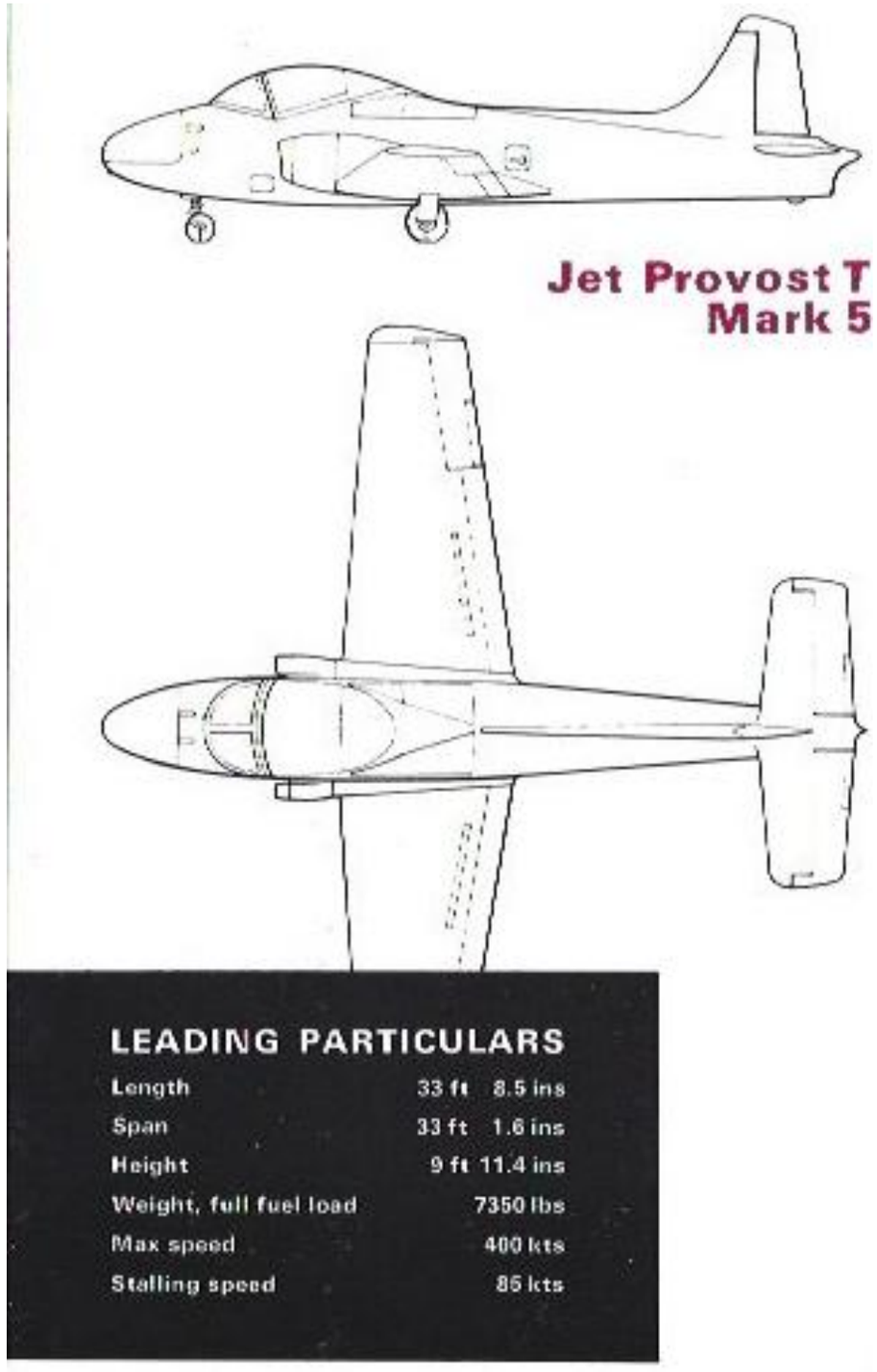


Photo: Shaun Connor

(HS 125) Dominie - 1964 to 2011

The British Aerospace 125 is a twinjet mid-size business jet. Originally developed by de Havilland and initially designated as the DH.125 Jet Dragon, it entered production as the Hawker Siddeley HS.125, which was the designation used until 1977. The type proved quite popular overseas; more than 60% of the total sales for the aircraft were to North American customers. It was also used by the Royal Air Force as a navigation trainer, as the Hawker Siddeley Dominie T1, and was operated by the United States Air Force as a calibration aircraft, under the designation C-29.

Jetstream T1 - 1972 to 2003

The Handley Page HP.137 Jetstream is a small twin-turboprop airliner, with a pressurised fuselage. The aircraft was designed to meet the requirements of the United States commuter and regional airline market. The design was later improved and built by British Aerospace as the BAe Jetstream 31 and BAe Jetstream 32, featuring different turboprop engines. 26 Jetstream 201s were ordered by the Royal Air Force, which used them as multi-engine trainers as the Jetstream T.1. Fourteen of these were modified as observer trainers for the Royal Navy, receiving the designation Jetstream T2.

Scottish Aviation Bulldog T1 - 1972 to 1985

The Scottish Aviation Bulldog was a two-seat side-by-side (with optional third seat) training aircraft designed by Beagle Aircraft as the B.125 Bulldog. The prototype Bulldog flew on 19 May 1969 at Shoreham Airport. The largest customer was the RAF, which placed an order for 130 Bulldogs in 1972, entering service as the Bulldog T.1. It was used by the Royal Air Force as a basic trainer, in particular as the standard aircraft of the University Air Squadrons, including the RAF College Air Squadron in the 1990s and, later, Air Experience Flights, providing flying training. The aircraft was also used by the Royal Navy for Elementary Flying Training (EFT) at RAF Topcliffe. They were replaced by the Grob Tutor at the RAF College in 1985.

Grob G115 Tutor - 1985 to 2018

The Grob G 115 is a general aviation fixed-wing aircraft, primarily used for flight training. It is built in Germany by Grob Aircraft (Grob Aerospace before January 2009). The E variant with a 3-blade variable pitch propeller is in service with the Finnish Air Force, the Royal Navy and Army Air Corps for Flying Grading (a pre-EFT flying course) and in the Royal Air Force as part of 6 FTS, which provides flying to both University Air Squadrons and Air Experience Flights to Cadets from the Air Training Corps and Combined Cadet Force. The Tutor was previously used as a tri-service trainer for Elementary Flying Training, before being replaced in 2018 by the Prefect T1.

Short Tucano T1 - June 1988 to October 2019

The Short Tucano was a two-seat turboprop basic trainer built by Short Brothers in Belfast, Northern Ireland, a licence-built version of the Brazilian Embraer EMB 312 Tucano. On 14 February 1986, the prototype conducted its maiden flight in Brazil before being delivered to Shorts to be used as a pattern aircraft and modified to meet RAF requirements and used for trials and demonstrations. The first Short-assembled aircraft flew on 30 December 1986; deliveries to the RAF commenced during June 1988. The final example of the type was completed in 1995. Maintenance and support of the RAF's Tucano fleet was typically outsourced to several private companies. On 25 October 2019, the Tucano was withdrawn from RAF service, replaced by the Beechcraft T6 under the UKMFTS programme in 2004.

Beechcraft King Air B200 - 2004 to date

The Beechcraft Super King Air family is part of a line of twin-turboprop aircraft produced by Beechcraft. The Model 200 and Model 300 series were originally marketed as the "Super King Air" family; the "Super" designation was dropped in 1996. They form the King Air line together with the King Air Model 90 and 100 series. The King Air B200 entered service with the RAF in 2004 as a multi-engine trainer, replacing the Jetstream T1.

Grob 120TP Prefect T1 - 2018 to date

Under the new UK MFTS construct, the Prefect T1 replaced the Tutor T1 in the elementary flying training Role with 57 Sqn at RAF College Cranwell. Nominally based at Cranwell but operating out of nearby RAF Barkston Heath, the Prefect brings turboprop power, digital avionics and retractable undercarriage to elementary flying training. These features make it entirely relevant to the next stage in UK MFTS, whether students progress to the Juno helicopter, Texan II basic trainer or Phenom multi-engine platform. It eliminates the need for students to learn glass cockpit flying later in their training and establish a digital precedent all the way to the frontline.

RAF 100 Aircraft