

Chiltern Airwords



A Curtiss C-46 Commando, named 'Dumbo' / N7848B of Everts Air Cargo, Fairbanks, Alaska. Dumbo is one of six Curtiss C-46 aircraft still in service and has since been transferred to Everts Air Fuel. Photo by John Roach

The Chiltern Aviation Society Magazine
March - April 2021

CHAIRWORDS

As I write this, there's some light at the end of the tunnel regarding the pandemic, although still some way off. However, this is tempered by the sad news that Ted Smith died at the end of February, after a long battle with Cancer. I have written to offer our condolences to his extended family, on behalf of CAS. Glyn Chambers and Brian Service, are not too well at present, and Eric Spanier has been moved to a Care Home in Hayes End.

If all goes well with the Government's planned easing of lockdown, we could re-open in the summer and will be watching developments and liaising with the Church Hall Lettings Secretary. Incidentally a suggestion has been made that as most of our members are of retirement age (to say the least) we could possibly switch to afternoon meetings. Unfortunately, Room 1 in normal times is very busy on most weekday afternoons with women's groups from Church and elsewhere, filling most of the slots. Needless to say, it is something we will keep an eye on. At the very least we would have to wait until Lawrence retires (*in 2025*) being a vital link and 'technical' assistant at our talks.

Finally, a little humour to cheer you up, if Ted will forgive me.

Trawling through some old TV clips I came across some gems from 'Till Death us do part' Dandy Nichols (best known for her role as Else Garnett, the long-suffering wife of the bigoted Alf Garnett) on being told that Mary & Joseph went to Bethlehem but found there was no room for them at the Inn, said "I'm not surprised, it was Christmas wasn't it". Also, on a visit to HMS Victory in Portsmouth was shown the raised plinth on deck recording Nelson's death - This is where Nelson fell, she was told. Her reply was "I'm not surprised, anyone could trip over that".

Keep safe all, and please follow Government advice. **KEITH HAYWARD**

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THE CHILTERN AVIATION SOCIETY (CAS); Founded in 1968. Associate member of Air Britain Historians Ltd. President; Philip Birtles. Patron; David F. Ogilvy OBE FRAeS. CAS is a not-for-profit Society relying on donations and membership fees. Membership is £15 PA. Non-Members also welcome for a small contribution of £2 per event.

MEETINGS & TALKS: Fourth Wednesday of the month (third in December) 8pm to 10 pm at *Ruislip Methodist Church Hall, Ickenham Road, Ruislip, Middx, HA4 7BX.*

2021 EVENTS PROGRAMME (VERY PROVISIONAL DATES)

WEDNESDAY - 23rd JUNE 2021 - TBA

WEDNESDAY - 28th JULY 2021 - RAF POST WAR WELLINGTON T.10 - LP HAYWARD (PROV)

BRISTOL BOMBAY L5853 CRASH IN RUISLIP; A WARTIME MYSTERY – BY KEITH HAYWARD

The Royal Air Force's 271 Squadron was formed late in World War I and disbanded at the end of hostilities. On 1st May 1940 it was reformed at Doncaster as a transport squadron. During the build-up of the RAF in the late 1930s the priority was for fighter aircraft with transport machines low on the list. Subsequently 271 Squadron's equipment when it reformed consisted of a motley assortment of aircraft types including Handley Page 42s impressed for service from Imperial Airways, Handley Page Harrows Mk I and II, a Ford 5-AT-D and the new Bristol Bombay, a high-wing, fixed undercarriage machine powered by two Bristol Pegasus XXII engines of 1,010 hp each. This assortment of aircraft must have been a nightmare for the squadron's engineers with the inevitable shortage of spares. The squadron was based at Doncaster and was plunged into action very rapidly, positioning equipment to the RAF squadrons in France equipped with Fairey Battles and Hawker Hurricanes, and then equipment for the beleaguered British Expeditionary Force prior to Dunkirk. For these duties the squadron moved south.



At Northolt on 29th July 1940 Bombay L5853, was loaded with boxes of ammunition and equipment, bound for France. During the morning the weather deteriorated with low cloud covering the London area. The Bombay took off in an easterly direction from the cross runway (as it then was). It was heavily loaded as it cleared West End Road and, almost immediately, lost power; unable to maintain height the Bombay crashed at Hunters Hill, South Ruislip. Luckily it seems that there was a no fire and no exploding boxes of ammunition and apparently the crew survived. That area was not developed at that time as the aircraft didn't strike any houses although it was a write-off. Just one more wartime incident that doesn't seem to have attracted much interest at the time, with no apparent local record; perhaps it was censored?



Top Right; A Bristol Bombay on a test flight over Northern Ireland. Above Bristol Bombay Mark I, L5857 SH-C, of No. 216 Squadron RAF based at Heliopolis, Egypt, in flight over the Western Desert.

THE HAMPDEN'S STRANGE CONNECTION WITH GERMANS, SPIES & TRAITORS - BY LP HAYWARD



Ever since I was young, I have had a fascination for the early exploits of Bomber Command and the crews, before more sophisticated navigation methods were employed. The Whitley, Wellington and Hampden seem to be the epitome of such early wartime operations, that were carried out in the very worst weather in total darkness. And yet they carried on each night, stooging around over Germany (sometimes bombing their target) and yet navigated their way to their *home station* more often than not. They can't have been that useless at navigation, can they? Over the years I have amassed quite a collection of Hampden photos, so I offered to do a talk on the HP Hampden to the Handley Page Association, so I needed to do a bit of research beforehand!

My research had since moved to the internet rather than my collection of Ian Allen and PSL books, but the first surprise (and a good fact for any society quiz) is that the Hampden was designed by a German National; Gustav Lachmann (*shown left in 1960s*) and not just a person of German descent, but a German National who had fought for the Germans in WW1 in the cavalry on the Eastern Front. He learnt to fly in WW1 and later

invented his version of the Handley Page slats, at the very same time as Handley Page was doing so. In fact, Lachmann obtained his patent first, which gave it priority over that of Handley Page, but a meeting between the two men settled the matter to mutual advantage, the patent rights being shared, and Lachmann was hired as a consultant by Handley Page Ltd in 1929. Prior to joining Handley Page, Lachmann had worked for Albatross designing their L72 and L73 airliners until 1926, and after that, he went to Japan and worked for Tachikawa on their Ki-9 biplane (similar in appearance to a Boeing Kadet). By chance he met the daughter of a British diplomat and this started his love affair with her and Britain too. After joining Handley Page, Lachman eventually became Chief Designer in 1932 designing various aircraft, notably the Handley Page Harrow, before the Hampden & Hereford and post war he designed the wings for the Handley Page Victor! The HP Hampden made its first flight as the first prototype K4240, on 21st June 1936, but the aircraft design needed two more years of modifications before it was fit for service. The first production Hampden L4032 flew from Radlett on 24th June 1938 and by September 1939, the RAF had ten Squadrons equipped with Hampdens. (*Right; Hampdens being prepared for delivery, at Radlett in 1938*)

Once Lachmann started working for Handley Page, it brought him to the attention of MI5, as Lachmann occasionally returned to Germany and met with former comrades from *Die Fliegertruppe*. His previous work on German and Japanese aircraft didn't endear him to the security services, who put great pressure on Frederick Handley Page, to have Lachmann dismissed, which he refused. As you can imagine the attitudes of the time were still very much anti-German, where our forces were concerned. In the 1930s when the Air Ministry was looking at various overseas manufacturers, there was some consideration in using Fokker aircraft for the RAF, however, the memory of Fokkers over the Western Front in WW1 was too recent to contemplate, and it is said that when



Airspeed (1934) Ltd signed an agreement with Fokker to build some of their designs under licence, the Air Ministry struck Airspeed from the list of UK manufacturers to make fighting aircraft, for ever. It was therefore against all considered opinion that Frederick Handley Page had faith in 'a German' and so Lachmann carried on till 1939. However, on the outbreak of war, Lachmann was interned as an enemy alien (a process carried out without exception) and sent first to Quebec on the *Duchess of York* and later interned on the Isle of Man, but, after pressure from his employers, he was begrudgingly permitted by the authorities to continue his work for Handley-Page from Lingfield Prison. Now that's what I call dedication! Obviously, MI5 and Special Branch were very happy with themselves seeing as they had another alien behind bars, but as it happened MI5 had egg all over their faces (and a traitor in their midst) as they had been keeping William Joyce (later Lord Haw Haw) under observation until amazingly he was tipped off by one of their number in MI5 and fled to Germany at the end of August 1939, escaping imprisonment 'for the duration' unlike Moseley. There is no doubt, he was in league with the Nazis, but being detained would have ultimately prevented him from being executed. The reason is that, Joyce fled using an illegally obtained British Passport by claiming he was Irish born, when he was US born. It was this passport that ensured he had an appointment with the hangman, as his acts of treason against Britain lasted for as long as his British passport lasted up to 1940. (His connection to the Hampden will be revealed later!)

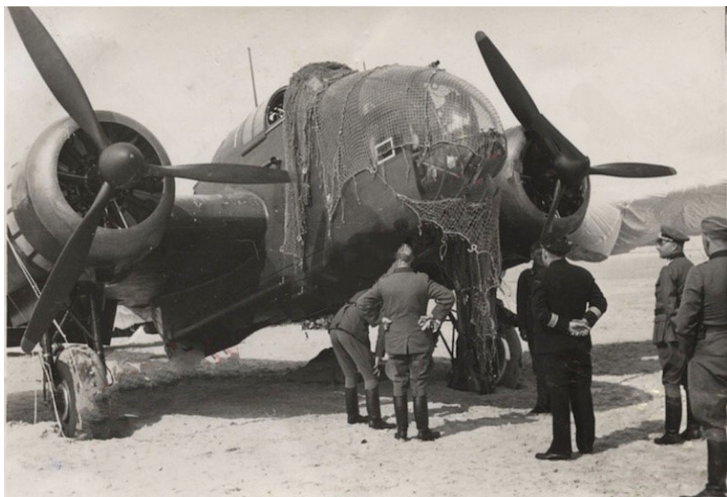
Meanwhile, Georg Franz Hein, a German Jew, from Hanover had just left the UK Boarding School, to which he had been sent in 1934 by his well-off widowed mother to escape the Nazis. Understandably he was reluctant to return home to Hanover! He could not work as an alien. Instead, he spent time on friends' couches and started gambling but with mounting debts and accusations of fraud, he was jailed briefly as Georg Hein until the summer of 1939. At this point Georg Hein should have been deported back to Germany, or with the prospect of war with Germany, faced being interned as another enemy alien. He had to do something, and do it quickly! Therefore, using the details of a school friend who had recently died, he legally obtained a copy of the friend's birth certificate from Registry of Births, Deaths & Marriages, and used it to adopt his new identity. He now became Peter Stevens, which he adopted and used it when he joined the RAF on the very day war broke out; 3rd September 1939. No doubt due to his private education and perfectly 'plumb' English accent and that he had volunteered the day war broke out, he greatly impressed the RAF recruiters and was therefore Commissioned as a Pilot Officer and sent for pilot training. Meanwhile a frantic search by MI5 and Special Branch, failed to find George Hein. Every enemy alien had to be accounted for and apparently, MI5 searched for him for two years. Little did MI5 realise he had enlisted in the RAF!

After a period of square bashing, Peter Stevens as he became known for the rest of his life, finally got his wish and according to his logbook made his first flight on 6th June 1940 in Avro Cadet G-ADTS and went solo in the same aircraft on 22nd June 1940. G-ADTS was issued to Air Service Training Ltd, that operated various Flying Schools on behalf of the Air Ministry. P/O Stevens spent the rest of 1940 flying Airspeed Oxfords and Avro Ansons. *(Photo left; a line-up of AST Avro Cadets at Hamble)*



Peter Stevens flew the Hampden for the first time in February 1941 with 16 OTU, where he was classed as above average, with a note in his logbook which says 'Worth elevating to a first pilot at an early date'. His first Operation with 144 Sqn was on 3rd April 1941 carrying out minelaying near Brest. Eventually Peter Stevens carried out 22 Ops with 144 Sqn but this came to an end when his aircraft was hit by flak on 7th September 1941 over Berlin. He ordered his crew to bail out. Sgt Ivor Roderick Fraser did so, but was killed when his parachute failed to open. The other air gunner, Sgt Thomas was captured on landing and spent the rest of the war as a prisoner of war. After two of the crew had jumped, Stevens realised that his Hampden AD946 was marginally flyable, and he got as far as Amsterdam before he ran out of fuel, and force landed in a farmer's field. He destroyed the secret bits of the aeroplane and set fire to the wreckage before setting out cross-country with his navigator, Sgt Alan Payne. Sadly, they were captured by German troops and within a day. P/O Stevens was now a POW in his own country, without protection under the Geneva Convention (as he was still a German citizen). For three years and eight months he lived with the knowledge that the Nazis could take him out of the prison camp at any time and shoot him. He therefore chose not to reveal his identity to his fellow POWs. Back in the UK, MI5 eventually discovered where George Hein had gone, and there was an initial panic should he have defected back to Germany with an RAF bomber, but reports from his Squadron and comrades soon dispelled such thoughts. MI5 therefore closed their case and did not 'blow' his cover, especially as other German born Jews were serving in the British Forces under assumed names. They need not have worried, as Stevens went on to become one of the most ardent escapers of the war. Stevens made eight escape attempts, three of which included impersonating guards taking working parties out of the camp, but he was captured each time. In October 1941 just a month after being captured, he and a Canadian pilot Mike Lewis jumped off a Nazi prison train in a hail of bullets, and they went home to see Stephen's mother in Hanover. They were looking for civilian clothing, food and money, but they discovered instead that Stephen's mother had committed suicide six weeks before the outbreak of hostilities. For the rest of his time as a POW Stevens was instrumental in providing all manner of support for fellow prisoners, including the 'Wooden Horse' escape and later the 'Great Escape' from Stalag Luft 3. (In that case he must have known Peter Butterworth of 'Carry On' films, featured in AIRWORDS last year). Stevens was ultimately liberated by the Russian forces whilst at Stalag IIIA on the 21st April, 1945. The following year on 17th May 1946 Stevens was awarded the Military Cross (MC) for his escape activities, one of only 69 members of the Royal Air Force to receive the medal for bravery on the ground. He stayed on in the RAF postwar as ADC to Air Vice Marshal Alexander Davidson and was promoted Squadron Leader. AVM Davidson supported Stevens in his bid to officially obtain British nationality, and Stevens was naturalised using his adopted name as a British subject on 18 October 1946. In 1947 Peter Stevens joined MI6 in Germany and spied on Soviet occupied East Germany in the early Cold War. He emigrated to Canada in 1952, and kept his true identity a secret until his death in 1979.

And what of the William Joyce ('Lord Haw Haw') connection? Well, it seems that at the height of William Joyce's activities with British Union of Fascists, his cousin Michael Joyce, joined the RAF circa 1935. While William Joyce was under observation by MI5, it seems no connection was made between him and Michael Joyce, who progressed through RAF training until he became a Navigator with 61 Sqn flying Hampdens in 1940.



Sgt Michael Joyce therefore went to war in Bomber Command, as an Observer/ Navigator until the Hampden in which he was flying (P4324 of 61 Sqn coded QR-P) ran out of fuel on the night of 26th / 27th August 1940 after bombing Merseburg, and landed on the beach at Vlieland, Holland. The pilot thought he was in Scotland. Although it is unlikely that Michael Joyce was planning to defect, he was responsible for the miscalculation as he was the Navigator! However, it was his actions after the landing were questionable. Soon the Germans captured the crew of four, and as the Hampden could not be set on fire, in time, it was captured undamaged and later test flown by the Luftwaffe. By all accounts the Germans were quite impressed by the design, as all the crew were grouped together, rather like the Dornier Do 17.

Above; P4324 on the beach at Vlieland, with sheets over the wings and camouflage netting over the cockpit, being inspected by German troops. Below Right; Within a short time, the British markings were over painted with German crosses for the ferry flight back to Germany. The aircraft did not last long and was likely scrapped within a year.

Initially held at the Dulag Luft transit and interrogation camp, the fact that he was a cousin of the infamous collaborator 'Lord Haw Haw' may not have helped his cause, but he aroused suspicions among other prisoners and did nothing to allay their doubts by his friendliness towards the German camp staff. He also showed a willingness to help the Nazis cause and acted as an informant for the Germans in his POW camp. For whatever reason Joyce eventually asked to be transferred. He might have realised the other POWs were 'on to him', and feared for his life. For whatever reason in May 1942, he was taken to Rome and then to North Africa via Crete. There he posed either as a representative of the Red Cross, issuing bogus Red Cross forms, or as a fellow POW shot down in North Africa. He was not particularly successful in gaining information from genuine British and American airmen, as there was a sort of code between POWs, not to ask too many questions. If you did bring any conversation round to matters likely to be of use to the enemy, you were immediately under suspicion and this is very likely the situation he faced. However, POW camps in North Africa were not the best place for cleanliness and Joyce soon suffered a serious bout of dysentery and was returned to Germany. The Germans therefore searched for another suitable role for



him and this took a bizarre turn when he was ordered to infiltrate one of the civilian escape networks whose lines began on the Luxembourg-Belgium border. Kitted out as a newly downed airman, Joyce managed to contact an escape line, but instead of slipping away to inform his German superiors of the network's existence, he simply carried on down the line to Bordeaux, before arriving in Britain in November 1942. Whether he had betrayed any brave Belgians or Frenchmen and women beforehand is not known, but after his arrival in England, Joyce kept quiet about his activities as an informer, and was commended for his bravery and initiative, being awarded the Military Medal and promoted to Flight Lieutenant. It was only after the war that the truth came out, from interrogated German prisoners. Incredibly Joyce escaped prosecution, possibly due to the lack of firm evidence, but lost both his MM and his Commission. Perhaps the authorities were concerned that a court would only need to know he was Lord Haw Haw's cousin to say 'guilty', or perhaps his work for the

Germans were not very successful or he claimed it was part of a 'front' to aid his escape, which was in a sense is true as it did indeed allow him to escape! Nothing more was heard of him postwar, so perhaps he slipped quietly into obscurity.

UNINVITED GUESTS - BY FRANCIS HANFORD OF RAF HALTON



In August 2015 RAF Halton's airfield controller was extremely surprised to receive a request to land from the pilot of a replica WW I Fokker Triplane. This was duly granted and they found themselves hosting Bruce Dickinson, the lead singer of *Iron Maiden*. He explained that he was running short of fuel and did not want to press-on to his destination at the risk of an accident. The Strasse Scheme was introduced in 1997 as popular flying became more common and airports became more closely regulated and commercial. Under the *Strasse Scheme* all but four airports in the United Kingdom have agreed to accept emergency landings without charge under these circumstances; so, Squadron Leader Gary Coleman (OC Ops) was very happy to make him and his immaculate Fokker aircraft welcome. As can be seen in the photo, the

Triplane spent a couple of days in No 1 Hangar before going on its way. But it wasn't the first triplane visitor.

Above Left; Bruce Dickinson's Fokker Triplane replica in Hangar 1 at RAF Halton in 2015. (Photo credit Gary Coleman)

In the early 1960s life was more relaxed and the discovery of a 1910 Avro Triplane in front of the RAF hangars one Monday morning merely caused surprise and pleasure. It was moved carefully into the Bessoneau Hangar (next to No 1 Hangar until 1993) to await events.

Later in the day Peter Hillwood, a test pilot working for 20th Century Fox, arrived to explain that this was one of the replica aircraft that was being used to make the film *Those Magnificent Men in their Flying Machines*. The incredible complexity of its rigging made disassembly for road transport an unattractive proposition but the reliability of its engine and structure made flying between filming locations a practical option, which was not the case with most of the other replicas they used. However, when Peter had approached Booker the previous day, he had found it to be under low cloud and had diverted to Halton. Needless to say, the teaching staff and apprentices were delighted and fascinated in equal measure and were very happy to care for it, even to the extent of "borrowing" a jerry-can of petrol from MT to top it up prior to its departure (it was felt that 100 octane aviation fuel would not suit its 1928 engine).

Thus, RAF Halton had a pre-view of the aircraft "flown" by Sir Percy Ware-Armitage (Terry-Thomas) in a film that was to become a great box-office success and whose theme tune is still played regularly (Covid 19 permitting) during the Recruit Training Squadron's graduation parades. The aircraft itself still takes to the air regularly during the Shuttleworth Collection's flying events at Old Warden, as does the replica Bristol Boxkite made for the same film.



Above Left; The Avro Triplane in the Bessoneau Hangar in 1964. (Photo Jim Hope) Above Right; The replica 1910 Avro Triplane in flight.

TWA LOCKHEED CONSTELLATIONS ACCIDENTS – BY BRIAN JONES

Two significant names from the annals of aviation, Jack Frye and Howard Hughes were prime movers in the development of Lockheed's response to the pioneering pressurised airliner challenges set by Douglas's DC-4E and Boeing's Stratoliner. Hughes had been associated with TWA from 1935, when he flew Douglas DC-2s on the Airline's trans-continental route (having previously flown Fokkers for American Airlines between Fort Worth and Cleveland). From the early 1930s Hughes had invested in TWA stock to support Company President Jack Frye's re-equipment programme. Eventually in the late 1940s he would own 74% of the Company.

While Transcontinental and Western Airline had purchased the Stratoliner, it did not have trans-continental range and Hughes and Frye turned their attention from Boeing to Lockheed, which in liaison with Pan American Airways was developing proposals for a new airliner centred on their Excalibur project.

TWA would eventually operate 156 Constellations of all types out of a total of 856 built, second only, in fleet terms, to the US Navy, which operated 205.

In 2021 it is almost impossible to contemplate the level of attrition of both airliners and their passengers which was sustained in the post-war piston engine era, without action being taken to curtail services. TWA, as a large international and American domestic carrier, seemed to be involved in more than its fair share of accidents. During less than two decades of service 22 Constellations (out of the fleet of 88 L049) were written off in accidents, many fatal, setting a trend which would continue even until just before the last TWA L1649A JetStream Starliner version was withdrawn from service.

Right; The Lockheed L-049 Constellation NC86513 "Star of Lisbon" that crashed on a training flight with TWA on 11th July 1946.

The following brief accounts and photographs of some of the accidents are a reminder of the tremendous advances in flight management, aircraft design performance and maintenance which have been introduced over the past 50 years or so of the true "jet age" resulting in air travel becoming the safest environment in which to live.

On 11 July 1946 NC86513 "Star of Lisbon" crashed on a training flight short of the runway at Reading, Pennsylvania. Smoke from an on-board fire had prevented the crew from seeing out on the approach.

After the crash of Star of Lisbon, all Constellations were grounded until the problem was identified and rectified by Lockheed and operations resumed the following month. Many of the accidents resulted from aircraft leaving the runway on landing, often in poor weather conditions, with overshoots even extending beyond the airport perimeter. Chicago Midway, alongside St. Louis, a key hub in TWA's route network seems to be the location of many accidents and incidents.





Perhaps the most concerning accidents related to TWA Constellations were major mid-air collisions involving other airliners. The first occurred on 30 June 1956 when a United Air Lines DC-7, N6324C “*Mainliner Vancouver*,” (similar to that shown above left) and a TWA Super Constellation, N6902C “*Star of the Seine*,” (the actual aircraft shown above right) collided over the Grand Canyon in Arizona, killing all 128 occupants of both aircraft. These aircraft had departed from Los Angeles International Airport and were flying respectively to Chicago Midway and Kansas City Downtown Airport. The lack of en route air traffic control in the area was cited as a principal cause of the accident, leading to the establishment of transcontinental airways and vertical separation of flights.



Above; the remains of the UA DC-8, in Brooklyn and above right the remains of the ‘Connie’ in Staten Island

The second, on 16 December 1960, when a United Air Lines Douglas DC-8, N8013U collided with a TWA Super Constellation, N6907C, above New York resulting in an overall loss of 128 passengers and crew members, plus 8 persons on the ground. The resultant enquiry, while again raising serious questions concerning air traffic control adequacies, distributed blame as follows – 61% to United, 15% to TWA and 24% to the Federal Aviation Agency.



Photo Left; Take-off view of N86507 “Star of Madrid”, probably from Lockheed’s Burbank airfield.

This aircraft was destroyed in a crew training accident on 18 November 1947 at New Castle Airport, Delaware, killing all five on board.



Above left; How things were supposed to be. A postcard view of NC86500 "Star of the Mediterranean" over Geneva; this was one of the early Model 049s which survived long enough to eventually be scrapped in 1964 after completing 45,709 hours of operational service. Above Right; In an unusual wartime move, Howard Hughes borrowed a US Army Air Force C-69 Constellation, which was completed in TWA livery with the fuselage legend "The Transcontinental Line." The aircraft was then used to set a new record time between Lockheed's Burbank airfield and Washington D C on 17 April 1944. Hughes and Jack Frye piloted the aircraft over the 2,300-mile route taking 6 hours 57 minutes and 51 seconds, at an average speed of 331.3 mph, beating a record Hughes had set in 1937 in his Hughes H-1.



Above Left; Whilst of poor quality, this photo depicts a significant event; the arrival of the TWA Constellation "Star of Paris" which made the first commercial transatlantic flight between New York and Orly, Paris. That flight, included stops at Gander and Shannon. was made on 5 February 1946. The aircraft had a freight 'Speedpak' fitted, which allowed for baggage or freight to be carried at the same time as passengers.

Above Right; A 1950s TWA stewardess was no doubt proud of her position on one of the finest transport aircraft operating worldwide at that time. How much training she might have had for any emergency situations is not known. The photo also shows the length of the front undercarriage leg on the constellation, which put the pilots about 20 feet above the ground, for which Lockheed supplied an escape rope!



Above; A crowded scene at Kansas City, with a variety of TWA Constellation models on display.



Above Left; NC86510 “Star of Rome” was damaged beyond repair in this accident at Washington National on 29 March 1946. Following a landing on a wet runway it continued over the end of the runway, struck an airfield building and ended in the ditch as seen above.



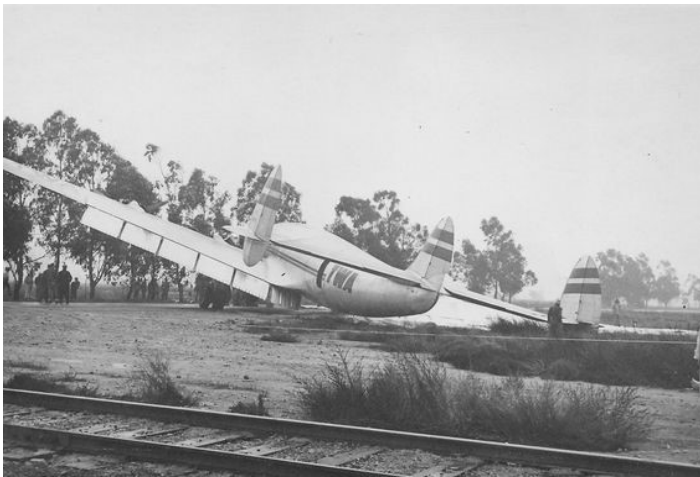
Above Right; “Star of Denver” finds the hedge at Chicago Midway. Despite having the traditional rope to escape from the cockpit, the height of the ladder gives a clue as to why few pilots used that method of escape.



Above Left; On 18 December 1949 N86501 landed 'long' at Chicago Midway (3,200 feet down Runway 13R with 2,530 feet left) and then continued for a further 875 feet to arrive on Cicero Avenue, only stopping after striking a stone monument and the Acme Bar and Grill.



Above Right; The demise of N86506. Despite the aircraft evidently being a total loss, all passengers and crew escaped unhurt from this crash at Inglewood, California, which was subsequently developed into Los Angeles International Airport.



NC86511 "Star of Dublin" – 18 November 1950 – Long Beach, California. This was the second time this aircraft had a major accident. It had previously crashed at Shannon Airport, Ireland, on 26 July 1947 with a wet runway incident wiping out the right main undercarriage. Worse was to come, however, in the accident on 1 September 1961 related here.

L-049 was lost as result of an elevator bolt failure after taking off from Chicago Midway (MDW) on 1 September 1961. All 73 passengers and five crew perished when the aircraft plunged into the ground at Hinsdale., Illinois 9.1 miles from the departure airport en route to Las Vegas.





Above Left; N86509 “Star of Africa” hit a Dodge car in adverse weather conditions at Denver Airport. Above Right; The wreckage of N86511 was assembled in a TWA hangar at Chicago Midway for forensic inspection.



Above Left; Chicago Midway, again, this time the crash of “Star of Saudi Arabia” at Junction of 64th Street and Kilpatrick, Chicago 24 November 1959. Were motorists by now looking out for oncoming planes when driving during the Winter months?

Above Right: On 7 December 1952, N6904C” Star of the Ganges” made an emergency landing at Fallon Naval Air Station in Nevada., resulting in the situation pictured above. Remarkably there were no injuries to those on board. Despite the very considerable damage, as the aircraft had only accumulated 699 flight hours it was rebuilt by TWA and returned to service on 24 September 1953 and continued to serve the airline until 1960, when it was leased to Worldwide Airways.

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LOGGAP - LIQUID OXYGEN-PETROL GUIDED ANTI-AIRCRAFT PROJECTILE - BY L HAYWARD

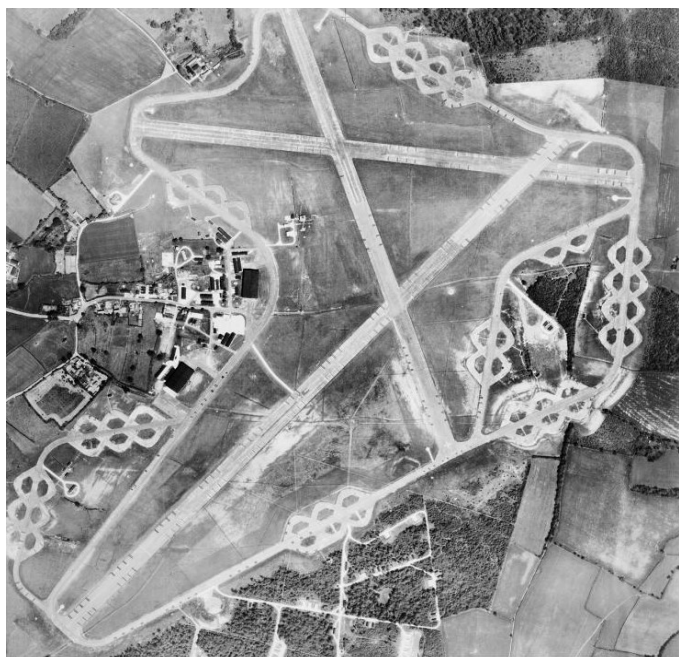
Brakemine was an early surface-to-air missile (SAM) development project carried out in the United Kingdom during World War II. *Brakemine* used a beam riding guidance system developed at A.C. Cossor, while REME designed the testbed airframes. *Brakemine* was the result of two independently developed versions of the beam riding guidance system concept. In 1942, Captain Sedgfield of the Royal Electrical and Mechanical Engineers (REME) wrote a technical paper on the concept. In 1943, Leslie Herbert Bedford, director of research at A.C. Cossor, independently developed the same idea while on a long train ride (like you do)! The filing of two similar concepts led to a conference at the headquarters of Anti-Aircraft Command (AA Command), attended by General Officer Commanding-in-Chief Frederick Pile and Brigadier J.A.E. Burls, Chief Mechanical Engineer of AA Command (and inventor of the Pile Platform).

A 'follow-up' meeting started planning for a number of committees to study development of the concept, but worried that this would lead to lengthy delays, Burls decided to allow Cossor a free hand to develop the guidance system while (the now Major) Sedgfield would handle rocket development at the AA Command's workshops at Park Royal. Development began in February 1944. The *Brakemine* missile developed as a simple cylindrical airframe with an ogive nosecone, small elliptical wings mounted near the centre of gravity, and four small fins at the rear. The missile was powered by eight solid rockets taken from the existing Unrotated Projectile anti-aircraft rocket (also used on the RP-3); later models used six rockets. Its flight was controlled using the "twist-and-steer" method of the two main wings. These were connected to the missile fuselage with pivots, allowing them to rotate to different angles of attack. To turn the missile, the wings would first rotate in opposite directions to cause the missile to roll. Once the wings were perpendicular to the required direction, they would then be rotated in the same direction, creating lift to change its course. The warhead was fitted with a proximity fuse but no warhead was ever test on the missile. At the end of the war, it was decreed that the War Office would no longer be involved with missiles and such development would pass to the MoS, so further development ended. However, *Brakemine* greatly influenced British missile development. When the MoS wanted a more capable design with an altitude performance to 40,000 feet it selected *Brakemine's* twist-and-steer manoeuvring system as the basis for an improved design by Fairey. Over time these early developments culminated in the Bristol *Bloodhound* for the RAF.



Above; An Anson of the Naval Air Radio Installation Unit at RAF Christchurch lent an aircraft to the Signal Research Establishment in May 1945, in order to test the telemetry of the signals by flying down the control 'beam'. It was attached under the Anson, on a support bracket used for the ASH radar pod, as used by Naval aircraft, such as the Firefly NF.

CRASH OF B-17 'TOMAHAWK WARRIOR' AT PENN, BUCKS, 12TH AUGUST 1944 - BY PAUL KENDALL



At about 7 am on Saturday 12th August 1944, a number of High Wycombe residents became aware of an aircraft overhead that was obviously in trouble. The aircraft was a B-17G Flying Fortress, 42-107191 of the Bomb 398th Group 600th Squadron, with fuselage code N8-K. Heading south, one of the four engines was clearly on fire and as the Flying Fortress turned 180 degrees to the east, flames started in another one. Along the valley, at Lude Farm, Forty Green, Penn, the farmer watched the unfolding horror as the B-17 skimmed over his farmhouse and crashed into open farmland beyond. In the massive explosion and fire that followed, the crew of nine died instantly. The farmer's son Ron Setter, who was then aged 12, later recounted how the force of the blast brought the ceiling down on him as he was getting out of bed and broke all but one pane of glass in the farmhouse.

Left; Built during 1942-43, Nuthampstead, Beds, was the nearest 8th Air Force heavy bomber base to London and the base for 42-107191. Below; The 10-man crew of 42-107191.

The 398th Bomb Group was one of the last to arrive in England during March 1944. They flew their B-17's from Newfoundland to their allocated airfield of Nuthampstead near Royston in Herts where the countryside was very similar to that which surrounds Penn. To one of the crew their B-17 was special to him as he was the usual pilot, Charles Searl, named it the *Tomahawk Warrior* after the small town where he lived in Wisconsin. There was a crew of ten to fly her. The first mission was to Berlin on the 19th of May. They returned safely and one can only feel that they were relieved and jubilant. Charles Searl was married with a daughter of 18 months and he and his wife were expecting another addition to the family in July. He was 23 and had enlisted in the Air Force soon after Pearl Harbour. As far as the records show none of the other nine crew members were married and ages ranged from 20 to 27. They had come from many states across the USA, Wisconsin, Massachusetts, Michigan, Washington DC, Arkansas, Virginia, Ohio and New York.

The *Tomahawk Warrior* flew many missions including on D-Day to targets at Caen and Coursuelles-sur-Mer. By June the *Tomahawk Warrior*, still with her original crew, flew missions to France and Germany and on the morning of the 12th were on their twenty-fifth to Europe, Versailles France. The day was dull and overcast with low cloud. Just before take-off, the tenth member of the crew was ordered off the flight, as he was not needed. How lucky for him!

The crew took off at 0618. Formation was hazardous with bad weather as the plane climbed to reach height. By 0700 the *Tomahawk Warrior* was heading out Southeast and already in trouble. One engine was on fire and as it turned over High Wycombe to return to base, a second engine was also on fire. Below in the town at Daws Hill was the HQ of the 8th Air Force and most likely monitoring the mission. It has always been accepted that the pilot was trying to find open ground to attempt a landing when he had no chance of reaching his base or even Bovingdon airfield that was only ten miles way to the north. He would have seen the populated area he was flying over and realised the devastation the plane would have caused if it had crashed there. *Tomahawk Warrior* and its crew of nine young men ended life in the massive explosion and fire. No one had bailed out of the stricken plane and no distress signal was ever traced. One of the crew was found in the lane and two at the edge of the fields. The rest were identified by their dog tags. A short entry in official records at their base reads "Take off 0628 hour, 0720 no return" Such a short epitaph. No investigation took place as to the reason for the crash. It was just one more casualty of war.



Information disclosed several years later suggests that there may have been a mid-air collision with a Liberator bomber which crashed at about the same time just 28 miles away near Cheshunt. The whole event would have been tracked from the 8th Air Force HQ at Daws Hill High Wycombe and later that afternoon Commander-in-Chief General James Doolittle came to survey the wreckage. The following are the names of those that died that morning:

1. Pilot: Charles J. Searl, Wisconsin.
2. Co-Pilot: Albert L. Dion, Massachusetts
3. Navigator: Saul J. Kempner, Michigan
4. Bombardier: Leo C. Walsh, Washington DC
5. Radio/Gunner: Cecil E. Kennedy, Virginia
6. Eng/TT Gunner: James A. Beaty, Arkansas
7. Ball Turret Gunner: Alfred Bueffel, New York
8. Right Waist Gunner: Albert W. Knight, Ohio
9. Tail Gunner: Orville M. Wilson, Washington DC

They were all buried in the Cambridge Cemetery but after the war, in accordance with the wishes of their relatives, eight were re-interred in Arlington Cemetery, America.

Farmer's son Ron Setter, said that the events made a deep impression on him and after the war he kept in touch with the airmen's relatives and, with the help of Revered Oscar Muspatt, entertained them on visits to Penn including, in 1990, a visit by the 398th Bomb Group Memorial Association when Remembrance Services were held in Penn Church and on the field at Lude Farm where the men died. Each Remembrance Sunday they are remembered when the crew's names are read out along with others who gave their lives from the village. Small America Flags are placed along the path near the church door, each with the name of the *Tomahawk Warriors* crew. The Book of Remembrance in Penn Church has their names inscribed in glorious memory. A plaque has been put near the crash site by a house owned by Paddy Hopkirk of Rally Driving fame back in the day. He's 87 and was very proud of it. One of the crew's daughters is still living in Texas and plans to come to see and pay respects once the pandemic is under control.

With thanks to 398th Bomb Group Memorial Association web site and also Holy Trinity Church Penn web site.

OUT OF FUEL; A SWISSAIR TRAGEDY – BY KEITH HAYWARD

On 19th June 1954 one of my colleagues in BEA Load Control, located in a hut on Northside, Heathrow, was preparing the load sheet for the afternoon Swissair flight to Geneva. The operating aircraft was a twin-engined Convair 240, HB-IRW, (*right*) and in due course the Swissair representative called in to confirm that the fuel figure requirement was 700 Imperial gallons.



HR-IRW first flew in 1948 and was a former KLM aircraft, being purchased by Swissair in November 1953, operating on its European routes as it was on this fateful day. On arrival in Geneva the aircraft was prepared for the evening return flight to London. On the turnaround top-up fuel had been ordered but not delivered; incredibly neither the Captain nor the First Officer noted the fuel figure during their pre-departure checks. Without the top-up this meant that there was insufficient fuel for the flight to London. With four crew and only five passengers, HB-IRW duly departed on schedule. Lightly loaded, Convairs were very sprightly and 'RW' had soon climbed to an altitude of 12,000 ft.

As they crossed the Channel the first sign of trouble appeared when the starboard engine stopped and the propeller was feathered. The awful truth dawned; fuel starvation. The Captain put out an emergency call and declared that he was diverting to the nearest airfield, Manston, Kent. However, the second engine also stopped due to lack of fuel and in pitch darkness the aircraft was successfully ditched 1½ miles off Folkstone at approximately 23:00 hrs. Unfortunately, no lifejackets were carried at this time as they were not compulsory for sea crossings of under 30 minutes duration. The crash had been heard by staff working in Folkstone Harbour and four British Railways staff rowed out to the aircraft, taking about 30 minutes; the Dover and Dungeness lifeboats also were launched and subsequently picked up the survivors. The four crew members were rescued along with two passengers. Sadly, the remaining three passengers were drowned. Swissair immediately dismissed the Captain for his oversight although at the subsequent inquiry he was praised for his successful ditching in pitch darkness. One outcome of this tragedy was the introduction of lifejackets on all over-water flights.

On a personal level I was pleased that I wasn't on duty that evening when my BEA colleagues and the Swissair representative had to break the sad news of the accident to friends and relatives awaiting the flight's arrival. We were all very surprised at this tragedy, as Swissair was regarded as one of the most efficient – one could say meticulous – of all the foreign operators that we handled. Having referred to the sprightly performance of the Convair 240s I am reminded of a happier incident around this time. SABENA, along with a number of European carriers, operated Convair 240s. One afternoon a SABENA captain unusually wandered into our hut to enquire as to how many passengers he would be carrying. I replied, "only about 20, and a dozen of these consist of a group of Russian officials." "I can't stand them," he replied. "Seat them all at the back."

I prepared the load sheet as instructed with a fairly aft 'c of g.' I thought that this was a rather strange request and at departure time, I went outside to watch the take-off from Runway 28 Left (as it was then) away on the south side. Before reaching the halfway mark the Convair rotated and shot up very steeply on the initial climb. How those Russian ears must have been popping!

LETTERS TO THE EDITOR

Dear Editors,

Please see below two photos in my possession of BEA Vikings. On the left is Viking 1B, G-AIVL (Lord Hawke) at Prestwick on 1.12.52 and on the right is Vickers Viking 1B G-AHPO of BEA at Manchester International Airport 11.10.52. Hopefully they will be of interest to members.

Kind Regards

Mike Seymour

Mike Seymour



Eds; Many thanks Mike, just room for these photos which I shall pass on to the BA Heritage Centre. What I found strange is that G-AIVL wears a typical BEA scheme of the period, whereas the BEA logo on G-AHPO is miniature, and not a good advert for BEA if you need binoculars to read it! I guess one of our ex-BA members will know the reason. (LPH)

Dear Lawrence,

Using lockdown to clear my loft I found a suitcase which belonged to Alan Waitt, my late father in law. He was a career RAF man, from Halton Brat to Sqn Ldr by the end of WW2. I have loads of photos mostly taken in the UK and Aden but most are of low quality. One photo I have says that the aircraft (shown on the right) is a Saro Cloud at Hendon in 1935 which I'm sure it 'aint'. Your comments please. All the best,

Glynn Chambers

Dear Glyn, I can confirm is a Supermarine Walrus, and very likely the prototype which first flew on 21st June 1933. RAF deliveries only began from March 1936. If it's the prototype, Mutt Summers, looped it at Hendon much to the amazement of the crowd and its designer RJ Mitchell! (LPH)



THE HUNTING JET PROVOST – BY LAWRENCE HAYWARD

The BAC Jet Provost is a British 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.

In early 1951, Hunting Percival began work on a design study (as a private venture) that would ultimately lead to the Jet Provost, as a follow on from their piston-engined Percival Provost basic trainer. The Company rightly anticipated that demand for a jet-powered trainer aircraft would soon be needed by the RAF. The design had to be capable of nearly matching the handling characteristics of operational jet fighters of the era but possessing good handling characteristics and remain simple to handle, as opposed to aiming for maximum performance. Many existing components and subsystems of the piston engine Percival Provost as possible, including the tail surfaces, main planes and main undercarriage legs, to speed development through to the prototype stage.



Photo right; the Mk 1 was characterised by its long undercarriage legs, but these were soon replaced by shorter ones.

On 16 June 1954, the prototype XD674 conducted its maiden flight from the factory at Luton Airport, flown by Dick Wheldon. A series of seven flights were flown in quick succession over the following three days. By early November 1954, a total of 123 flying hours had been accumulated by the prototype during Hunting Percival's own flight test program, after which the prototype was submitted for official trials at RAF Boscombe Down. The results of the tests were satisfactory but it was recommended that the undercarriage legs were shortened. On 19 February 1955, the first ten, pre-production aircraft, designated Jet Provost T1, performed its first flight. In May 1955, three of the pre-production aircraft were assigned for the first stage of service trials with the Central Flying School (CFS) of the RAF to determine the value of the Jet Provost in the ab initio training role and to develop a syllabus for the training program. Later the same aircraft were used by actual students in training and it was found this greatly helped their training.



After the T.1 further improvement work was carried out on the design resulting in the fuselage lines, hydraulic systems being substituted for pneumatic counterparts, and the addition of a dorsal fillet.

Photo right; A typical T3 from the 1960s, in silver grey with 'dayglow' orange patches. Photos of T.3s in the previous silver and yellow scheme are quite rare. If you have any please send me us at Airwords a copy.

This new version of the Jet Provost as the T.2 first flew in September 1955, but was not put in service but instead used for sales tours across Europe, Canada, the United States of America, and Latin America. In June 1957, a production order was placed for the first 40 of the developed Jet Provost T.3, featuring a more powerful Armstrong Siddeley Viper jet engine, ejector seats, a redesigned airframe, and a shortened and strengthened version of the retractable tricycle undercarriage.

On 22 June 1958, the first Jet Provost T.3 conducted its first flight.

As more and more aircraft came onto strength in 1959-60, Squadrons were beginning to re-equip with Jet Provosts, and others were created. The Central Flying School (CFS) based at RAF Little Rissington and the Royal Air Force College (RAFC) based at RAF Cranwell were the two first units to trade in their Piston Provosts for the Jet variety in 1959. Also adopting the type as more aircraft came on strength, were three other Flying Training Schools (FTS); 1FTS based at RAF Linton-on-Ouse, 6FTS based originally at RAF Acklington, then later at RAF Finningley, and 7FTS based at RAF Church Fenton. In 1961 when many fighter command airfields were closing, but RAF Leeming was a reprieved for 3FTS.



3FTS was moved onto the airfield and the 'JP' 3 was introduced in October that year. In total, 201 T3s were delivered between 1958 and 1962 and the Jet Provost T.3 remained in use with the RAF's pilot training syllabus for the following 30 years. Some 70 examples of the T.3 were subject to various avionics upgrades by the British Aircraft Corporation (BAC) in the 1970s, and were officially re-classified T.3A's.

Two long-term users of the type were firstly 1FTS based at RAF Linton-on-Ouse, and 3FTS, initially based RAF Leeming but later had periods based at RAF Scampton and Cranwell where it absorbed the Royal Air Force College's aircraft. Both of these units were the last to trade their final Jet Provost T.3A's examples for the Shorts Tucano in 1992. A late user of the type was the Tactical Weapons Unit (TWU) at

RAF Chivenor, who used the type for training alongside their existing Hunter and Hawk aircraft. The T.4 followed the T.3 in 1961, fitted with a more powerful variant of the Viper engine and first flown on 15 July, and this was followed by the Viper 201 powered and pressurised T.5 in February 1967. The T.51 was an armed export version, sold to Ceylon (present day Sri Lanka), Kuwait and Sudan. It was armed with two 7.7-mm (0.303-inch) machine guns. The T52 was another export version sold to Iraq, South Yemen, Sudan and Venezuela, and Oman with the same armament as the T.51. The T.55 was the final armed export version which was sold to Sudan. An armed variant was developed as the BAC Strikemaster.



Above Left; Jet Provost T.4 XR659 with a liberal application of dayglow patches. Above Right; T.4, XP675 of the CFS, RAF Little Rissington, that collided on 26th Feb 1968 with XS229. The pilot of XS229 ejected but Flt Lt J D Blake in XP675 landed the aircraft back at Little Rissington. However, after inspection it was declared a write off.



Above Left; After the silver grey and dayglow era, the RAF fleet of T.3, T.3A and T.4 aircraft were painted with the fuselage in red and white, as adopted by other training types. Above Left; However, some T.4s such as XR679 / 04 operated by 1 Tactical Weapons Unit /79 Squadron, adopted more war like colours of green and grey circa 1983

No account of the Jet Provost would be complete without mention of the Red Pelican aerobatic display team, which originated at the Central Flying School, at RAF Little Rissington in 1958. In the summer of 1962, the colours of the T.4 aircraft were changed to all over red, thus the Red Pelicans team was born, and they performed at shows up and down the country. The 1963 season saw the team extended to six aircraft, and it was decided the Red Pelicans should be the premier RAF aerobatic team in 1964, led by Flt Lt T Lloyd. However, in 1965 the Red Arrows took over the role of the RAF's aerobatic team and the Red Pelicans were trimmed down to four aircraft without a smoke system facility. The Red Pelicans continued to entertain the crowds at airshows, often alongside the Red Arrows, but disbanded in 1973.



Above Left; Jet Provost T.4 XS225 coming in to land at Little Rissington circa 1970, just before the entire team converted to the T.5. Right; The Red Pelicans doing their stuff in the 1960s but now all but forgotten by the public used to seeing the Red Arrows.



Above Left; The BAC Jet Provost T.5 was an improved design distinguishable by a different nose shape to earlier variants. BAC modified many T.5 aircraft with improved avionics and a rough grey coating on the wing to break up the smooth airflow and give the trainee pilot an early indication of the onset of a stall. XW370 was one such T.5A. Above Right; Wing tip tanks were not a regular feature of the T.5, unlike XW324 that retained them in to preservation as G-BWSG.



Above; The Jet Provost was also exported to many countries including Sudan (left) and Iraq (right) in 1960s.

TRUMP SHUTTLE, INC. - BY JOHN ROACH



This airline was owned by Donald J. Trump from 1989 to 1992. The landing rights and some of the physical assets necessary to operate the shuttle flights were originally part of Eastern Air Lines and known as the Eastern Air Lines Shuttle. It operated hourly flights using Boeing 727 aircraft from La Guardia Airport in New York City to Logan International Airport in Boston, Massachusetts and Ronald Reagan Washington National Airport in Washington, D.C., then known as Washington National Airport, as well as charter service to other destinations. Its IATA designator code was TB (later reassigned to Jetairfly).

Left; This Boeing 727 ex-Eastern N8849E, became N919TS

Trump's formal launch in the air business occurred in March 1988 when he acquired three Sikorsky S-61 helicopters that belonged to Resorts International Airlines (RIA) used to shuttle high rollers to the Resorts Casino Hotel in Atlantic City, New Jersey. The three green and orange helicopters were repainted black and red and emblazoned with the Trump Air logo. Trump at the time claimed the helicopters "were the same model used by the President of the United States." In the late 1980s, both Eastern Air Lines and Pan American World Airways operated air shuttle services in the northeastern United States, which were highly profitable even though the two airlines, as a whole, were not. As the financial outlook for Eastern became more pessimistic in the late 1980s, the carrier began to sell its routes and aircraft. It organized its profitable shuttle operation into a separate company, headed by Bruce Nobles, a former Pan Am executive and president of Trump Shuttle from October 1988 until June 1990, with the intent of selling it to raise cash for Eastern Air Lines.

Eastern president Frank Lorenzo met Donald Trump at a party, and subsequently negotiated the sale of the shuttle to Trump for \$365 million, more than the projected cost to start up a similar airline, but justifiable if the airline achieved a high market share. For that price, Trump got a fleet of ageing Boeing 727s, landing facilities in each of the three cities that the shuttle fly to, and the right to put his name on the company and its airplanes. The shuttle had previously been a "no-frills" operation for business travellers, but Trump announced that he would convert it to a luxury airline.

After reaching an agreement with Trump in October 1988, Eastern Air Lines filed for Chapter 11 bankruptcy protection. Many passengers switched to the competing Pan Am Shuttle, and the previously profitable Eastern Shuttle began losing money. Trump attempted to use the situation to negotiate a lower price and to acquire additional aircraft from Eastern. But America West Airlines submitted a more attractive competing offer on May 10, but failed as its financing was not in place. Trump's offer was approved by the bankruptcy court in May 1989. In June 1989 the deal was completed, financed through a loan from a syndicate of banks led by Citibank.

Nobles claims Trump paid \$US365 million for the aircraft and landing slots, borrowing \$US380 million from a consortium of banks and putting in around \$US20 million of his own cash.

The new Trump Shuttle operation launched on June 8, 1989, and by the end of August had returned to a strong market share of 40-50%. While Eastern's shuttle services were unashamedly no-frills regular passengers dubbed it the "cattle car" – Trump wanted to offer luxury. He spoke of turning the airline into "a diamond". So, naturally, those aircraft needed a Trump-style makeover. Anyone who has stayed in one of the president's bling hotels will know what that means. Trump pushed to make the new shuttle a luxury service and a marketing vehicle for the Trump name. Its aircraft were newly painted in white livery and the interiors redecorated with such features as maple wood veneer, chrome seat belt latches, and gold coloured lavatory fixtures. The airline also was a leader in the adoption of advanced technologies; it introduced some of the first passenger self-service check-in kiosks in coordination with Kinetics at its LaGuardia base and partnered with LapStop, a start-up firm which rented laptop computers to passengers. The airline was also an early adopter of the GTE Airfone in-flight telephone system. Flights offered free meals, including chicken and steak on some flights, as well as complimentary champagne, beer and wine.

Both Trump and Pan Am spent millions on advertising campaigns around this time in an attempt to maintain a strong competitive position. Even the flight attendants were given swish new uniforms, featuring fake pearl necklaces. Other innovations were side-lined, however, including full-length mirrors in the bathrooms (too heavy), plush burgundy carpets (drinks trolleys couldn't be pushed across them) and an in-flight magazine all about Donald Trump.

In August 1989, a Trump Shuttle flight arriving in Boston incurred a nose gear failure upon landing due to maintenance errors by Eastern personnel prior to the acquisition. Trump personally flew on the next Trump Shuttle flight to Boston in order to manage the media reaction to the incident.

The company was never profitable. Passenger traffic on the shuttle began to decline in November 1989. In late 1989 the U.S. Northeast entered an economic recession which depressed demand, while the August 1990 Iraqi invasion of Kuwait caused jet fuel prices to double. While costs of running the airline rose, many of the corporate customers using the shuttle were cutting travel budgets. Trump's casino business was simultaneously encountering serious difficulties, and he was forced to cede control over several business holdings to his bankers in June 1990 in order to avoid personal bankruptcy. The airline ran out of cash and defaulted on its debt in September 1990. Trump Shuttle conducted some charter operations around this time to increase the profit using the shuttle's spare aircraft. In June 1990, the airline carried Nelson Mandela on his eight-city tour of the United States. During the Gulf War of 1990–91, the airline received a government contract to ferry U.S. military personnel between the key domestic air bases of Dover , Charleston , Travis, McChord, and Kelly.

Describing the on-board experience for CN Traveller, Barbara Peterson wrote: *"I flew a couple of times on the Trump Shuttle in its final days and the flights themselves were perfectly pleasant. In the lounge-like gate areas, you could pick up a free newspaper or snack; in-flight, there were bagel breakfasts in the morning, and complimentary cocktails with boxed meals later in the day. "But what I also recall on a trip from D.C. to New York was that I was barely into my chicken Caesar salad and chardonnay when the 'prepare for landing' call came from the cockpit. The not-so-glamorous reality is that it was a 45-minute flight, and about 20 of those minutes were spent getting up and down from cruising altitude. The service was classy, yes, but it was sort of like having the 21 Club cater a Greyhound bus trip."*

Trump blamed Bruce Nobles, whom he jettisoned in June 1990, and set about forming a new strategy. "Trump Shuttle is an aesthetic success," he told the media at the time. "It will be a financial success, but right now I'm upset with the people running it." Nobles, told *The Globe and Mail* in a 2011 interview. "It was a problem: we spent too much money on the airplanes." Trump had personally guaranteed \$135 million of the shuttle's debt. Following the default, Citibank made arrangements for Northwest Airlines to take control of the shuttle in exchange for relieving Trump's personal liability on its debt, and all sides were reportedly close to an agreement by April 1991. Delta Air Lines agreed to buy the competing Pan Am Shuttle in July, and Northwest announced that its acquisition of the



Trump Shuttle was cancelled in August, reportedly due to the Trump Shuttle's unions demanding parity with Northwest employees and Trump refusing to discount the price to reflect this. USAir ultimately reached an agreement in Dec 1991 to take operational control of Trump Shuttle for up to ten years, with an option to buy it after five years. Bankers involved in the negotiations said that Trump would be relieved of at least \$100 million of his guarantee, and possibly as much as \$110 million, leaving him owing between \$25 and \$35 million in the closing out of his ownership of the company.

Above Right; This Eastern Air Lines Boeing 727, N8849E, before it went to Trump Shuttle as seen on the previous page

On April 7, 1992 Trump Shuttle ceased to exist when it was merged into a new corporation, Shuttle, Inc., which began operating as the USAir Shuttle on April 12, 1992. US Airways subsequently purchased the remainder of Shuttle, Inc., on November 19, 1997, and the service subsequently operated under the name US Airways Shuttle. Shuttle, Inc., remained as a subsidiary of US Air Group until July 1, 2000, when it was merged into US Airways. In October 2015, US Airways merged with American Airlines, at which point the shuttle became the American Airlines Shuttle.

"It worked out well for me," was Trump's assessment in an interview with *The Street*. *"I ran an airline for a couple of years and made a couple of bucks."* (others estimate the airline lost US\$ 128m). *"The airline business is a tough business, but I did great with it."* How often have we heard this similar phrase very recently from Donald?!

All of which will come as little surprise to anyone who has taken even the most cursory glance at Trump's entrepreneurial back catalogue – he is certainly no stranger to a failed enterprise. Over the years he's launched a string of dubious businesses, including (but not limited to) GoTrump.com (a travel search engine), Trump Ice (spring water), Trump Steaks and Trump Vodka. There's even Trump: The Game, his answer to Monopoly.

The Trump Shuttle fleet (at its closure) consisted of seven Boeing 727-100 and fifteen Boeing 727-200 (example N919TS ex N8849E). **Credit:** Wikipedia and numerous other internet sources and photos by John Roach.

CURTISS C-46 COMMANDO – BY LAWRENCE HAYWARD

The Curtiss C-46 Commando was a twin-engine transport aircraft, derived from the Curtiss CW-20 pressurised high-altitude airliner design from 1937. Early press reports used the name 'Condor III' but the Commando name was in use by early 1942 in company publicity. It was used as a military transport during World War II by the United States Army Air Forces and also the U.S. Navy/Marine Corps, which used the designation R5C. The C-46 served in a similar role to its Douglas-built counterpart, the C-47 Skytrain, but it was not as extensively produced as the latter.



After World War II, a few surplus C-46 aircraft were briefly used in their originally designated role as passenger airliners, but the glut of surplus C-47s dominated the marketplace and the C-46 was soon relegated to primarily cargo duty. The type continued in U.S. Air Force service in a secondary role until 1968. The C-46 continues in operation as a rugged cargo transport for Arctic and remote locations with its service life extended into the 21st century.

Design and development

The prototype for what would become the C-46, the Curtiss CW-20, was designed in 1937 by George A. Page Jr., the chief aircraft designer at Curtiss-Wright. The CW-20 was a private venture intended to compete with the four-engined Douglas DC-4 and Boeing 307 Stratoliner by the introduction of a new standard in pressurized airliners. The CW-20 had a patented fuselage conventionally referred to as a "figure-eight" (or "double-bubble") which enabled it to better withstand the pressure differential at high altitudes. This was done by having the sides of the fuselage creased at the level of the floor that not only separated the two portions but shared in the stress of each, rather than just supporting itself. The main spar of the wing could pass through the bottom section which was mainly intended for cargo without intruding on the passenger upper compartment. A decision to utilize a twin-engine design instead of a four-engine configuration was considered viable if sufficiently powerful engines were available, allowing for lower operating costs and a less complex structure.

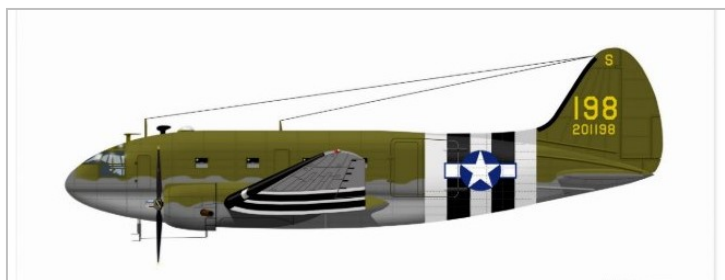
Engineering work involved a three-year commitment from the company and incorporated an extensive amount of wind tunnel testing at the California Institute of Technology (Caltech). The resultant design was a large but aerodynamically "sleek" airliner, incorporating the cockpit in a streamlined glazed "dome". The engines featured a unique nacelle tunnel cowl where air was ducted in and expelled through the bottom of the cowl, reducing turbulent airflow and induced drag across the upper wing surface. After a mock-up was constructed in 1938, Curtiss-Wright exhibited the innovative project as a display in the 1939 New York World's Fair.

The company approached many airlines in order to obtain their requirements for an advanced airliner. No firm orders resulted, although 25 letters of intent were received, sufficient to begin production. The design of a 24-34 passenger airliner proceeded to prototype stage as the CW-20 at the St. Louis, Missouri facility with the initial configuration featuring twin vertical tail surfaces. Powered by two 1,700 hp (1,300 kW) R-2600-C14-BA2 Wright Twin Cyclones, the prototype, registered NX-19436 flew for the first time on 26 March 1940 with test pilot Edmund T. "Eddie" Allen at the controls. After testing, modifications were instituted, including fitting a large single tail to improve stability at low speed.

The first prototype was purchased by the United States Army Air Forces (USAAF) to serve as a master for the series and was designated C-55. After military evaluation, the sole example was returned to Curtiss-Wright and subsequently re-sold to the British Overseas Airways Corporation (BOAC). During testing, General Henry H. "Hap" Arnold became interested in the potential of the airliner as a military cargo transport and on 13 September 1940, ordered 46 modified CW-20As as the C-46-CU Commando; the last 21 aircraft in this order were delivered as Model CW-20Bs, called C-46A-1-CU. (Above G-AGDI of BOAC)



None of the C-46s purchased by the U.S. military were pressurized and the first 30 delivered to the AAF were sent back to the factory for 53 immediate modifications. The design was then modified to the C-46A configuration, receiving enlarged cargo doors, a strengthened load floor and a convertible cabin that speeded changes in carrying freight and troops. The C-46 was introduced to the public at a ceremony in May 1942, attended by its designer, George A. Page Jr.



A total of 200 C-46As in two initial batches were ordered in 1940, although only two were actually delivered by December 7, 1941. At this time, one other important change was made; more powerful 2,000 hp Pratt & Whitney R-2800 Double Wasp engines replaced the two Wright Twin Cyclones. By November 1943, 721 modifications had been made to production models, although many were minor, such as fuel system changes and fewer cabin windows were also adopted. Subsequent

military contracts for the C-46A extended the production run to 1,454 examples, 40 of which were destined for the U.S. Marine Corps, to be designated R5C-1. The military model was fitted with double cargo doors, a strengthened floor and a hydraulically operated cargo handling winch; 40 folding seats were the sole passenger accommodation for what was essentially a cargo hauler. Two C-46 were delivered from Higgins Industries Michoud Factory Field in 1942.

The final large production-run C-46D arrived in 1944-45, and featured single doors to facilitate paratroop drops; production totalled 1,430 aircraft. Although a one-off XC-46B experimented with a stepped windscreen and uprated powerplants, a small run of 17 C-46Es had many of the same features as the XC-46B along with three-bladed Hamilton-Standard propellers replacing the standard Curtiss-Electric four-bladed units. A last contract for 234 C-46Fs reverted to the earlier cockpit shape but introduced square wingtips. A sole C-46G had the stepped windscreen and square wingtips but the end of the war resulted in the cancellation of any additional orders for the type.

Burma, China and the Pacific Theatre

Most famous for its operations in the China-Burma-India theatre (CBI) and the Far East, the Commando was a workhorse in flying over "The Hump" (as the Himalaya Mountains were nicknamed by Allied airmen), transporting desperately needed supplies to troops in China from bases in India. A variety of transports had been employed in the campaign, but only the C-46 was able to handle the wide range of adverse conditions encountered by the USAAF. Unpredictably violent weather, heavy cargo loads, high mountain terrain, and poorly equipped and frequently flooded airfields proved a considerable challenge to the transport aircraft then in service, along with a host of engineering and maintenance nightmares due to a shortage of trained air and ground personnel. During one mission in 1944, over the 'Hump' Captain Wally A.



Gayda of the USAAF Air Transport Command, reportedly used a M1918 Browning Automatic Rifle to shoot down a Nakajima Ki-43 Hayabusa "Oscar" fighter that was attacking his aircraft. By shoving the BAR out of his cockpit window, Captain Wally A. Gayda emptied an entire 20 round magazine at the attacking "Oscar" fighter and managed to kill the unsuspecting Japanese pilot in the process.

After a series of mechanical problems were controlled if not surmounted, the C-46 proved its worth in the airlift operation in spite of continuing maintenance headaches. It could carry more cargo higher than other Allied twin-engine transport aircraft in the theatre, including light artillery, fuel, ammunition, parts of aircraft and, on occasion, livestock. Its powerful engines enabled it to climb satisfactorily with heavy loads, staying aloft on one engine if not overloaded, though "war emergency" load limits of up to 40,000 lbs often erased any safety margins.

Nevertheless, after the troublesome Curtiss-Electric electrically controlled pitch mechanism on the propellers had been removed, the C-46 continued to be employed in the CBI and over wide areas of southern China throughout the war years. Even so, the C-46 was referred to by ATC pilots as the "flying coffin" with at least 31 known instances of fires or explosions in flight between May 1943 and March 1945, and many others missing and never found. Other names used by the men who flew them were "The Whale," the "Curtiss Calamity," and the "plumber's nightmare".

The C-46's huge cargo volume (twice that of the C-47), three times the weight, large cargo doors, powerful engines and long range also made it suitable for the vast distances of the Pacific island campaign. In particular, the U.S. Marines found the aircraft (known as the R5C) useful in their amphibious Pacific operations, flying supplies in and wounded personnel out of numerous and hastily built island landing strips. A US C-46 aircraft conducting an aerial evacuation of wounded American troops from Manila, the capital of the Philippines, shortly after US forces retook the city in 1944 after intense fighting with the Japanese.

Europe

Although not built in the same quantities as its more famous wartime compatriot, the C-47 Skytrain, the C-46 nevertheless played a significant role in wartime operations, although the aircraft was not deployed in numbers to the European theatre until March 1945. It augmented USAAF Troop Carrier Command in time to drop paratroopers in an offensive to cross the Rhine River in Germany (Operation Varsity). So many C-46s were lost in the paratroop drop during Operation Varsity that Army General Matthew Ridgway issued an edict forbidding the aircraft's use in future airborne operations. Even though the war ended soon afterwards and no further airborne missions were flown, the C-46 may well have been unfairly demonized. The operation's paratroop drop phase was flown in daylight at low speeds at very low altitudes by an unarmed cargo aircraft without self-sealing fuel tanks, over heavy concentrations of German 20 mm, 37 mm, and larger calibre Flak utilizing explosive, incendiary, and armour-piercing incendiary ammunition. By that stage of the war, German AA crews had trained to a high state of readiness; many batteries had considerable combat experience in firing on and destroying high-speed, well-armed fighter and fighter-bomber aircraft while under fire themselves. Finally, while many, if not all of the C-47s used in Operation Varsity had been retrofitted with self-sealing fuel tanks, the C-46s never received such modification. Although 19 of 72 C-46 aircraft were shot down during Operation Varsity, it is not as well known that losses of other aircraft types from AA fire during the same operation were equally as intense, including 13 gliders shot down, 14 crashed, and 126 badly damaged; 15 B-24 bombers shot down, and 104 badly damaged; 12 C-47s shot down, with 140 damaged.



Postwar

Overall, the C-46 had been successful in its primary role as a wartime cargo transport, and had benefited from a series of improvements. Like the C-47/DC-3, the C-46 seemed destined for a useful career as a postwar civilian passenger airliner, and was considered for that purpose by Eastern Airlines. However, the high operating costs of the C-46 (up to 50% greater than the C-47), soon caused most operators to change their minds. Consequently, most postwar C-46 operations were limited to commercial cargo transport, and then only for certain routes. One of the C-46's major drawbacks was the prodigious fuel consumption of its powerful 2,000 hp engines, which used fuel at a much higher rate than the C-47/DC-3. Maintenance was also more intensive and costlier. Despite these disadvantages, surplus C-46s were used by some air carriers, including Capitol Airways, Flying Tigers, Civil Air Transport (CAT) and World Airways to carry both cargo and passengers. Many other small carriers also eventually operated the type on both scheduled and non-scheduled routes. The C-46 became a common sight in South America, and was widely used in Bolivia, Peru, Brazil, Argentina and Chile, especially in mountainous areas (where a good climb rate and high service ceiling were required) or to overfly deep jungle terrain where ground transport was impracticable.



C-46 Commandos also went back to war. A dozen surplus C-46s were purchased in the US covertly for use in Israel's 1948 war for independence and flown to Czechoslovakia in a circuitous route, firstly via South America and then across to Africa. The type's long range proved invaluable flying cargo, including desperately needed dismantled S-199 fighters from Czechoslovakia as well as other weapons and military supplies. On the return flight the C-46s would dump bombs out the cargo door on various targets at night, including Gaza, El Arish, Majdal, and Faluja (both Egypt and Israel also used

C-46s as bombers and transports locally). C-46's served both Korea and Vietnam for various USAF operations, including resupply missions, paratroop drops, and clandestine agent transportation. The C-46 was also employed in the abortive US supported Bay of Pigs invasion in 1961. Amazingly the C-46 was not officially retired from service with the U.S. Air Force until 1968.

The type also served under a U.S. civilian agency, the Central Intelligence Agency (CIA). The C-46 played a supporting role in many clandestine operations during the late 1940s and early 1950s, including resupply efforts to Chiang Kai-Shek's troops battling Mao's Communists in China as well as flying cargoes of military and medical supplies to French forces via Gialam Airfield in Hanoi and other bases in French Indochina. The CIA operated its own "airline" for these operations, Civil Air Transport (CAT), which was eventually renamed Air America in 1959. An Air America C-46 was the last fixed-wing aircraft flown out of Vietnam [Saigon] at the close of hostilities there. On 29 April 1975, Capt. E. G. Adams flew a 52-seat version, with 152 people on board, to Bangkok, Thailand.

The Japan Air Self-Defense Force used the Commando until at least 1966, when they began development of the Kawasaki C-1. The Republic of China Air Force operated the C-46 up until 1982 at which time it was retired from service. Although their numbers gradually began to dwindle, C-46s continued to operate in remote locations, and could be seen in service from Canada and Alaska to Africa and South America. In the late 1970s and early 1980s, the Canadian airline Lamb Air operated several C-46s from their bases in Thompson and Churchill, Manitoba. One of the largest C-46 operators was Air Manitoba, whose fleet of aircraft featured gaudy colour schemes for individual aircraft. In the 1990s, these aircraft were divested to other owner/operators. Between 1993 and 1995, Relief Air Transport operated three Canadian registered C-46s on Operation Lifeline Sudan from Lokichogio, Kenya. These aircraft also transported humanitarian supplies to Goma, Zaire and Mogadishu, Somalia from their base in Nairobi, Kenya. One of the aircraft (C-GIXZ) was lost near Lokichogio while the remaining two (C-GTXW & C-GIBX) eventually made their way back to Canada. These two aircraft were then operated as freighters for First Nations Transportation in Gimli, Manitoba, but the airline later ceased operations with one aircraft sold to Buffalo Airways and the other tied up in receivership.



According to First Nations Transport, as of Jan 2016, the latter aircraft (C-GIBX) was claimed to be airworthy with two new engines and available for sale with the fire bottles and props needing updates. The other former First Nations Transportation C-46 (C-GTXW) flew for Buffalo Airways until it was scrapped in 2015. Two additional aircraft of the same type (C-GPTO and C-FAVO) continue to be used by the same carrier primarily in Canada's Arctic. They have been featured on the *Ice Pilots NWT* television show.

C-46 COMMANDO PHOTO SELECTION – BY JOHN ROACH



Above; A C-46 of Buffalo Airlines, a family-run airline based in Yellowknife, Northwest Territories, Canada, established in 1970. It serves the internal supply routes of Alaska as well as the Northern Territories of Canada. Below (next page;) A selection of C-46 aircraft past and present. Note that XB-LIU on next page has a rare stepped cockpit nose. Enjoy!



OUT OF THE ARCHIVES – WITH THANKS TO PETER FRAENKEL FOR THESE PHOTOS



Top Left: A Vickers Valiant, from 148 Sqn, based at RAF Marham. Above Right; A Republic F-84F Thunderstreak, 52-6660 at Wethersfield in 1961. This F-84 was later preserved by the Confederate Air Force in Texas. Right this Fiat G-91 MM6251 at Wethersfield in 1961 later joined the Italian AF 'Frecce Tricolori' aerobatic team and was written off in June 1981 at Ramstein AB after a hard landing, seven years before the unit's infamous collision.



Lower Right; A McDonnell RF-101C, 56-0070, Voodoo of the 32 TRS, 66 Tactical Reconnaissance Wing, based at Laon AB, France in 1961.

Bottom Right; Convair F-102A Delta Dagger, 56-1111 of the 525th Fighter Interceptor Squadron "The Fighting Bulldogs," based at RAF Wethersfield, in June 1961. Bottom Left; A Douglas C-124 Globemaster II serial 50-20950 of the 63rd Troop Carrier Wing, Military Transport Service.



MILITARY AVIATION IN OMAN - BY LAWRENCE HAYWARD

From the late 17th century, the Omani Sultanate was a powerful empire. At its peak in the 18th & 19th century, Omani influence and control extended across the Strait of Hormuz to modern-day Iran and Pakistan, and as far south as Zanzibar. When its power declined in the 19th century, the sultanate came under the influence of the UK. For over 200 years, the relations built up between the two empires was based on mutual benefits. The UK recognized Oman's geographical importance as a trading hub that secured their trading lanes in the Persian Gulf and Indian Ocean and protected their empire in the Indian sub-continent. Muscat was also among the most important trading ports of the Indian Ocean at the time. Oman was effectively a British Colony, with the defence of the country under British control, but internal affairs were left to Sultan Taimur bin Faisal, who ruled from 1932 until 1970 as an absolute hereditary monarch. Britain acted as a powerful ally and mediator in disputes with Oman's neighbours, which in the 20th Century kept Oman on side as an ally.

Understandably Oman occupied a strategically important place in Great Britain's defence of its imperial trade routes during the WW2. While Italian aircraft bombed facilities in Aden from their bases in Ethiopia, Oman was left unscathed even at sea, rather surprisingly as both German and Japanese submarines operated in the area. To counter the threat, detachments of RAF aircraft were sent from places such as Transjordan, Iraq or Trucial States (now UAE). As the RAF was stretched worldwide some aircraft types were obsolete such the Vickers Vildebeest of 244 Sqn, which sent detachments (*see photo right*) from Sharjah until 1942 when they were replaced by Blenheim Mk IV and later Mk Vs.



To provide a more permanent facility, the RAF built Masirah airfield (on Masirah Island). From 1943 onwards, it housed No. 33 Staging Post to provide an important refuelling stop for RAF aircraft heading to and from India. It was also a base for 244 Sqn anti-submarine patrols. Later another RAF airfield was built at Ras Al-Hadd, on the most westerly point of mainland Oman and approximately 300 kms north of Masirah Island.



Although the Blenheim Mk Vs was an improvement over the Vildebeest, it was not ideal as an anti-submarine aircraft. However, a 244 Sqn aircraft did manage to sink a U-Boat on 16th October 1943.

In March 1944, 244 Sqn made Masirah its main base, since re-equipping with Wellington Mk XIII (*shown left*.) Officially part of South East Asia Command, 244 Sqn remained under the operational control of RAF Middle East. Detachments of Consolidated Catalina flying boats from Nos. 209, 265 and 321 Squadron regularly operated from Umm Rasas, on Masirah Island.

During WW2, the Gulf Fighter Fund of Oman kindly donated £50,000, which paid for 10 Spitfires for the Royal Air Force. This was similar to the Spitfire Funds established in Britain during 1940. The money came from Arab, British and other communities through the Political Resident in the region. Amongst the presentation machines were two Spitfires named 'Oman' (W3628) and 'Muscat' (ML214).

THE SULTAN OF OMAN'S AIR FORCE

In the post war period, Britain was keen that friendly nations, protectorates and newly independent nations should take on the responsibility for their own defence. Consequently, the Sultan of Oman's Air Force (SOAF) was formed with British personnel and aircraft in March 1959 under the control of the Sultan. The first aircraft were two Scottish Aviation Pioneers transferred from the Royal Air Force. The first armed aircraft was the Percival Piston Provost T52 (*Shown Right*). In 1968 the SOAF received the first of 24 BAC Strikemaster light strike jet aircraft for operation against insurgents in the Dhofar region.





Above Left; A BAC Strikemaster that the SOAF used from 1968, replaced the Percival Piston Provost. Above Centre; The Hawker Hunter which did sterling service in the middle east with various air forces, such as Jordan and Kuwait which donated their Hunters to Oman when they upgraded their own air forces. Oman phased out its Hunters in November 1993. Above right; The SEPCAT Jaguar that served the Omanis well for two decades.

In 1974 the SOAF was expanded with orders for the Britten Norman Defender, BAC One-Eleven, BAC VC10 and 32 Hawker Hunter ground attack aircraft. In 1977 the SEPCAT Jaguar joined the SOAF, followed in the 1980s by the first of several BAe Hawk marks. In 1990 the SOAF was renamed the Royal Air Force of Oman (RAFO). In 1993 and 1994 the RAFO replaced its Hawker Hunters with four BAE Hawk Mk 103 fighter-trainers and 12 single-seat Hawk Mk 203, equipped with Westinghouse APG-66H radar, as light ground attack/interceptors. In September 1997 after the evaluation of new combat aircraft the RAFO decided to upgrade and extend the service lives of its remaining 17 SEPECAT Jaguar ground attack fighters until the second decade of the 21st century. A contract was placed with the United Kingdom Ministry of Defence to upgrade the avionics of the Jaguar aircraft for \$40 million.

In 2005 deliveries started of the F-16 (see photo right), equipped with improved GPS/INS. The aircraft can carry a further batch of advanced missiles; the AGM-88 HARM missile, JDAM, JSOW and WCMD. Block 50 aircraft are powered by the F110-GE-129 while the Block 52 jets use the F100-PW-229. On 3 August 2010 the USA Defense Security Cooperation Agency notified the Congress of a possible sale of 18 F-16 Block 50/52 to Oman in a contract worth US\$3.5 Billion. In addition to the new fighters, the contract included upgrading existing 12 F-16 C/D in the RAFO inventory. On 14 December 2011 it was announced that Oman had agreed to buy an additional 12 F-16C/D to join the 12 F-16s C/Ds already in service.



Oman was considering the purchase of either Eurofighter Typhoon or JAS 39 Gripen aircraft, but on 21 December 2012 a £2.5 billion deal was signed in Muscat to supply RAFO with 12 Eurofighter Typhoon fighter jets (in preference to the Gripen) and also bought eight BAE Hawk 103 Advanced Jet Trainer aircraft, the delivery was complete in 2018.



Above Left; the first of 12 Eurofighter Typhoons ordered by the RAFO with a combination of dual and single cockpit types. Above Right; The Hawk 100 series was designed to be even more suited to combat duties and advanced weapons training. It had a radar warning receiver (RWR), forward looking infrared (FLIR), chaff and flare dispenser, 'hands on throttle and stick' HOTAS controls, multi-function displays (MFD) and a head-up display (HUD), whilst the 'combat wing' included wingtip launch rails for air-to-air missiles. In the RAFO, desert camo colours are used for low level ops.

HISTORIC AVIATION NEWS FOR MARCH AND APRIL 1971, 1981 & 1991 BY JOHN ROACH

1971

March 6 – Aer Lingus takes delivery of its first Boeing 747. The airliner is to be used on transatlantic routes.

March 11 – Alyemda, internationally known as "Democratic Yemen Airlines" and "Yemen Airlines," is founded as the flag carrier of South Yemen.

March 17 – Jane Leslie Holley becomes the first woman commissioned into the United States Air Force via the Air Force Reserve Officer Training Corps.

March 21 – First flight of the Westland Lynx (serial XW835)

March 19 -- A hijacker commandeers a KLM Douglas DC-8 flying from Paramaribo, Suriname, to Amsterdam in the Netherlands and demands to be flown to Sweden, but surrenders to authorities at Paramaribo.

March 23 – First flight of the CASA C.212 Aviocar (serial XT.12B-1)

March 24 – Federal funding for the Boeing SST project is cut by the United States Congress.

March 25 – First flight of the Ilyushin Il-76 (registration SSSR-86712)

March 30 – Six hijackers commandeer a Philippine Air Lines BAC One-Eleven with 50 people on board during a domestic flight in the Philippines from Manila to Davao City and force it to fly to Guangzhou in the PR of China

March 31 -- On approach to Voroshilovgrad Airport in Voroshilovgrad in the Soviet Union's Ukrainian Soviet Socialist Republic, Aeroflot Flight 1969, an Antonov An-10 (registration CCCP-11145), suffers the structural failure of its right wing while descending from 1,200 to 600 meters (3,937 to 1,968 feet). It crashes 8.1 miles southwest of the airport, killing all 65 people on board. At the time, it is the second-deadliest accident involving an An-10 and the worst aviation accident in the history of Ukraine.

March 31 -- Using CH-53A Sea Stallion helicopters, the U.S. Navy's Helicopter Mine Countermeasures Squadron 12 (HM-12) and Mobile Mine Countermeasures Command begin the development of specifications for the U.S. Navy's first air mine countermeasures aircraft.

April 1 – Hawker Siddeley Trident 3B (G-AWZC) entered service with British European Airways

April 9 – The last major airmobile operation of the Vietnam War, Operation Lam Son 719, ends after North Vietnamese Army forces drive all South Vietnamese forces out of Laos with heavy casualties. Facing the heaviest anti-aircraft artillery fire of the war, American helicopter crews have suffered casualties of 176 killed, 1,942 wounded, and 42 missing, with 107 helicopters destroyed and 600 damaged. The operation has demonstrated a need for the U.S. Army to develop a specialized antitank attack helicopter.

April 15 – Hawker Siddeley AV-8A Harrier entered service with VMA-513 of the United States Marine Corps

April 21 – A hijacker commandeers Eastern Airlines Flight 403, a Douglas DC-8 with 59 people on board flying from Newark, New Jersey, to Miami, Florida, and demands to be flown to Italy.

April 26 – Lieutenant Colonel Thomas B. Estes (pilot) and Major Dewain C. Vick (reconnaissance systems officer) make a record-breaking nonstop flight of 15,000 miles (24,155 km) in an SR-71 Blackbird of the U.S. Air Force's 9th Strategic Reconnaissance Wing, at times exceeding Mach 3. They will receive the MacKay Trophy for the flight.

April 29 – A male passenger hijacks Avianca Flight 81, a Boeing 720 flying from Los Angeles, California, to Bogotá, Colombia, with a stop en route at Mexico City, Mexico, and demands to be flown to Cuba. The airliner diverts to Panama City, Panama, where the hijacker is arrested.

1981

During the month of March, the North American Air Defence Command (NORAD) is renamed the North American Aerospace Defence Command.

March - A court in Nicaragua declares LANICA bankrupt. The airline will cease flight operations in August.

March 2 – Japan Air Lines becomes the first airline to use a computerised flight simulator to train its crews.

March 10 – Shortly after taking off from Prince Said Ibrahim International Airport in Moroni, Comoros, on a maritime patrol mission, a French Navy Breguet 1150 Atlantic (serial 29) crashes into the Indian Ocean 9.4 miles from the airport, killing all 18 people on board.

March 18 - Aviation advocate and founder of NYC Aviation, Phil Derner, Jr., is born.

March 26 – The keel of the first aircraft carrier designed as such to be built in Italy, Giuseppe Garibaldi, is laid by Italcantieri in Monfalcone.

March 28 – First flight of the Dornier 228 (D-IFNS)

March 28 -- Members of the group Komando Jihad hijack the Douglas DC-9 Woyla, operating as Garuda Indonesia Flight 206 with 57 passengers on board, during a flight from Palembang to Medan on Sumatra in Indonesia, ordering the plane to fly to Colombo, Sri Lanka. After refuelling at Penang, Malaysia, the aircraft flies to Don Muang, Thailand, where commandos of the Royal Thai Air Force and Indonesian Army Kopassus unit storm it. Four hijackers and a Kopassus commando are killed and two people are injured; the two hijackers who surrender are killed on an aircraft

taking them and the Kopassus troops to Djakarta.

Air France pilot Michel Breton flies the airline's last Sud Aviation Caravelle service, from Amsterdam to Paris.

March 29 – British Airways makes its last Vickers VC10 flight.

April 3 – Pan American World Airways founder Juan Trippe dies in Los Angeles, California.

April 4 – In the Iran–Iraq War, the Islamic Republic of Iran Air Force strikes deep into Iraqi territory, destroying 46 Iraqi aircraft at Al-Walid Air Base. Iraq later claims that the Syrian Air Force provided cover for the attack.

April 10 – Japan Air Lines carries its 10 millionth passenger

April 12 – The Space Shuttle Columbia takes off. It marks the first time an American space shuttle flies operationally. It glides to a landing two days later.

April 17 – Air US Flight 716, a Handley Page HP.137 Jetstream (registration N11360), collides over Larimer County, Colorado, 1.9 miles east-southeast of Fort Collins–Loveland Municipal Airport with a Sky's West Parachute Center Cessna TU206 (registration N4862F) on a skydiving flight. The collision kills two skydivers on the Cessna; the other three skydivers on board and the pilot parachute to safety before the Cessna crashes. The Jetstream crashes almost nose-down in an open field about 4,000 feet (1,219 meters) of the Cessna's wreckage, killing all 11 people on board.

April 28 – Despite forecasted icing conditions, an Aeroflot Antonov An-2TP (registration CCCP-92864), takes off from Batagay Airport in Batagay in the Soviet Union's Russian Soviet Federated Socialist Republic for a flight to Lazo. While flying over mountainous terrain at an altitude of 1,500 meters (4,921 feet), it encounters snow squalls, begins to descend, and crashes in a cloud-covered mountainside at 860 meters (2,821 feet), killing all 12 people onboard.

April 30 -- The Israeli Air Force comes within hours of attacking the first Syrian 2K12 Kub (NATO reporting name "SA-6 Gainful") surface-to-air missile batteries deployed in Lebanon before the attack is cancelled.

April 30 -- People Express Airlines commences flight operations. On its first day, it offers Boeing 737 service from Newark International Airport in New Jersey to Buffalo, New York; Columbus, Ohio; and Norfolk, Virginia.

1991

March 3 -- At ceasefire talks with Iraqi representatives at Safwan, Iraq, American General Norman Schwarzkopf, Jr. warns them that Coalition forces will shoot down any Iraqi aircraft flying over the country.

March 3 -- United Airlines Flight 585, a Boeing 737-291 (N999UA) experiences a rudder hard-over on final approach to Colorado Springs Municipal Airport, Colorado, and dives into the ground, killing all 25 people on board. 1st Officer Patricia Eidson becomes the first female pilot to die in an accident involving a US pure-jet airliner.

March 5 -- Aeropostal Alas de Venezuela Flight 108, a McDonnell Douglas DC-9-32 (registration YV-23C) crashes into a mountain shrouded in fog near La Valesa, Venezuela, killing all 45 people on board.

March 9 – Retired American baseball player Jim Hardin is killed when the propeller of his Beechcraft 35-C-33A Bonanza fails due to metal fatigue just after take-off from Key West International Airport in Key West, Florida, and the plane crashes while he is attempting to return to the airport to make an emergency landing.

March 20 – A U.S. Air Force F-15C Eagle of the 36th Tactical Fighter Wing uses an AIM-9 Sidewinder air-to-air missile to shoot down an Iraqi Air Force Sukhoi Su-22 (NATO reporting name "Fitter") which is violating the post-Gulf War Coalition prohibition against Iraqi military flights.

March 22 – A 36th Tactical Fighter Wing F-15C downs an Iraqi Su-22 with a Sidewinder. Another Su-22 accompanying the first one crashes while manoeuvring to evade the approaching F-15C. The pilot of an Iraqi Pilatus PC-9 trainer bails out when American aircraft approach his plane.

March 26 – Four armed men claiming to be members of the 'Pakistan People's Party' hijack Singapore Airlines Flight 117, an Airbus A310-300 with 123 other people on board, during a flight from Kuala Lumpur, Malaysia, to Singapore. After the aircraft lands at Singapore Changi Airport, they demand the release of Asif Ali Zardari and other members of their party from jail. The following morning, they push two stewards from the plane onto the tarmac, injuring them, and threaten to begin killing passengers, after which the Singapore Armed Forces Commando Formation storms the plane and kills all four hijackers without further injury to anyone else on board.

April -- KLM Cityhopper commences operations after NLM Cityhopper and Netherlines merge to create the airline. With negotiations to end apartheid in South Africa underway since the previous year, Air Zaïre begins service to Johannesburg, South Africa.

April 5 – Atlantic Southeast Airlines Flight 2311, an Embraer 120RT Brasilia (registration N270AS) crashes on approach to Brunswick, Georgia, killing all 23 people on board. Among the dead are former United States Senator John Tower, his daughter Marian, astronaut Manley "Sonny" Carter, American College of Physicians president-elect Dr Nicholas Davies, and professional golfer Davis Love, Jr., the father of golfer Davis Love III.

April 6 – Operation Provide Comfort begins to bring aid to civilians in northern Iraq. It includes a no-fly zone for Iraqi military aircraft over Iraq north of the 36th parallel enforced by American and Allied aircraft, and continues until 24 July.

April 6 -- Interflug, formerly the national airline of East Germany, makes its last flight, a Tupolev Tu-134 flying the Berlin-Vienna-Berlin route. Interflug subsequently is dissolved and its assets liquidated.