

# Chiltern Airwords



**XF515 of the Dutch Hawker Hunter Foundation, since repainted as N-294 in Dutch AF markings**

**The Chiltern Aviation Society Magazine  
July - August 2020**

## **CHAIRWORDS**

As I write this, we are still in the grip of the Coronavirus pandemic, with all its far-reaching effects. Although not to be compared with the appalling loss of life from Covid-19, and with so many people currently unemployed, the annual list of aviation events has been decimated. The July 2020 edition of Aeroplane contains a lengthy article on the late great display pilot Ray Hanna; certainly, one of my aviation heroes. Many of us during the earlier years have witnessed Ray's superb breath taking, low level Spitfire displays at many airshows. His sensitive handling and quick reaction timing made him a master of his art of low level flying with safety in mind.

Those of a certain age will also remember the doyens of Farnborough Airshows, such as John Derry, John Cunningham, Neville Duke, Roland 'Bee' Beaumont, Roland 'Roly' Falk and others. Hopefully the airshow scene will return in due course, with the new masters of their art performing.

As far as Chiltern Aviation Society is concerned let's hope that we will be able to resume our monthly meetings before too long and meet up with each other. Not only does CAS Committee need to take heed of Government advice concerning social distancing and when it is safe to resume, it needs permission from Ruislip Methodist Church to use the Church Hall.

Finally, in lockdown our Airwords Magazine has reached a wider audience via a few of our far-flung members, and therefore we wish to give a warm welcome to the University of the Third Age (U3A) branches in Sidmouth, Devon and U3A in Radcliffe-On-Trent in Nottingham, who have enrolled as Associate Members. Hopefully our Airwords Magazine will make lockdown a bit more bearable, and in turn may elicit a few aviation related articles, one of which concerning RAF fast jets in 1970-80s is included in this issue. More please! Keep active and keep safe! **Keith Hayward**

## **EDITORWORDS**

Firstly, note the new email address; [cas.editors2020@gmail.com](mailto:cas.editors2020@gmail.com) in use since June 2020

My renewed thanks for the articles sent in so far and also time for another selection of photos from Peter Fraenkel's amazing album. Please have a look at your own photos and send them in to me for publication in Airwords. Any photos may be emailed on highest resolution to me, singularly or in groups (allowing for maximum MB of 25MB). I want to make pages of other submissions. Lastly, when emailing photos and words to [cas.editors2020@gmail.com](mailto:cas.editors2020@gmail.com) keep them separate please.

**KEITH HAYWARD.** Chairman  
52 Pinn Way, Ruislip, Middx HA4 7QF; Phone 01895 637872.

**JOHN ROACH.** Vice Chairman / Membership Secretary  
13 Thames Drive, Ruislip, HA4 7AY  
Phone 01895 637222 e-mail; [cas.vice-chairman@outlook.com](mailto:cas.vice-chairman@outlook.com)

**LAWRENCE HAYWARD.** Club Secretary / Assistant Editor  
91 Hartland Drive, South Ruislip, Middx, HA4 0TJ  
Phone 0208 8453414 e-mails; [cas.clubsecretary@outlook.com](mailto:cas.clubsecretary@outlook.com) but better to use [cas.editors2020@gmail.com](mailto:cas.editors2020@gmail.com)

**PAUL KENDALL** Webmaster  
e-mail; [chilternaviation@btinternet.com](mailto:chilternaviation@btinternet.com)  
WEB SITE [www.chilternaviationsociety.wordpress.com](http://www.chilternaviationsociety.wordpress.com)

**DAVID KENNEDY** – Editor  
69, Sharps Lane, Ruislip HA4 7JD. Phone 01895 637202. **NO E-Mail or internet access!** For future items please send to me on paper OR e-mail articles directly to Lawrence at the above email addresses.

**CHILTERN AIRWORDS;** Chiltern Airwords is produced purely for members' own private study and enjoyment and it is not for sale. Opinions expressed in Airwords are the author's and not necessarily those of the CAS Committee. Images freely obtained from the internet, are used only for members private study and not profit.

**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 at our monthly programme of talks for a small contribution of £2 per event.

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

**2020 PROGRAMME;**

**ALL CANCELLED UNTIL FURTHER NOTICE**

## **FIRST OFFICER JAMES CASTAGNOLA, BEA – LATE STARTER, A MYSTERY SOLVED BY K. HAYWARD**

One day, during my BEA service, as a Passenger Group Supervisor in the old Terminal 2 at Heathrow in the 1960s I was taking a short tea break in the Queen's Building canteen when I was joined by one of the Duty Controllers from Operations Control, Jack Harrison. Most of that team were former wartime aircrew members and I was interested to hear about his experiences.

During our conversation he mentioned that he had been a Navigator with the famous 617 Squadron "The Dambusters" and had taken part in the final *Tirpitz* attack in the Norwegian Fjords on 29 October 1944. He then mentioned that one of the 617 Squadron pilots on that raid was BEA pilot First Officer James Castagnola DSO, DFC and Bar. I was slightly puzzled as to why a man of such experience didn't hold a command. Crew Briefing in those days was in the Queens Building and the pilots would often walk through Terminal Two's main concourse en route from the car park. Those wearing wartime medal ribbons, DFCs etc and occasionally a DSO, were virtually always captains. Very rarely in the 1960s were they First Officers but such as the case with 'Cass.' Surely with such a wealth of experience he was worthy of command.

Following some research, I have discovered that he was born in Islington, London, in 1922 and joined the Royal Air Force in 1941. After pilot training he was posted to 57 Squadron, a bomber unit with Lancasters. By January 1944 he was operating deep into Germany, flying to Berlin three times during that month. Later that year he was attached to 617 Squadron and, as previously mentioned, took part in the final *Tirpitz* raid carrying a deadly 'tallboy' bomb. After 62 operations his final raid was on Heligoland on 19 April 1945. His valour was recognised with the DSO and double DFC (i.e., DFC and Bar). In January 1946 he was in charge of training at RAF Snaith and in 1947 he was posted to the Central Flying School at West Raynham on Mosquitos, Vampires and Meteors. His highlight came in March 1950 when he was posted to Farnborough as a Test Pilot. His final posting was as a Staff Officer at Headquarters 13 Group. He retired from the RAF in November 1961 as a Squadron Leader.

'Cass' wanted to continue a career in aviation and he applied to BEA for a job as a First Officer in 1962. Most of his compatriots had left the RAF at the end of hostilities and those who wished to continue flying applied to BOAC or BEA in 1945/1946. The airlines took on a large number of these ready-trained pilots and by 1962 most were now seasoned captains.

James Castagnola, now 40, started his new career knowing that he would have a very long wait for promotion. He flew Comet 4Bs as a First Officer, initially at Heathrow and then at Gatwick with Airtours. In 1974 he returned to Heathrow and finally achieved his captaincy on Tridents, retiring on 20<sup>th</sup> April 1977. 'Cass' died in 2013 at the age of 90.

I am pleased that I was able to solve the mystery; he was just a late starter. I imagine that many of the younger captains welcomed such a wealth of experience in the right-hand seat.

## **THE SERVICE CAREER OF FL/LT JAMES 'CASS' CASTAGNOLA, DSO DFC, 169585**



*Lawrence Hayward;* By chance I have more details of Cass's RAF service gleaned from the Operations Record Book (ORB) for 617 Sqn etc, and extra info from the web, as follows;

Cass enlisted in 1941 and trained in North America. Returning to England he 'crewed up' at Bomber OTU and after completing their HCU course the crew, captained by the newly commissioned Cass, briefly joined 51 Squadron at RAF Snaith in early 1943 flying the Handley Page Halifax, and then he and his

crew joined 57 Squadron in December 1943 flying Avro Lancasters from East Kirkby for their first tour of operations. (See photo of *Just Jane*, at East Kirkby in DX markings of 57 Sqn) Cass and his crew were first blooded with a series of attacks by 57 Sqn against Berlin, completing three operations against this target in four nights during January 1944. In all Cass was to visit *the Big City* eight times during his tour. During the Nuremberg operation of 30/31 March 1944 his Lancaster's rear turret guns froze up but a burst from the mid-upper gunner caused an approaching Me 210 to break away. On return his gunners also claimed one Ju 88 destroyed and another damaged. On 5 April 1944 the crew were one of six attached along with their 57 Sqn aircraft, to 617 Squadron at Woodhall Spa, to provide an H2S capability, which 617 Sqn Lancs lacked due to their fuselage modifications.

An initial trip as passenger with F/O Fearn was flown in 617 Sqn Lancaster Mk I, DV393, for the attack against the Luftwaffe Depot at St Cyr on 10 April to observe the Squadron's methods. Cass found himself non-operational for a month as he and 617 Squadron trained intensively for *Operation Taxable*. After teamed up with Lt Hubert 'Nick' Knilans USAAF, Cass as co-pilot in Lancaster Mk I, ME561, R for Robert, he completed the D-Day deception operation on 5<sup>th</sup> June 1944 and three nights later he was operating as Captain of Lancaster Mk III ND472 O for Orange on a sortie against the Saumur railway tunnel. Unable to carry Tallboy, his H2S equipped aircraft was loaded with thousand pounders to be aimed at the adjacent railway bridge across the Loire. His next three trips were as an additional member of Lt Knilans' crew. By July Cass had been posted back to 57 Sqn at East Kirkby and would complete his first tour with them. He was not away from 617 Sqn at Woodhall for long, arriving back on 617 Squadron on 15 August 1944 to start his second tour. This was to be much more satisfying. With his trademark 'operationally battered' cap, Cass and his crew soon proved themselves a popular and valuable asset to 617 Squadron, as a Squadron member. Starting with a trip to Brest on 27 August and now carrying Tallboy they were part of the high-level force for the attack on the Kembs Dam, and took part in all three operations against Tirpitz, claiming a direct hit in the middle of the Tirpitz during the final attack.

During the attack on Bergen, Norway on 12 January 1945 his aircraft came under fighter attack and Cass dived to within the range of the flak batteries; the fighter deigned to follow. Heading out to sea he spotted Ian Ross' aircraft at low level, on fire and under fighter attack. With his bomb aimer manning the front turret and without thinking of his own safety Cass dived to offer whatever assistance he could. He was successful in driving the fighter away, but Ross was forced to ditch, while Cass circled overhead dropping an emergency radio wrapped in Mae Wests when it was seen that Ross' dinghy had not deployed. Climbing to 500 feet they signalled the ditched Lancaster's position and remained in the area, seeking cloud cover when a German fighter came too close. With fuel running low he was eventually forced to leave the stricken crew to their fate. Despite the best efforts of F/O 'Cass' Castagnola, in defending a ditched 617 Sqn Lancaster, NF992, on 12th January 1945 and marking its position, F/O Ian Ross and crew were lost. After their aircraft ditched, they were seen alive in the water and later a Warwick ASR aircraft dropped a larger airborne lifeboat to them and they were also observed to reach it. However, it is believed that the crew was strafed by Luftwaffe fighters, killing all on board. Only the body of F/O Ellwood was recovered when it was washed ashore on the Norwegian coast on 13th March 1945. The remaining months saw a new routine develop, railway viaducts were replacing U-boat pens as targets during February and March, before returning to April's target list, along with other naval targets during the last month of hostilities. After a total of 62 operations Cass' war came to an end on 19 April 1945 with an attack on the island fortress of Heligoland.



In late 1945 saw him as the Squadron's Inspector Pilot as they worked up for 'Tiger Force' the RAF's projected contribution to the Pacific War but, with the squadron prepared to go overseas to India, in January 1946 he was posted to RAF Snaith, to conduct aircrew training. Having been awarded the DFC for his time on 57 Sqn, Cass was to receive a bar in March 1945 for his service with 617 and a further award of the DSO in October 1945. Awarded a permanent commission in 1947, he was posted to the Central Flying Establishment, RAF West Raynham, (see photo left of the RAF Station in late 1940s) flying Mosquitos, Vampires and Meteors, before transferring to the Empire Test Pilots School, RAE Farnborough, in March 1950. After qualifying as a test pilot his experience

was put to good use for four years at the Aeroplane and Armament Experimental Establishment, Boscombe Down. Cass transferred to fighters in April 1954 and served in the Middle East and Germany before becoming Officer Commanding No. 41 Sqn, Biggin Hill, flying the Hunter F5. In keeping with a number of pilots following their fighter tour, at the beginning of 1958 he was sent on a radar control course prior to being posted to Neatishead radar station, Norfolk, as Control Executive. After a final tour as a Staff Officer with HQ No. 13 Group, at Ouston, he left the RAF in November 1961 as a Squadron Leader.

## MY PLANE CRASH - BY REX RUSSELL



In May 1957, I was 8 years old and had just enjoyed a 16-day holiday in Majorca, in the Spanish Balearic Islands with my parents. Majorca at this time was just discovering the joys of being a holiday destination, in fact Magaluf which is now one of the most densely populated tourist destinations in Europe was just a long open beach with a wooden hut serving as a beach bar! The island was yet to have an airport, Palma airport opened three years later, the only way to get there was ferry or flying boat, my parents chose the latter!

*(Left; The flight to Majorca was operated by Aquila Airways using a Short S.45 Mk IV Solent Flying Boat G-ANYI and the*

*aircraft, named Awatere, is seen in Southampton at Berth 50, used as the passenger terminal.*

Being only eight I do not remember too much about the holiday apart from the Caves of Drach which were, and still are spectacular and an incident where I had seen a toy accordion in a shop which I fancied but mum and dad said no! However, I knew how to deal with that! A few tears and that accordion was mine! (I still have it!) However, the point of the story is the journey home.



We arrived at the landing stage in Port de Pollensa Harbour where the Short Solent Flying Boat was parked (moored?) and boarded along with 55 other passengers. These flying boats were divided up into cabins rather like trains of the day were, ours seated six and was occupied by Mum, Dad, Me (by the window) Peter Butterworth the ‘Carry On’ films actor/comedian and his wife Janet Brown, actress and impressionist. Anyway, we get ready to leave with me and Peter Butterworth playing pilots! We start taxiing across the water and getting up to take off speed about 150mph, incidentally I don’t know if anyone has ever been on a Solent but they make the loudest noise imaginable on take off. About three miles out there was a loud grinding noise accompanied by really bad juddering and stuff flying about (not passengers we had seat belts on), ‘my co-pilot’ shouted “oops we’ve crashed!” And we had!



We didn’t know immediately but we had hit an uncharted reef and it had torn open the underneath of the plane and it was filling with water! Luckily, the plane was wedged firmly on the reef. Emergency procedures began and we had to all put our life vests on with strict instructions that we should not inflate them until after we had been lifted up through the hatch which led up onto the fuselage. Unfortunately, being eight years old I took no notice and pulled my cord and inflated mine resulting in me not getting through the hatch! The crew had to cut off my life vest and give me a new one, naughty boy! Anyway, we climbed onto the wings and made ourselves comfortable (according to the press). My father remembered his new camera down below and went back to get it at the expense of getting his trousers wet, back up on the wing he decided to walk along to the tailplane and take some snaps of everyone sitting on the wings. I’m sure most of the elderly passengers were thinking it might be the last place they would ever sit! I know if it were now, I’d think the same!

Flares were set off and the rescue began, boats were sent out from a nearby army base to pick us up, meanwhile Peter Butterworth was being a hero by diving under the plane to see if the hole could be plugged, alas it was much too big. We all arrived safely back on land and were put up in hotels for a couple of nights until they could get another flying boat out to us. Whilst in this hotel my father was approached by an agent who wanted to buy the roll of film (no digital then!) My father agreed to sell for, I think, about £300 which paid for the holiday, which cost £59 pounds each and his spending money, including my toy accordion!

A couple of days later everyone very nervously (I wasn't nervous, I was 8!) boarded the replacement flying boat for our journey home, we took off safely, and arrived back five hours later at Southampton Water. On arrival on the dock we were met by a gaggle of reporters all asking questions and snapping away, we were whisked away on a coach to London and back home by car. We discovered next day what the fuss was all about, we had been on the front page of every newspaper (southern editions) with my father's pictures on display with captions like "They could be on the beach at Brighton, but they are not", "Britons on Holiday-Strangest snap ever", "Ditched", "The Happy (crash) Landing".

The pictures were so unusual that the Daily Mirror stitched them together and printed them across both the front and back pages. I don't think the Daily Mail has changed much, they reported that we had all leapt into the sea! No one had! And that I had said it was the best part of the holiday! No one asked!

*The photo above right of G-ANYI was evidently taken by someone other than Rex Russell's father. It is credited to Associated Press and was for sale on eBay some years ago. Rex believes his father may be seen standing nearest the tail, from where he took the photos of the passengers shown on the previous page.*

My father was approached by, I think, The News of the World and offered ten times what he had been paid for the film if he had any exclusive pictures, he didn't have any unfortunately because that was the price of a very nice house in St Albans at the time. We had a couple of interviews with local papers then I went back to school and after having to stand up in front of the entire school and relay my adventure, resumed my normal life for a little while. A few weeks later, using the old adage that if you fall off of a horse it's best to get straight back on again, we flew to Jersey (no fines for keeping your child off school then!) but had to get a ferry home as Mum refused to fly back! She never flew again!



on 26<sup>th</sup> Sept 1958 to Madeira, before passing first to Aerovias Aquila, Portugal then ARTOP, the Portuguese flying boat operator in 1961. The aircraft remained unused and was abandoned next to the River Tagus in Lisbon until it was scrapped in 1971. Note the damaged control surfaces in the photo above. With thanks to **Rex Russell** aged 71 & 1/4, locked down, self-isolating and looking for stuff to do! Also, to Cyril Turbutt editor of the Cardiac Support Group magazine "Keeping in Touch" the magazine of "Heart to Herts" (<http://www.heart2herts.org>) for use of the original article and Glyn Chambers of CAS for spotting this story for Airwords. Below the history of G-ANYI and more photos of it over the years it existed.



## THE HISTORY OF SHORT S.45 SOLENT MK IV – G-ANYI

Built by Short Brothers and Harland, Belfast, Northern Ireland in 1948

It had an all-up take-off weight of 81,000 lb (36,740 kg) and a still-air range of 3,000 miles / 4,830 km

Initially configured to seat 44 passengers

Entered onto the New Zealand Aircraft Register as ZK-AMN on 3<sup>rd</sup> November 1948 with Tasman Empire Airways Limited (TEAL) and named 'Awatere' (swift flowing river)

Departed Belfast on the delivery flight to Auckland NZ on 11<sup>th</sup> October 1949. Arrived on 18<sup>th</sup> October 1949

Delivery route was: Belfast - Southampton - August - Alexandria - Bahrain - Karachi - Rangoon - Singapore - Surabaya - Darwin - Bowen - Sydney - Auckland

Operated Tasman and South Pacific service - 1949 - 1954

Operated the inaugural Auckland - Suva - Labasa Solent service - June 1950

Withdrawn from use and stored at Auckland - June 1954

Sold to Aquila Airways Ltd, London - 1954

Cancelled from the New Zealand Aircraft Register - January 17, 1955

Entered onto the British Aircraft Register as G-ANYI - January 17, 1955

Registered to Aquila Airways Ltd, London

Departed Auckland on the ferry flight to the United Kingdom - January 17, 1955. Captain was Andrew Evans

Ferried via Darwin, Singapore, Ceylon, Karachi, the Suez Canal Zone & Genoa and London (?)

The aircraft retained the TEAL name 'Awatere'

Utilised by Aquila Airways on routes to the Canary Islands, Majorca, Madeira and Montreux, Lake Geneva

Damaged on take-off at Madeira, 22<sup>nd</sup> May 1957

Repaired and returned to service with Aquila Airways

Flew the last Aquila Airways service from Southampton to Madeira via Lisbon on 26<sup>th</sup> September 1958

Transferred to Aerovias Aquila, Portugal - October 27, 1958

Ferried Southampton - Lisbon - November 22, 1958

Sold to ARTOP, Portugal - October 27, 1961

ARTOP ended services due to financial problems, especially after their Martin Mariner was lost without trace in 1958.

Aircraft abandoned on a beach on the River Tagus, Lisbon. Left to rot and was finally broken up for scrap in 1971



*Top left; First Registered as ZK-AMN with TEAL. Seen at Auckland in 1950. Top Right; G-ANYI with Aquila Airways in Southampton sometime after January 1955. Bottom Left; G-ANYI under repair possibly at Aquila's maintenance facility at Hamble. Bottom Right; G-ANYI abandoned right next to the River Tagus in Lisbon in 1964. Note this location differs from that seen on the previous page. Photo Credits via Aussie Airliners.org*

## PETER BUTTERWORTH – WW2 FLEET AIR ARM PILOT, POW AND ‘CARRY ON’ ACTOR.



By all accounts ‘Peter’ William Shorrocks Butterworth (born 4th February 1919) was very much the hero of the hour when he assisting the crew of Short Solent G-ANYI by diving under the flying boat to see if the hole ripped in the hull, was small enough to be plugged. (See newspaper cutting below) Such an act was not typical of anyone who was soon to be famous but that’s what made him different! In 1957 Peter was a budding actor, and soon gained fame for the roles he played in ‘Carry On’ films supporting people such as Sid James, Charles Hawtrey, Barbara Windsor, Kenneth Williams etc who tended to receive more of the limelight. However, unlike his fellow actors, Peter had already shown great heroism in WW2 having flown an antiquated biplane against the might of the Luftwaffe!

Peter joined the RAF circa 1938 and was Commissioned, opting for service in the Fleet Air Arm, which prior to May 1939 was controlled by the RAF. Once the RN took over control, Peter’s rank would have been converted to that of the RN and so he became a Sub Lieutenant. It is known that he attending 34 Observers Course and 3 Pilots Course but the dates are yet to be confirmed. As a Navy pilot, Peter

would have been proficient in deck landings on RN Carriers and in dive bombing. As it happened, Peter’s first unit 826 NAS, was ‘land based’ in 1940 when it formed at RNAS Ford, Sussex on 15th March, equipped with twelve Albacores. During the Dunkirk evacuation the Sqn was based in Detling, Kent and Peter carried out attacks across the Channel in support of the rescue of thousands of British and French troops.

By June 1940 826 NAS was based at RAF Bircham Newton, Norfolk to support RAF Coastal Command, where the Sqn Albacores flew mostly night attacks against shipping off the Dutch coast. Sadly, for Peter the mission on 21<sup>st</sup> June 1940 with eight Albacores led by the Sqn CO, was scheduled for take-off at 15.25 hrs in broad daylight! It was an attack on De Kooy airfield and Den Helder naval base in Holland (actually their secondary target). Near the Dutch coast the flight was set upon by Messerschmitt Bf 109Es from 3/JG53. At 15:55, Uffz. Fritz Schreiter claimed a "Biplane" which was Albacore L7081 which crashed in flames killing the pilot Lt. James L M Bell, the Observer S/L Frank B Hookins and their Telegraphist Air Gunner (TAG) N A1c Robert G Poole. At 16:02, Gefr. Heinz zur Lage claimed a ‘Twin-engined aircraft’ that was actually L7111 of 826 NAS but this Albacore returned safely, though. N A C J C Homer, the TAG was wounded.



Then at 16:12, Fw. Albin Graef in his Bf 109E claimed a twin engined ‘Dragon Rapide’ which was actually Peter’s Albacore L7089 (The 1/48 scale model shown left is of this aircraft). Despite Peter’s best efforts at evasive action and some return fire by his TAG, Leading Airman Robert J Jackson, using a single 0.303 Vickers K machine gun, the rear cockpit was racked with bullets. Peter’s Observer, S/L Victor J Dyke was mortally wounded and with the aircraft damaged, Peter had no option other than to make a forced landing on the Dutch island of Texel. On landing in field, they were soon met by Dutch civilians who came to their aid. Sadly, S/L Victor Dyke could not be saved and after the Germans arrived Peter and his TAG were made POWs. As an

Officer Peter was sent to the Dulag Luft POW transit camp, at Oberursel near Frankfurt, where he later escaped in June 1941 through a tunnel, covering 27 miles (43 km) over three days before a member of the Hitler Youth captured him. Afterwards he joked that he could never work with children again. Two other attempts to escape were made during his time there but he never got beyond the camp grounds. He was subsequently sent to Stalag Luft III, near Sagan, the location of the Great Escape which resulted in the execution of fifty POWs on Hitler’s orders in 1944. Peter Butterworth was also one of the vaulters covering for the escapers during another escape portrayed in the book and film ‘The Wooden Horse’. Peter later auditioned for the film in 1949 but didn’t get the part as he ‘didn’t look convincingly heroic or athletic enough’ according to the makers of the film! Fellow prisoners in Stalag Luft III were Donald Pleasence and Rupert Davies. Peter became close friends with Talbot Rothwell, later a writer on the ‘Carry On’ films and the two began writing and performing sketches for camp shows to entertain the prisoners (causing enough cheering and booing to cover



up the noise of other prisoners digging escape tunnels). This 'amateur acting' sparked his enthusiasm to enter show business. Liberation came in April 1945 when the Russians reached Stalag Luft III. Sadly, and unbeknown to Peter at the time, Leading Airman Robert Jackson, Peter's TAG had died as a POW on 18th January 1945. It is believed that he died or was murdered on a POW forced march that the Germans demanded the prisoners undertake in blizzard conditions, to move them away from the advancing Russians. After the war, Talbot Rothwell helped and encouraged Peter and he soon became a familiar character actor in both films and television from 1948. He specialized in playing gentle, well-meaning but somewhat eccentric characters which, by most accounts, is what he was in real life. He was married to impressionist Janet Brown in 1946; she made a name for herself impersonating Margaret Thatcher in 1980s. Sadly, Peter died suddenly on 16<sup>th</sup> January 1979 just short of his 60<sup>th</sup> Birthday as he was waiting in the wings to go onstage as Widow Twanky in the pantomime 'Aladdin in Coventry. Janet died in May 2011 aged 87. Their son Tyler Butterworth is an actor that will also be familiar to many, and has been acting since childhood from the nineteen sixties.

Below; the cutting from the Daily Mirror, 23<sup>rd</sup> May 1957 via Rex Russell. I wonder who took this photo?

PAGE 10 DAILY MIRROR Thursday, May 23, 1957

## TV PETER IS HERO OF HOLIDAY AIR CRASH

DAILY MIRROR REPORTER

TV comedian Peter Butterworth was the hero in the crash of a flying-boat with fifty-seven passengers on board, it was revealed yesterday.

The flying-boat was taking off from Pollensa Bay, Mallorca, in the Mediterranean on Tuesday when it struck an uncharted rock.

The Britain-bound passengers — who included a boy aged eight — put on life-jackets and climbed through a hatch from the cabin on to the wings — as seen on the right.

Smoke signals were made for help, and after waiting twenty minutes on the wing the passengers were taken off by launches.

They arrived at Southampton in a relief flying-boat yesterday.

It was one of the passengers, Mr. Roy Edwards, of Glen-road, Oadby, Leics, who revealed the courage of Peter Butterworth.

"Peter won't tell you this, but he was the last person to leave the lower-deck of the flying boat after the crash," said Mr. Edwards.

Peter and his actress wife, Janet Brown, arrived in London last night after their first holiday together for seven years.

### Dived In

Peter said that, while passengers were escaping on to the wings after the crash, he helped the crew of the flying-boat to pump out water.

Then he dived under the hull of the flying-boat in an attempt to plug the hole torn by the submerged rock.

"But the hole was too big," added Peter.

"Then I scrambled on to the wings with the rest."

Another passenger, Mrs. C. Gardner, of Ferring, Sussex, said: "Lucky it was a calm day."



**A** PASSENGER is helped through a hatch in the roof of the flying-boat after it struck an uncharted rock in a Mediterranean bay. Other passengers wait in their lifejackets for rescue launches which have been called by smoke signals. They were taken off the wings after twenty minutes' wait.

## PIONEERING BRITISH AIRWAYS CONCORDE CAPTAIN, DIES OF COVID-19 AGED 75



A former Concorde captain who helmed the first flight to celebrate New Year's Eve on two continents in one night has died from Covid-19. Father-of-two Peter Horton, born in 1944, from south-east England, was described by friends as a "devoted and generous family man." Over the course of a distinguished 23-year career at British Airways, Horton regularly captained Concorde on trans-Pacific routes. Career highlights included flying the Queen on royal business to the Middle East and Ottawa, Canada, as well as piloting the first flight to celebrate New Year's Eve twice in one night on two continents. Horton began his career at the age of 23, working for BEA. Across a long and colourful career, he worked as a pilot, a captain, and GM of the Concorde team; spending over 9,000 hours at the helm of the legendary plane. Concorde is still the last supersonic jet in large-scale commercial operation. In his later years, Horton flew Concorde on a non-stop flight from South America to New Zealand at twice the speed of sound. The Norfolk man was also a keen recreational sailor. At the time of passing, local media reported comments from his acquaintances at the Waveney and Oulton Broad yacht club. "For Peter, flying Concorde was the ultimate in excitement and challenge," said close friend Jenny Riley. "On two occasions, Peter flew over Oulton Broad and Lowestoft while the squibs were out sailing and opened the plane's boosters just overhead. None of us who were there will ever experience such a noise and thrill again. I don't think it went down so well with the CAA, though!

The Norfolk man was also a keen recreational sailor. At the time of passing, local media reported comments from his acquaintances at the Waveney and Oulton Broad yacht club. "For Peter, flying Concorde was the ultimate in excitement and challenge," said close friend Jenny Riley. "On two occasions, Peter flew over Oulton Broad and Lowestoft while the squibs were out sailing and opened the plane's boosters just overhead. None of us who were there will ever experience such a noise and thrill again. I don't think it went down so well with the CAA, though!

## DORNIERS'S MULTI-ROLE AIRCRAFT – THE DO 217 BY CHRIS GOSS

Following the outbreak of war, Dornier's Do 17 'Flying Pencil' began being replaced by more modern and capable bomber and reconnaissance aircraft. However, as early as 1937, Dornier began planning a replacement for it. Chris Goss tells the story of the Do 217, an aircraft which was designed to do much more than its predecessor.

### **Design & Development**

At the end of September 1938, the idea of a modernised the Do 17 was first raised by the Luftwaffe. Full production of the Ju 88 had yet to be achieved while much effort was now going into the Heinkel 177 programme. However, at the beginning of 1938, Specification 1323 had already been submitted by for a twin-engined bomber capable of long-range reconnaissance missions and powered by Daimler Benz DB 601B engines. Dornier proposed a wider cockpit and a larger bomb bay capable of carrying 1500 kg of bombs and compared to the Do 17M, the wingspan was increased by a metre and the aircraft fitted with dive brakes. At the same time, it was anticipated that this aircraft could also be used in the maritime attack role as well as being able to be used as a heavy fighter. The Specification therefore had the aircraft fitted with floats, having a range of 1500 km and a solid nose with four fixed guns. However, arguments between the Luftwaffe and Kriegsmarine as to aircraft being land based or not and emergence of other aircraft types meant that development of a naval version, called the "See Stuka", soon ceased and the development of a more conventional aircraft continued.



On October 4, 1938, Do 217V1, the first prototype, made its first flight only for it to crash a week later. The first development aircraft, Do 217V2, was ready to fly just under a month after that. Between October 1938 and July 1940, 10 prototypes flew differing in the designed role (reconnaissance and bomber) and power plants, the final engines being the BMW 801 from Do 217V8 onwards. At the same time, several other variants were being considered. Six Do 217As were produced, fitted with two jettisonable cameras and powered by DB 601B or F engines and a crew of three while nine Do 217Cs were built powered by Jumo 211B or DB 601A engines and intended as bombers. However, both variants were

secondary to what would become the first Do 217 to enter full operational service-the Do 217E.

### **Into Service**

Following the heavy losses suffered by the Do 17 units over Poland and then France (and as it would transpire the Battle of Britain) priority was given to bomber production and in particular the next generation of Dornier bombers. The Do 217C would now be the basis for the Do 217E-1 and powered by BMW 801MA-1 engines, it first flew on October 1, 1940, the same month that Do 17 production ceased; surprisingly, it proved to be problem free. By the end of March 1941, 37 Do 217E-1s had been built and test flown; a total of 94 would be built before the arrival of the Do 217E-2 of which another 185 would be built. The differences between both types was that the E-1 bomber was fitted with four MG15 machine guns and a MG151 for defence and the E-2 dive bomber had three MG15s and two MG131s plus the fixed forward MG151; one of the MG131s was fitted in a rear-firing dorsal turret.

Despite ongoing testing which was not fully complete by the Luftwaffe until March 1942, the first unit to start to convert to the new type was II Gruppe/Kampfgeschwader 2 (II./KG 2). Most of the Gruppe returned to Achmer in Germany in March-April 1941 and would be followed by III./KG 2 in September 1941 and I./KG 2 in November 1941. Conversion complete, II./KG 2 moved to Evreux in France at the start of July 1941 flying its first mission against RAF Pembrey in Wales on the night of July 5-6, 1941. However, it was not long before the first loss came when



during a series of daylight attacks on shipping on 14 July 1941, the Do 217E-1 of 5./KG 2 flown by Feldwebel Kurt Bergmann reported being under attack by fighters near Lands' End at 1605 hrs and failed to return. At around the same time, Flt Lt Henryk Szczesny and Sgt Stanislaw Brzeski of 317 Sqn reported shooting down a Ju 88 south of Tenby. The location, time and the fact that no other German aircraft were lost this day would indicate that the two Polish pilots had accounted for the first Do 217. About now, a second Do 217E-1 unit made an appearance. II./KG 40 had been formed in January 1941 as a maritime bomber unit flying the He 111 but in May 1941 it began converting to the Do 217.

It would suffer its first combat loss on the night of 9<sup>th</sup> August 1941 when Oberleutnant Kurt Müller and his crew failed to return from a mission. However, the RAF would have to wait until October 12, 1941 to see the new type first hand when Oberleutnant Günther Dolenga of 5./KG 2 force-landed his Do 217E-1 near Rye in Kent having been deceived by British beacons and as a result, got lost and ran out of fuel. The relative intactness of the aircraft gave the Royal Aircraft Establishment ample time to carry out a full technical assessment. It would be the first of many Do 217s to crash on British soil over the next two and a half years.

### The Need for Change

Due to the increasing effectiveness of British defences, the Do 217E needed to be improved. The E-3 (based on the E-1) and E-4 (based on the E-2) variants had additional armour protection for the crews and changes to defensive weapons and their calibre. The E-5 was based on the E-4 but was to be used for the Henschel Hs 293 glide bomb. This was followed by the Do 217K-1-essentially a Do 217E-2 with a modified step-less cockpit and fitted with a nitrous oxide boost, it increased its range and speed. The Do 217K-2, with its enlarged wing area, was an anti-shipping version capable of carrying two Hs 293 or PC1400 X (*Fritz X*) guided bombs while the Do 217K-3 was essentially the same as the K-2 but with modified bomb guidance equipment and bomb racks. However, shortages of BMW 801 engines now forced another change. This resulted in the Do 217M-1 fitted with the DB 603 in-line engine (*see photo below*). Apart from the engines, Do 217M-1 was almost identical to the K variant.



As well as the Do 217E, both the K and M variants flew over the United Kingdom and the Mediterranean. Curiously, the only operational units to use the Do 217 on the Eastern Front were the *Nachtaufklärungsstaffel* night reconnaissance units-only occasionally did other units, such as the *Einsatz Staffel/KG 101*, an operational training unit, fly missions on the Eastern Front. On the Western Front, in June 1943, II./KG 40 began converting to the Messerschmitt 410 leaving just KG 2 to operate the Do 217 but by Spring 1944, two of its three Gruppe were converting to the Ju 188. I./KG 66, formed as a pathfinder unit in mid-1943, operated a limited number of Do 217E,

K and Ms but by Spring 1944, these had been replaced by aircraft such as the Ju 88S.

One other unit which did well using the Do 217 was II and III./KG 100. Due to repeated delays into service of the He 177, which would be a platform for launching Fritz X and Hs 293 guided missiles, it was decided that the Do 217 would help to bridge the gap. On 25<sup>th</sup> August 1943, 12 Do 217E-5s from II./KG 100 took off from Cognac in France to attack a convoy off the Spanish coast with Hs 293s. The attack resulted in damage to three warships but on August 27, 1943, another attack sank the sloop *Egret* and the destroyer HMCS *Athabaskan* damaged. Greater success would come on September 9, 1943 when three crews from III./KG 100 operating from Marseilles-Istres sank the Italian battleship *Roma* and severely damaged the *Italia* west of Corsica. Then following the Allied landings at Salerno, the American cruiser *Savannah* was sunk on September 11, 1943 and the cruiser *Philadelphia* damaged. Two days later, the cruiser HMS *Uganda* and destroyers HMS *Loyal* and *Nubian* were similarly damaged and on 16 September 1943, the battleships HMS *Warspite* and *Valiant* were also damaged. There would be similar attacks off Anzio in January 1944 and both II and III./KG 100 would launch Fritz X and Hs 293 off the Normandy Beaches in June 1944 but despite the occasional success, by July 5, 1944 II./KG 100 had lost in the region of 20 aircraft over Normandy. By the end of August 1944, III./KG 100 had suffered similar losses and both Gruppe withdrew to Germany and were disbanded.



A Dornier Do 217E-5 from III./KG 100 "6N+HF" on a southern airfield of France in September-October 1943. The plane carries a Henschel Hs 293 missile under the right wing and an additional fuel tank under the left wing.

### Night Fighter

In response to the intensifying bomber offensive, additional night fighters were needed by the Luftwaffe. The Do 217E-2 was therefore modified by fitting four MG17s and four MG-FF 20mm cannon in a solid nose. The rear firing guns, including the MG131 in the turret, were retained as was the ability to carry bombs to become the Do 217J-1 which was intended as a night intruder (*see colour illustration below*). However, even before it first flew, in October 1941, such missions over Britain ceased by order of the Führer. The J-1 was now fitted with FuG 202 Lichtenstein BC radar, the J-2 with FuG 212 Lichtenstein C-1. Operational evaluation was carried out in March 1942 and although found adequate, the Do 217J-1 was only delivered piecemeal to various operational and training units as well as around 11 going to the Italian Air Force. However, it was not popular as one experienced night fighter pilot wrote:



*"My Gruppe had a Staffel of Do 217s in 1943 because Bf 110s were in short supply and High Command thought that the four-and a half-hour endurance compared to the two and a half of the Bf 110 could be of use. The 217 was fast, stable, excellent for instrument flying and obviously a very nice bomber but much too heavy on the controls for a fighter. I flew it once just to try it but after that I refused to use it on operations and stuck to my tried and tested '110' which was greatly superior as a fighter."*

In July 1942, the Do 217N-1 first flew and identical to the J-2 but like the Do 217M was powered by DB 603 engines. It would later have the turret and rear facing guns removed to be the N-2 which was fitted with obliquely mounted upward MG151 cannon in the fuselage, the so called Schräge Musik modification. However, after 130 J-1 and J-2s had been built and around 240 N-1 and N-2s (around 95 N-1s were converted to N-2s), by October 1943 production ceased. All but a few operational units had handed over their Do 217s albeit a number of training and Nachtaufklärungstaffel and elements of NJG 4 and NJG 100 continued to operate a number over the Western and Eastern Fronts well into 1944.

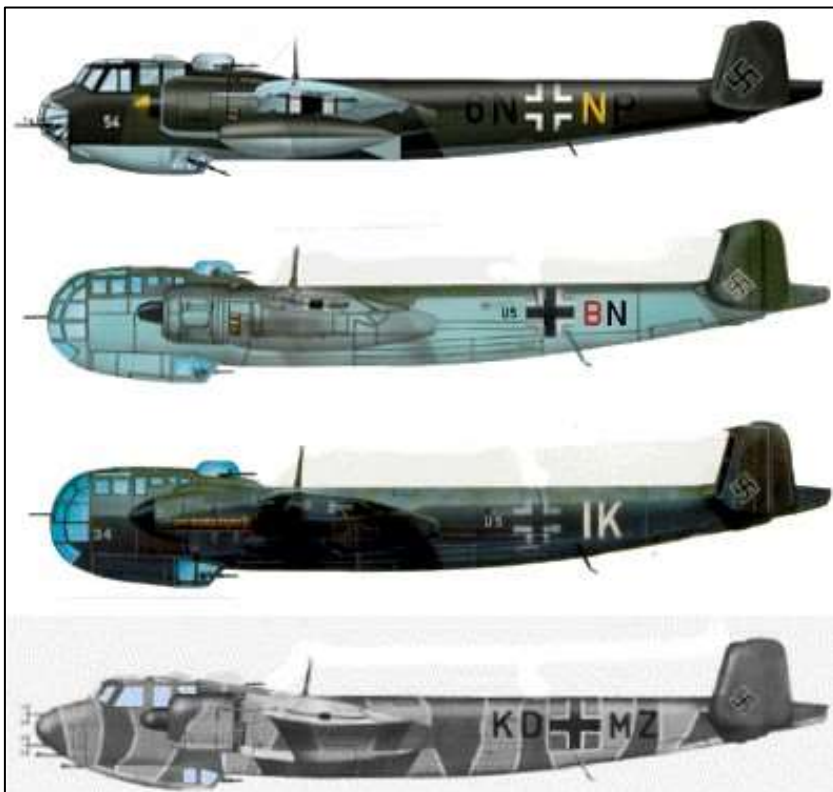
### **In Retrospect**

With Do 217 production finishing in October 1943, further development ceased. It had been intended to have a M-2 (torpedo), M-3 (dive bomber), M-4, M-8 (high-altitude bombers), M9 and M10 (guided missile carriers) versions but these projects did not make it off the drawing board or were cancelled. However, 40 Do 217M-11, which were designed especially for the Fritz X and Hs 293 missiles, were built and were used operationally in very limited numbers by KG 100 between June and August 1944. Of the Do 217, one German pilot wrote:

*"By July 1941, it was still not ready to be deployed to the Front. Many inadequacies were still to be discovered and it required constant changes, improvements and refitting. In all of the years of the war, we were hardly ever at full strength and escalating losses played a major role with this."*

At the end of the war, Do 217s were scattered around airfield in Europe, all of which were soon scrapped. As a result, there are no complete examples in existence today. The final word goes to test pilot Capt Eric 'Winkle' Brown who flew what he nicknamed The Flying Pregnant Pencil after the war describing the Do 217M as *"no world beater"* and concluded by saying:

*"The Do 217 was a moderate aircraft which established an undistinguished but honourable record".*



*Left; Dornier Do 217 Illustrations from top to bottom.*

*Do 217 E-5; 15./KG 6*

*Do 217 K-1; 5./KG 2*

*Do 217 M-1; 2./KG 2*

*Do 217 J-2; Stab/NJG 4*

On behalf of the CAS membership, we wish to offer our thanks to aviation author Chris Goss, for providing this article in lieu of his talk that he had proposed to deliver at our May 2020 meeting.

We look forward to seeing him once we are out of lockdown and back to normal in 2021

## A COLLECTION OF RAF FLYING TAILS FROM 'OUT OF THE BLUE' - BY ADRIAN CRESWELL

### **Bang out of order – ejection from a Hawker Harrier (Pilot; Peter Taylor)**

Casting my mind back to the early 1970s, the Harrier had only recently been introduced into the RAF. In 1971, the Wildenrath Wing in RAF Germany had been formed with Nos. 3, 4 and 20 Sqns, and I was posted to 4 Sqn as a Flight Commander. The early Harrier was a tremendous aeroplane, albeit a bit of a handful. I think most of us had great respect for her, and simply couldn't get airborne often enough. However, a combination of a novel aircraft, demanding operational flying and a general lack of experience, resulted in occasional accidents and incidents. We had our share at Wildenrath, and the Station Commander would 'encourage' us to the effect that, while we could and should press on operationally, we should do so with care!

In May 1972, the Squadron was detached to RDAF Skrydstrup, Denmark, for a 10-day exchange visit. On the morning of 4<sup>th</sup> May, I was tasked to lead a 4-ship attack mission on several targets in the Flensburg area of Northern Germany. The formation was also to be attacked by 2 other Sqn Harriers, which were acting as enemy defensive fighters, armed with simulated air-to-air missiles and guns. The planning and briefing for this type of sortie was lengthy and very thorough, and I remember filling at least two blackboards with administrative and operational detail. At the appointed hour, 6 aircraft were allocated to us, and the 4 attack pilots and their 2 defensive counterparts gathered for the briefing. This lasted about an hour, by which time there was just one aircraft still available: mine! There was no alternative but to go on the sortie by myself, converting the profile to a solo attack/recce mission. So much for planning!



At about midday, I got airborne in XV794, turned south and headed for my first target, flying at 420 knots and 250 feet AGL (Above Ground Level). All went well until I was preparing to attack my second target. I had just looked into the cockpit to re-arrange my map when, looking up, I saw a formation of three large (they have got much larger over the years!) birds flying straight at me. Instinctively, I pushed forward and missed two, but the third went straight into the engine intake. There followed an almighty BANG, followed by some rather worrying mechanical noises from the normally robust Pegasus 100 engine. Clearly, it did not like what was going on. I noticed that the RPM was just below idle, the JPT (Jet Pipe Temperature) in the middle of its

range, height 200 feet and speed about 400 knots, although rapidly declining. Generally, I was in open country, which was fairly flat with a few houses in my path. I opened and shut the throttle, but nothing much seemed to happen. I broadcast a quick 'MAYDAY' but, because I was quite low, I had no great expectations that anyone would hear me. Since I had already decided that the engine had suffered what sounded like catastrophic damage, I turned my mind to what to do next (in reality, I said to myself "I'd better jump out quite soon or I'm going in with the aeroplane!"). Then, exactly as you read it in books and newspapers, I saw that I was still close to houses, and steered the aircraft away from them towards open ground as best I could. Time was now getting short and, as I reached open ground, I saw a small hill ahead with trees at the summit. I pointed the aircraft at the hill, took one last look at the height and speed (100 feet and 200 knots respectively), trimmed the aircraft straight and level, tightened my straps and pulled the handle. I remember everything working perfectly on my Martin-Baker Mk9 seat. I was quickly in my parachute and heading for a field full of cows. Also, in the field were some quite large concrete blocks and, remembering a parachuting technique I had learned some 17 years previously, I steered myself away from the blocks, and executed a hard, but perfectly serviceable, 'side-right' landing. The whole event had taken less than 60 seconds. To my astonishment, I saw the aircraft continuing to fly beautifully in a slight climb away from me to the north. I cannot tell you the feelings I had as I watched what now seemed to be a perfectly serviceable aircraft leaving the scene of my ejection. Indeed, the aircraft eventually flew into cloud at about 7,000 feet and disappeared from sight! Except for the cows, I was now completely alone in a field in Northern Germany, with no means of communication, a used parachute, the remains of an ejection seat and no method of transport. I had also forgotten in the heat of the moment that, on ejection, a radio signal was initiated on the emergency broadcast frequency, so that the emergency services were becoming aware that there was an aircraft in distress.

I gathered myself together, and began to walk across fields in search of a road. After about 20 minutes I found one, absolutely deserted, and eventually came upon a farm. My German wasn't too good at the best of times, and my attempts to explain to the farmer's wife what had happened to me took some time.

Eventually, and mainly through a combination of sign language and the sight of my parachute, I managed to explain my predicament and persuade her to let me use her telephone to contact the Sqn at Skrydstrup. The resulting conversation with 4 Sqn Ops, about an hour after my ejection, was surreal. The phone was answered by Flying Officer Andy Bloxam and the conversation went something like this: "4 Sqn Ops, Fg Off Bloxam speaking." "Hello Andy, Pete Taylor here." "Oh! OK, aren't you still airborne? Anyway, I'll get Roger Austin." That was it. No questions, no 'How are you?', 'What's happened to the aircraft?', or 'Where are you?'. Andy just put the phone down and took about 5 minutes to find Roger. After that, things moved fast. Roger Austin established what had happened, and the rescue process was put into action. Apparently XV794 had climbed to over 20,000 ft, and continued to broadcast on the emergency frequency. Because the aircraft was close to a Warsaw pact border, a German F-104 was sent to intercept and was, I understand, mildly surprised to find a Harrier flying very nicely but with no one on board! Shortly after that, the aircraft ran out of fuel and glided into Southern Denmark, where it crashed in an open field, narrowly missing a farmhouse. Harrier stayed airborne for 38 minutes after my ejection. Apparently, the reason for XV794's 38-minute solo trip was that the bird which I hit had spread itself quite thinly across the engine's compressor. The flames and gases from the Martin-Baker ejection seat dislodged the bird as I left the aircraft, whereupon the engine heaved a sigh of relief, drew a deep breath, and started working normally again. As it happens, I had trimmed the aircraft rather well and XV794 flew until she ran out of fuel! For my part, having given Roger an idea of where I was, the German Air Force sent an S-65 helicopter to pick me up. However, as I was apparently difficult to find, I had to use my SARBE (Search and Rescue Beacon Equipment) beacon and flares to direct the S-65 to me. As far as I know, I was at that time the only person to have used my SARBE beacon on land, and the Company very kindly presented me with a silver pot. At Skrydstrup, I met up with the rest of the Sqn, was given a brief but thorough examination by a lady doctor, and went back to the Officers' Mess. Life was never dull at Wildenrath in those days! I have a SARBE silver mug, membership of the Caterpillar and Martin-Baker clubs, an ejection seat handle and my log book to prove it all.



### **But How High Does It Really Go? (Pilot; Anonymous)**

"Coming down from above 60,000 ft (in a EE Lightning) you need to be careful not to let the nose get too low, or something funny happens to the Q feel (a system to adjust flying control forces depending in speed, Mach and height) and then you run out of tail-plane authority'. Then the speed just increases...and don't get too vigorous with the controls because of roll-yaw coupling." Jim was an old and not too bold Lightning pilot, so I was sure he knew what he was talking about. I made a mental note that, if I ever tried to go high, then I'd be careful about that, but to me the important message was that he'd been up there. The risk was putting your faith in the pressurisation system, but then it always seemed to be reliable.



So it was, on an early evening in the summer of 1974, that I'd just filled off the tanker, I was wearing a pressure jerkin (an inflatable waistcoat to assist breathing at when flying at higher than usual altitudes) and my target had gone u/s. This could be a boring flight - or an exciting one! I told air traffic that I was going for a high-speed run before returning to Binbrook, turned northeast to make more room and, as I was already well east of Flamborough Head, immediately plugged in the burners. At Mach 1.3, I turned about and pointed it towards Wash, some 150 miles away. Plenty of room, I'll go high over the airway to miss all the civvies, and turn left before I get within 35 nautical miles of the coast (the minimum clearance distance for supersonic flight). Mach 2 would have been the ideal speed to start the zoom

but, at Mach 1.8, Flamborough was already appearing on the right edge of the boglescope (radar) at 60 miles, so I thought I'd better get on with it. I pulled the nose 20 degrees above the horizon, and up we went. I knew that, above 50,000 feet, we were depending mostly on kinetic energy to take us up, but there was a lot of kinetic energy! With a pressure jerkin, the aircrew limit was 56,000 feet but it would be nice to go above 60, which was the published aircraft limit that I had so often heard mocked. As I went through 60, I realised that my actual maximum altitude was clearly going to exceed my expectations, and a pitch angle of 20 degrees had been way too high. At 68,000 feet, both engines flamed out. I cancelled the burners, throttled back and hit the crackers (engine relight buttons). Fortunately, the engines were windmilling so fast at 92% that the electrical and hydraulic systems stayed on line, and fluctuating jet-pipe temperatures showed they were trying to relight. It all seemed to be happening in slow motion, except that my brain was in overdrive, wishing that events would speed up, because I realised that I had got the scale of things significantly wrong, and was desperate to do something about it, but couldn't. On the one hand, I wanted to take in the awesome view (the black sky, the white sun, the curvature of the earth) but, on the other hand, I wanted to get the hell out of there, because I could see some dire consequences pending.

Essentially, the aeroplane was ballistic, and I was afraid that, if I got back to Binbrook and the Boss heard of this exploit, he too would go ballistic. The last thing I was going to do was turn, and I was trying to let the nose come down towards the horizon...but not too quickly. We topped over at Mach 1.3, 160 knots IAS and 74,500 feet. I stopped the piper (gunsight) on the horizon, and let the aeroplane mush down, maintaining 1.3. I knew I'd blown the airspace issue. At 68 the engines relit, and at 65, with IAS building, I began a gentle left turn, now maintaining 220 knots to let the Mach number decrease. Staxton Wold radar called, "Are you still supersonic?" "It's quite turbulent up here, I think I might be in a jetstream." I replied. The newly discovered phenomenon of jetstreams was much in the news at the time. No response from Staxton; that's good! 45 degrees of bank doesn't do much at Mach 1.3, but I'd already chanced my luck enough and, at just 220kts, I didn't want to push for more. As I crossed Norwich, still above 50, having gone well south of Marham and Kings Lynn, I finally came subsonic! I called Staxton. "I'll go home now please." I emerged from this adventure a bit chastened, but the Lightning was unblemished so, luckily, nobody knew. I did hear later that the engine trick is to throttle back to minimum burner above 65, and the engines will stay lit..... according to folk lore of course. But I never tried it again!

## **Fox 2 — Splash One Jaguar (Pilot, Group Captain Steve Griggs)**

I was St. Eval Weapons at RAF Bruggen, responsible for the standardisation and evaluation of weaponeering between the four squadrons on the base. As such, I flew with all of the squadrons, not only to assess standards but also to maintain my own general proficiency in the various roles of the Jaguar. Thus, on 25th May 1982, I was operating with 14 Squadron, as wingman to Flt Lt Paddy Mullen, flying Jaguar GR1 XX963 (*Photo Right*) on a forward air controller training sortie on the North German Plain. We had completed a most enjoyable sortie, and were on a visual recovery to RAF Bruggen in loose fighting wing formation, when there was a violent bang, the aircraft started yawing violently to the right and did not respond to the controls. I thought that the canopy had shattered and it became very noisy; however, I could hear Paddy's voice from the other aircraft yelling, "Eject! Eject!" My rather confused thought processes were - he must know what is going on because I certainly don't! Result — I followed his wise advice and ejected. There was a violent explosion and my head was driven down to the breast plate of my lifejacket. I had a vision of the floor of the cockpit dropping away, felt the snatch of the parachute opening and a wrenching pain in my right hand (fool, let go of the seat handle!), and experienced a moment of blissful quiet before I landed, completely out of control, in a field - and it hurt! Herr Gerd Molleken (the farmer whose field I had landed in) and his daughter appeared and helped me to my feet. While gathering my parachute and various bits together, a lone Phantom (F4) flew overhead very low down. I asked the farmer if he had seen what had happened but he had not. I had no idea myself, except that I thought that it was odd for the F4 to be alone — they normally flew as pairs. Could I have had a mid-air with his mate? Questions for later. After a quick counting of his prize horses on his stud farm, he then produced a bottle of brandy and hospitality was offered. Pausing only to make a quick phone call to Bruggen to relay the news (apparently disturbing the Station Commander during the Annual Formal Inspection lunch) we attacked the bottle. Remember, this was



in the years before compulsory 'medicals' following accidents; today, I would certainly have compromised the blood test. Still, morale, welfare and not offending the farmer were much higher priorities in my mind at the time. The sound of a helicopter was soon heard, and a lift back to Bruggen was given, courtesy of the German Air Force. I was rushed to the medical centre for a quick check-up, to be met by Paddy, and other members of 14 Squadron, with bottles of beer stuffed in their pockets.

I was then waved off for a rather wobbly ride to Wegberg hospital, for x-rays etc, with still no idea of what had happened. Even Paddy was in the dark. He had just happened to look back at me in time to see the aircraft explode, and had the presence of mind to immediately call for me to eject. What had happened? There I was, minding my own business at 1350 feet, returning to Bruggen with Paddy to the start of the visual recovery corridor (which routed aircraft from Bruggen and Wildenrath through the Dusseldorf Control zone to and from the German low flying system), when the radar unit we were using warned us of conflicting traffic ahead. The radar warning receiver lit up, which was not an unusual event in the "corridor" routing. Aircraft went out at 750 feet and back at 1350 feet for deconfliction. The F4s from RAF Wildenrath often "painted" aircraft on their airborne radar, to ensure safe separation. What was unusual was that the CWI band vector (an indication on the Radar Warning Receiver that the aircraft was being illuminated by a continuous-wave radar in the I frequency band) had moved from front to rear; 'Still', I thought, 'I could be picking up the Hawk surface-to-air missile site to the north, although that would be a fair distance away'.

Hours before this, the alert hooter had sounded at RAF Wildenrath (the Phantom FRG2 base) in the early hours of the morning, announcing the start of a station exercise. In accordance with normal policy for exercising quick reaction forces in NATO, aircraft and crews were generated and the aircraft loaded with live weapons. Once the required number of live-armed aircraft had been achieved, the aircraft would be de-armed and prepared for training sorties, loaded with acquisition rounds (inert missiles, but with real heatseeking heads). The crews would then stand by to fly training missions, as directed by the Sector Operations Centre (SOC). For the purpose of such exercises, other RAF Germany aircraft were regarded as hostile targets, and fighter controllers scrambled the F4s to intercept them.



One crew, who shall remain nameless, were scrambled for such a mission in Phantom FGR2 XV422 (*left*). They took off from RAF Wildenrath to mount a combat air patrol under the control of the SOC. At approximately 1247 hrs they were vectored onto a pair of Jaguars, and told to engage the "hostile" aircraft. Following standard procedures for a simulated attack, the Phantom closed on the Jaguars and, when in an ideal position to complete what, until that moment, had been a typically routine engagement, the pilot pulled the missile release trigger. This should have produced only a witness mark on the radar film to record the intercept. Instead, as the pilot said

later, the 'growl' from the missile seeker transferred to the other ear (the missile on the other wing) and the missile which had acquired then launched! Dumbfounded, he watched, powerless to influence the outcome, as the missile exhaust trail headed off towards the target - my Jaguar. The AIM9G Sidewinder hit my aircraft, and the warhead detonated. The complete tail section behind the wing broke away, and the front part of the aircraft (with me still inside at that stage) entered a flat spin.

Obviously, the accident was the result of a monumental cock-up. Unsurprisingly, the Board of Inquiry found the crew of the Phantom to be negligent, but they were, it subsequently transpired, not solely to blame, and were simply the last link in a classic accident chain. They had been called out late, had missed the start of the exercise, were briefed hurriedly, and were the last to be allocated an aircraft, which was live-armed. (This was unusual, but not unheard-of. However, the Station had confirmed with Command HQ that it could fly armed aircraft in accordance with the relevant Air Staff Instruction, which it did for some of the sorties in this exercise). Thus, the crew obviously saw nothing untoward in accepting an armed aircraft, although it was not the norm. A simulated bomb incident then forced them to evacuate the aircraft shelter, and they were allocated another aircraft, which was also still armed with live weapons. The navigator noted that this aircraft had no red tape over the master armament switch (which would have denoted that the aircraft was live-armed). Halfway through a pee-break (flying kit, and NBC protection equipment kit, hindering a speedy execution of this manoeuvre), they were scrambled by the SOC, which was also on exercise. The accident train was under way!



The report of the Board of Inquiry revealed that all the safeguards relating to the carriage of live missiles, provided for in the Command and Station Operating and Engineering Air Staff Orders, were either ineffective or had not been complied with. The circuit breaker for the firing circuit was found not to be an effective safety device, even though it had been pulled to render the system inactive. The SOC fighter controller had not made a "Check Switches Safe" call because he had not been informed that the aircraft was carrying live weapons.

Indeed, the Operations Officer at RAF Wildenrath had not passed the information to the SOC because he was not aware of it himself. Despite these factors, and the absence of the vital tape on the master arm switch, the crew were deemed, by the Board of Inquiry, to be negligent and (eventually) faced a Court Martial which resulted in them being found guilty of negligence. The Severe Reprimand awarded by the Court, which was the lightest punishment available, indicated that the crew was not solely to blame. The organisation behind them was also seen to be at fault and, following a comprehensive review, numerous changes were made to procedures. The ejection turned out to be good practice for my next 'adventure' some 4 months later, when I left the burning wreckage of Jaguar XX760 (another 14 Squadron 'loan' aircraft) in a peat bog in Scotland. By incredible coincidence, Flt Lt Paddy Mullen was also in that formation, which I was leading, and both my parachutes had been packed by the same person, Senior Aircraftsman Cusak!

Adrian added the following notes with his email that support the three stories.

*They come from a series of books called 'Out of the Blue' by an old friend of mine who has collated dozens of interesting/embarrassing events written by the perpetrators themselves. Many of their experiences fall into the category of 'I learnt about flying from that' articles that used to feature in Air Clues and Pilot magazines, and some are still anonymous! The pilot of the rogue Harrier was my first Station Commander at Bruggen, Pete Taylor, known to all by his initials, PPW. Pat might have met him at Wildenrath in the 1960s when he flew the Hunter in the 92 Sqn Blue Diamonds display team. At his dining out night from Bruggen, somebody collated a fabulous slide and cine film show of the Blue Diamond displays.*

*The Lightning story was also by a friend of mine, but likes to keep the story anonymous, even though most of his friends know who he was. It just shows what an incredible performance the Lightning had, but the prospect of going into the stratosphere with 2 flamed out engines, and possibly no electrics, hydraulics or pressurisation is quite frightening!*

*The third article is also by a good friend of mine, Steve Griggs, who was on 31 Sqn at Bruggen with me before taking the Staneval job. Paddy Mullen and I went through the Hunter and Jaguar OCUs together, and Roy Lawrence – the F4 pilot – was on the Tornado OCU staff with me a few years later. There is scope for a full book with the stories from this event; The interruption at the Annual Formal Inspection dinner (at which I was present due to being the Parade and Guard of Honour Commander), with the perfect timing of the accident just after the AOC had joked to the Stn. Cdr. that they had missed the dessert course at the previous year's dinner due to yet another Jaguar crashing in the circuit at Bruggen. The comments from a German F104 pilot who witnessed the whole thing and remarked that the RAF 'certainly trained very realistically'*

*There was a lock down on information about the event, with the full story being told to the other Squadrons by their bosses only 3-4 hours later, and classified Top Secret – not to be divulged. Imagine his/our surprise when we left the briefing to go to our crew room for a coffee, to be met by my, and another pilot's wife, who had popped in for a coffee after work at school. 'Hi' they said, 'Have you heard about Steve Griggs being shot down by a Phantom – the dinner ladies at Wildenrath heard at lunchtime and called our dinner ladies – all the Mums and kids at the school gates knew as well.' So much for security - our Boss went apoplectic.*

*The infamous free barrel put on by the F4 crew at Bruggen that night to apologize, where the Stn Cdr had to come from home and close the bar, threatening to court martial everyone there for perjuring the evidence of the accident. So, we all moved downstairs to the scruff's bar.*

*Steve relating how the German farmer was more concerned with his prize stud farm horses before asking how he was, but then was very, very generous with the brandy! They are still friends. It did cause a lot of problems for later accidents where any alcohol consumed was not looked on well, due to the inability to take blood tests for alcohol traces! The very serious consequences of interrupting tasks, and the process of de-arming live aircraft, where the first step was to remove all the safety warnings and wire locking on the trigger!*

*A week or two before relinquishing command of No 14 Squadron in June 1983, Steve Griggs was taken by surprise at a squadron 'beer-fest' when presented with a small part of Jaguar GR.1 XX760. His ground crew explained that they had searched through the few bits of debris recovered in Scotland, in the hope of finding the piece with his name and pennant on it but to no avail; he would have to make do with the tail's 'AA' insignia.*

## A VISIT TO THE USAF MUSEUM, DAYTON, OHIO, MAY 2019 – BY BOB CHAD - PART ONE



### **Introduction**

I was always interested in aeroplanes and, like many of my childhood friend, built plastic models which usually included technical details of the subject. A particular 'star' was a model of the 'Valkyrie' supersonic bomber. Two hundred tons flying at 2,000 mph! Who would believe it! When many years ago my brother Ken returned from the USA on business, he told of a visit to the USAF Museum and described some of the 'one off' and rare aircraft he had seen. Key among them was the 'Valkyrie'! I was very envious!

Ken's visit to the museum cropped up in conversations over the years and my envy did not diminish! Talk of a trip was aired and eventually a possible date suggested followed by a booking! We were off! Ken booked through BA and we found ourselves on an American Airlines B-787-9 heading for Chicago. Transferring to an Embraer ERJ 175 (SkyWest as American Eagle) we arrived in Dayton Ohio at last. The story begins!

### **The USAF Museum**

The National Museum of the United States Air Force, as it is officially called, claims to be the world's largest and oldest military aviation museum. It holds more than 360 aircraft and aerospace vehicles on display, many rare and one-of-a-kind, in addition, it has thousands of historical aviation artifacts. It consists of four large hangars covering more than 100 years of US Military aviation. It is too large to see in one day hence our stay was over four days.

On Kens' previous visit to the museum there were just two hangars and many aircraft displayed outside. In the intervening years two more very large hangars have been added so that all but four aircraft (C-17, EC-135E, C-130, F-15) are now under cover. As a self-indulgence memento of our visit some low quality 'snaps' taken through the window of our moving car on the approach to the museum.



*Above left; Lockheed F-104 Starfighter 'Gate Guardian' and Above Right; the massive hanger from a distance.*



*Above left the entrance to the museum, taken through the car windscreen. Above Right; EC-135E ARIA parked in the open.*



Views of the F-15 from the road and the main carpark where we parked, separated from the 'over flow' section by a green area which formed a Memorial Park. Below right; the domed main entrance, and below that a US sign that needs no intro!



Having parked and on our way in I was particularly taken by a notice board. The notice was repeated as we walked toward the entrance and I was a little surprised that even water was not allowed (who would carry box cutters?!).

They did not want any chance of spillage of any sort so the exhibits and display areas would remain clean! There are two cafes in the museum with more clear notices that no food or drink is to be taken into the display areas.



### **The Museum**

The museum covers flight from military observation balloons to the space shuttle and is based around the path of what is known now as the United States Air Force (USAF) with an occasional reference to Naval and civil aviation interest. With about 5 name changes over time from Army Aeronautical Division, Signal Corp (August 1907 to July 1914) to the transition to USAF over the period from July 1947 to June 1949 the following notes will generally use the term 'air force' for simplicity.

There are over 250 aircraft on display as well as ballistic missiles and 'Space' items divided into 'Galleries' including 'Early years', different wars, 'Presidential' and 'Research and Development'. The museum is funded by public donations and although it's free to enter, visitors are encouraged to make a donation. Our priority interest was the Research and Development section to see the 'Valkyrie' so we were determined to start there in Hangar 4. It turned out to be the farthest hanger from the entrance! While there were some distractions on the way we arrived just a little early for a guided tour that would cover the research and development area, some Space items and Presidential aircraft exhibits. The tour was led by a volunteer (ex-USAF) who noted our country of origin so before the tour we had a very interesting chat about his UK service time! It was also a very interesting tour with many stories told. While we spent a long time in the museum over the following days there was just so much to see it was not possible to see and absorb it all.

The following notes are then effectively a random walk back in time through some snippets of US aviation history that are triggered by some of the unique and rare exhibits on display. Museums always present problems for taking a pictorial record (people, lighting, closeness of exhibits) and I am no photographer!

I like to see aircraft moving so usually use an old video camera with occasional 'snaps' using an old 'stills' camera. The photos here are a potpourri taken from my cameras (I took two cameras for this trip), Ken's mobile phone and photos from the museum. For true photographers planning a visit it would be worthwhile contacting the museum for advice. The museum organisation is keen on visitors taking pictures as it can act as additional promotion and encouragement to attract more visitors. The staff are well aware of issues around photography and in particular lighting. As the museum has evolved many different lighting systems have been installed which can lead to different effects on the picture. There is a long-term program of improvements but currently there is a variety of lamps from of old filament types to LED systems.

#### **The tour begins in Hangar 4.**

*Below Left; Hangar 4 over view from the balcony showing a C-141C in the foreground and various 'Presidential' types in the background. There is no logic for us in starting with Hangar 4, it's just that it contained aircraft we found of interest.*



#### **Presidential Aircraft:**

**VC-54 Sacred Cow (DC-4);  
VC-118 The Independence (DC-6);  
VC -121E Columbine III (Constellation);  
VC-137C Sam 26000 (Boeing 707).**

**And some Transport aircraft for the  
'Global Reach' section**

*Right; The centre part of hangar area included a mock-up of a space shuttle built around the real crew quarters nose section that was used to train all the astronauts that flew on the shuttle.*



#### **Right hand section of Hangar 4**

*Photos below; Includes the XB-70 Valkyrie and 'X' Planes. Right some Space items. The XB-70 was of key interest for our visit, and the subject of a separate article on its development for Airwords*



*Above left and right, the amazing 200-ton XB-70 Valkyrie*

## Under the tail of the Valkyrie – The Fisher P-75A Eagle

As we walked around the Valkyrie, we saw an aircraft that looked a little like a ‘tail-dragger’ version of the P-39 ‘Airacobra’. It was in fact a strange aircraft called a Fisher P-75A Eagle! (Picture P-75A Museum)

Once the USA entered WWII it became expected that all motor manufacturers would use their facilities to aid the war effort. This led the Fisher Division of General Motors to embark on the development of the P-75 Eagle following an urgent requirement for interceptor aircraft.

The Fisher proposal was to incorporate the most powerful inline engine then available (Allison V-3420, 24 cylinder, 2,885 hp, which itself was an experimental engine) and use components from other aircraft to expedite production (e.g. wing panels from P-40 Warhawk, landing gear from F4U Corsair, tail from A-24 Banshee etc). It also featured contra rotating propellers. However, flight testing of the prototype XP-75 in 1943 proved unsatisfactory

The requirement was then changed to the long-range escort role and development continued as the P-75A (as displayed). The armament was to be ten 0.5 calibre machine guns, and the capability to carry two 500 lb bombs. A range of 2,600 miles and maximum speed of 430 mph was expected.

Ultimately the idea of using components from other aircraft had to be abandoned and the new design included a larger, squared-off wing and a larger tail. A ‘bubble’ canopy was also introduced. (USAF Photo P-75A)

However, by Autumn 1944 with the success of the P-51 Mustang and P-47 Thunderbolt the P-75 program was cancelled. Eight XP-75’s and six P-75A’s were built – a rare if not unique aircraft!

## Bell P-59 ‘Airacomet’

Alongside the Fisher Eagle we found the first US jet fighter aircraft, the Bell P-59 Airacomet.

After the USA entered WWII in 1941 Britain shared information on the ‘Whittle’ jet engine to aid the development of the first American jet fighter. Very quickly Bell received a contract to build three aircraft prototypes, designated as the XP-59 Airacomet, and General Electric received the contract to build copies of the Whittle jet engine.

By September 1942 a prototype powered by two original Whittle W.2B turbojets was ready and the first flight of America’s first jet fighter took place on 1<sup>st</sup> of October 1942.

*Photos right; Fisher P-75A Eagle and bottom the Bell P-59 Airacomet. In flight, credit to USAF, museum photos to us.*





McDonnell F-101 'Voodoo'.

An example of the Airacomet was also sent to Britain for testing and evaluation. Performance was not startling and not considered suitable for combat. However, a total of about 60 Airacometes were eventually built to be used as the primary us air force trainer for the new era of Jet powered fighters.

By early 1944 Bell produced a follow-on design, the XP-83, which was much more streamlined and incorporated a swept wing. Two prototypes were ordered and the first was flown in February 1945 and although testing went well the P-80 Shooting Star became the chosen one for USAF service. Research information from the XP-83 program became useful for the

### Lockheed P-80R

The Lockheed P-80R is a highly modified P-80A Shooting Star specifically made to try to capture the world air speed record.

After WWII the first official airspeed record and the first achieved by a jet aircraft was recorded by a Gloster Meteor F4 on 7 November 1945 achieving 606.25mph. This was increased to 615.65mph on 7 September 1946 again by a Meteor F4. Now it was the turn of the USAF.

On 19 June 1947 Col. Albert Boyd took the P-80R to the new world record of 623.753 mph recorded at what was then called Muroc Army Air Field. It is now well known as Edwards Air Force Base. The last air speed record held by the USA had been a speed of 429.96 mph achieve on 4 November 1923.

There was, as usual, some friendly rivalry between the Air force and Navy so two months later the Navy sponsored Douglas D-558 Skystreak research aircraft based at Muroc was recorded achieving first 640.60mph and the later 650.78mph. It was still a USA record and through the following years it was mainly a USA race with GB and USSR interrupting occasionally. The one and only P-80R was kept at Griffiss AFB until it was moved to the USAF Museum in October 1954.



### Lockheed P-80 Shooting Star

C. L. "Kelly" Johnson, chief engineer of the Lockheed Company had been trying to enter the 'Jet age' for some time but the Bell company received the first contract for an American jet fighter to be based around two early 'Whittle' jet engines (Bell P-59). Development in Britain led to the Gloster Meteor fighter and to more powerful engines and details were shared with America. In early 1943 this and information about the German development of the ME 262 jet fighter, gained by Allied intelligence, provided the impetus for the development of the Lockheed P-80 Shooting Star.

Lockheed was pressured to urgently develop an aircraft to match or exceed the capabilities of the British and German fighters. A design proposal was submitted to be based around the new larger and more powerful De Havilland H.1 Jet engine with the promise of the first prototype within 180 days. The prototype was ready by November 1943 but during engine 'run-up' testing the engine was destroyed due to debris ingestion. Another engine was rushed to America having been taken from the Vampire fighter program. The first flight of the prototype XP-80 then took place on 8 January 1944. Further prototypes were constructed to employ larger American Jet engines initially from General Electric and later from the Allison Company leading to a corresponding increase in aircraft size. Development continued and twelve pre-production aircraft designated as YP-80A entered service in late 1944. Two were sent to Britain and two to Italy for operational testing but the war ended before any P-80's would be ready for combat.

The Shooting Stars saw combat in Korea, then designated as F-80C, both as interceptor and fighter-bomber but it was generally outclassed by the MiG-15 and was superseded by the F-86 Sabre. The F-80C displayed in the Korean War Gallery is one of the few remaining examples that saw combat in Korea.



After WWII the jet engine was in its infancy and there was still interest in rocket and ram jet engines. Ram jet technology was seen as particularly useful for some missiles. As part of this effort a Shooting Star was modified with a ramjet fitted on each wing tip, manufactured by the Marquardt Company. It is said that it became the first manned aircraft to fly solely by ram jet propulsion but the French company Luduc may be in contention. A little over 1700 single seat Shooting Stars were built by the time production ended in 1950 but the two seat TF-80C, first flown in March 1948, led to the T-33 trainer of which over 6,000 were built.

### **Hangar 3 - Rockets and a coffee Break**

Walking from Hangar 4 to Hangar 3 (Cold War Gallery) we enter an area of rocket missiles. Standing tall are a range of rockets including AGENA, Minuteman, etc. There are also a variety of space exhibits including a space suit. Stairs (or a lift) lead to the upper floor that makes it easier to see the rockets from bottom to top. There are also some smaller space exhibits. This floor provides a balcony overlooking Hangar 4 that gives a lovely view of the Valkyrie and surrounding exhibits. Moving back across this upper floor towards Hangar 3 there is the 'Refuelling' café and another balcony that gives a panoramic view over the 'Cold war' gallery aircraft. For me a key interest, born from early plastic kits, was the massive B-36 bomber. I had a small model of the B-52 (I did not understand at the time that it was of the prototype XB-52) and a friend had the B-36 that seemed at the time much more interesting with its ten engines ("six turning – four burning"). Unsurprisingly the 'Cold War Gallery' occupies all of Hangar 3 with the display of the massive B-36 along with 'smaller' items including B-50, KC-97, B-47, C-130, C-133, B-1B, SR-71, RB-57D and B-2. A Tornado GR-1 and MiG-19 are also present. Including missiles, the total number of exhibits must be around fifty.

At the beginning of our visit Ken and I had passed swiftly through the shop and all the Hangars to reach number four so on another day we decided to look at the shop items and primarily the aircraft exhibits in the other Hangars. However, there are a wide array of other items spread throughout the museum including uniforms, flying kit, space food, nuclear and other bombs, jet and rocket engines!

The shop is a little larger than that at the RAF Museum, Hendon, and contains a similar array of items. We wanted a souvenir but had very limited weight and space capacity ('carry-on' bags only) so took the option of a photo of us 'photo-shopped' in front of a museum aircraft and of course we chose the XB-70 Valkyrie.

### **Hangar 1**

Moving to the first part of Hangar 1 we entered the 'Early Years Gallery' covering the era from balloons, the 'Wright Military Flyer', though WWI and 1930s. Then the physically larger second part of Hangar 1 becomes the 'WWII Gallery' that includes the usual mix of aircraft but the size allows plenty of space for B-17, B-24, C-46, B-29 and PB4Y 'Catalina' giving a total of about 50 aircraft! On the first floor it is time for a rest in the 'Valkyrie' Café'.

### **Hangar 2**

With strength restored Hangar two beckons. Here we enter the 'Korean War Gallery' on the smaller side that includes a 'diorama' of a MiG-15 and F-86 with a replica of the famous doorway to 'MiG Alley'. The larger side is the 'Southeast Asia War Gallery' that of course includes a B-52.

Between the two galleries is a space that is used for special events that includes concerts and for our visit included the story of US airborne troops as part of the commemoration of D-Day. This event was due to start in the morning with a troop airdrop from a C-53 (version of the C-47 / Dakota) adjacent to the museum over Wright-Patterson Air Base. Unfortunately, poor weather prevented the airdrop but the indoor event with the troops went ahead. On one side of this space, slightly out of context, is an F-22A 'Raptor' with a Boeing 'Bird-of-Prey' "Stealth" demonstrator hanging above, which maybe is used to represent the future!



*Above; Hangar 2; Aircraft from the Korean War, Vietnam War and the Cold War. Can you identify them all?*

Other features of the museum that we did not investigate include the ‘National Aviation Hall of Fame’, the film theatre (2D/3D projection), ‘Virtual Adventures’ (fly in an aircraft or take a space-walk), and flight simulators. The staff are very friendly and largely USAF veterans or family with many stories to tell. We had a guided tour of Hangar 4 and there are many other tours available that can give more information about the displays. Ken and I had an intense four days and learned a lot but it would take many visits to cover all that is available and changes that undoubtedly will occur in the future. It was time for us to return home.

Dayton International airport welcomed us back with a replica ‘Wright Flyer’ hanging from the ceiling and the ‘Wright’ name on the walls. We boarded the Embraer ERJ-175 (operated by Envoy Air as American Eagle) for our journey to Chicago and through the window saw the aircraft fuel tanker emblazoned with the ‘Wright Bros. Aero’ company name. Arrival and transfer through Chicago airport to the awaiting BA 747-400 was much easier than our original transfer experience and we had time for lunch. We boarded and when all passengers were settled in their seats there was an announcement that the aircraft was painted in an early BOAC livery as part of the BA anniversary celebration. I had hoped that we would receive a commemorative post card to show the paint scheme but it was not to be. It had not been possible for me to see and photograph more than the nose of the aircraft so it was not until John Roach very kindly sent me a photograph, he had of a Boeing 747 arrival at Heathrow that all was revealed. We could pretend it was a special photo of our return home!

### **References:**

USAF for assistance with photographs. The National Museum of the USAF and the very friendly Staff and Volunteers.  
 Gas turbines and Jet Propulsion: G. Geoffrey Smith M.B.E., 1950  
 Valkyrie, North American’s Mach 3 Superbomber: D. R. Jenkins & T. R. Landis: 2004  
 The X-Planes: Jay Miller, 1988 and Lockheed Blackbirds: Anthony M. Thornborough & Peter E. Davies: 1988  
 Lockheed-Martin’s Skunk Works: Jay Miller 1995  
 Plane Speaking 1991, Faster Than Sound 1992 both by Bill Gunston.  
 Speed in the Air: David W. Wragg; 1974, Yesterday’s Wings: Joseph E. Brown; 1983  
 The Guinness Book, Records, Facts and Feats: 1987, Wikipedia.



**PETER FRAENKEL'S PHOTO ALBUM – PART 2**



*Above Left; Douglas DC-3 9J-RFX of Zambia Airways at Ndola, Zambia 1967. Above Right; A BOAC VC10 G-ARVL at Ndola, Zambia in 1968. Previously used by HM Queen and Duke of Edinburgh for a state visit to Ethiopian in 1965.*



*Above Left; An Ethiopian DC-4 at Djibouti in 1975. Above Right; This 5<sup>th</sup> 'Marksman' was a conversion of the Douglas A-26, seen at Jan Smuts Airport in 1973. The 7<sup>th</sup> & 8<sup>th</sup> were used by the CIA for low level supply drops, as was the A-26.*



*Above Left; A Rhodesia Airways Viscount VP-WAR at Jan Smuts, Joburg Airport in 1973. Above Right; An Ethiopian DC-3 (Ex RAF C-47 Mk III), at Jimmar, Zambia 1975. Believed to have served with Ethiopian Airlines until 1991.*



*Far Left; An Antonov An-24 (B-444) at Beijing Airport in 1980 with a couple of Chinese Boeing 747s behind.*



*Left; A Piper Aztec of the Zambia Flying Doctor Service, based at Ndola Airport in 1969*

## PROBABLY THE MOST EXOTIC 'AIRPORT' IN THE WORLD BY FRED BARNES

**Fred Barnes reviews the Tasman Empire Airways Limited (TEAL) Solent Flying Boat operation through Aitutaki, in the Cook Islands, on probably the most exotic air route ever flown.**



The clinker-built launch moved slowly across the aquamarine waters of the lagoon in the Friday early morning sunshine and headed towards a stone and wooden jetty where it came alongside and was moored. On the opposite side of the jetty there was a flat open barge moored, which had been manually loaded with 44-gallon fuel drums the previous evening, and a small motor boat. The jetty led to a white sand beach where coconut palm trees gently swayed in the morning breeze and there were two buildings, really no more than huts, camouflaged by palm leaves on the uninhabited island. In the first small hut there were some more fuel drums and other equipment but the second hut was larger and used as a 'guest

house' with comfortable chairs, tables, a large desk and radio equipment. As the water sparkled in the early morning sunlight the small group of people disembarked from the launch and made their way to the 'guest house' which was then opened and inside the radio receiver was turned on. Some outrigger boats were now coming across the lagoon towards the beach with local islanders on board. After a while the radio crackled into life in the larger hut and an authoritative voice gave an estimated time of arrival and asked for landing conditions in the lagoon. The reply was short and to the point describing wind and water conditions that were expected for arrival. On the low horizon to the west a black shape appeared heading toward the island and as the shape grew larger the voices in the boats became excited. People came out of the larger hut and walked back to the jetty to board the launch and the small motor boat whilst some of the islanders boarded the open barge. The black shape was closer now, it was not a large sea bird, the four engines, floats and fuselage of the Short Solent Mk IV flying boat could be seen. Soon the rumble of the engines could be heard and then the flying boat slowly circled around the atoll at low altitude and then started to make an approach to the lagoon. The engine tone changed as the Solent Mk IV flew lower then alighted in a shower of spray in the operating area on the lagoon and as it slowed down a bow wave was produced as the spray subsided. Soon the flying boat was manoeuvred slowly across the lagoon towards the mooring buoy and the inner engines were shut down to reduce speed on the water, the front hatch opened and a crew member appeared with the mooring rope and handed it to one of the people in the small open boat who secured the rope to the buoy. The outer engines were then shut down and the launch moved alongside after the Solent Mk IV had been securely moored to the buoy. After a short while the passenger door opened and the first passengers stepped carefully into the waiting launch. The launch then made several trips to ferry the passengers and the crew to the jetty and they all walked along the beach to the 'guest house'. There was food and drink available in the 'guest house' for the passengers who also had the opportunity to walk along and explore the coconut palm fringed beach or even take a swim in the warm water of the lagoon.



After everyone had disembarked the fuel barge was moved alongside the flying boat and moored so that the refuelling could start which was supervised by the flight engineer. After the slow refuelling process had been completed the fuel barge returned to the jetty and the launch ferried the technical crew back to the flying boat to start the pre-flight checks. The stewards attended to the passengers needs whilst they were on the island. When the flying boat was ready for departure the passengers and the stewards were ferried back by the launch from the jetty to the aircraft side and they carefully embarked through the large passenger door which was then closed. During this period someone in the small boat checked the operating area in the lagoon for flotsam or any other obstructions. The outer engines were started and the people in the launch then untied the rope from the mooring buoy which was then hauled back into the nose hatch of the Solent Mk IV and the launch moved away towards the jetty. Once the mooring rope was 'slipped' and the launch was clear the inner engines were started and the flying boat started to move forward and when all the engines were under power it was manoeuvred in the lagoon to prepare for take-off. There was a power check prior to take off, usually with the outer and then the inner engines run in pairs at full power, and when the crew were ready the Solent Mk IV was lined up in the in the lagoon.

Take off power was set and the four Bristol Hercules 733 engines roared as the great flying boat gathered speed across the surface of the lagoon, came ‘on the step’ and then became airborne slowly climbing out low over the ocean trailed by a spray of water. The sound of the engines disturbed the peace on the island during take-off but the noise became less as the aircraft flew slowly away. Waves from the departing flying boat moved up the beach and made the craft at the jetty gently roll at their moorings. As the shape of the flying boat disappeared flying east low over the horizon the people on the island moved the equipment and empty fuel drums from the barge back up the jetty to the small hut. In the ‘guest house’ the radio crackled when the flight crew advised the ETA for Papeete as people were clearing up after the morning’s work. Later the ‘guest house’ was secured and when everything had been cleared away the people moved back to the launch and the other small boat at the jetty and returned across the lagoon. Then the local islanders departed in their outrigger canoes leaving the island uninhabited again until the next flying boat operation on the following Sunday morning when the westbound service transited the lagoon.

That was a typical scene in the 1950s at Motu Akaiami Island, in the Aitutaki Lagoon, Cook Islands, South Pacific Ocean when the Tasman Empire Airways Limited (TEAL) Short S.45 Solent Mk IV alighted for re-fuelling whilst operating on the famous ‘Coral Route’ from Fiji to Tahiti. It was probably the most exotic ‘airport’ in the world.

### The ‘Coral Route’



Tasman Empire Airways Limited (TEAL) started operating international flights from Auckland to Papeete on 27<sup>th</sup> December 1951 when Short Solent Mk IV flying boat, registration ZK-AMO c/n SH1559, named ‘Aranui’ (Main Pathway) (See photo left) operated the first service. The first return service departed from Papeete on 31<sup>st</sup> Dec 1951 arriving in Auckland on 4<sup>th</sup> January 1952. It was not long before the new route became known as the ‘Coral Route’ and the initial frequency was a monthly service and as traffic grew the frequency was increased to fortnightly on 26<sup>th</sup> May 1952. By the mid-1950s the ‘Coral Route’ was operated on a weekly schedule from Suva (Fiji) – Apia (Western Samoa) - Aitutaki (Cook Islands) – Papeete (Tahiti) with links to scheduled international flights in Nandi, Fiji.

Flight TE352 departed Suva, Lauthala Bay on Fridays at 0900 and after crossing the International Date Line arrived in Apia on Thursdays at 1355 for a night stop. Departure from Satapuala Bay, Apia was at 0200 on Fridays to enable the flying boat to transit Aitutaki for refuelling between 0730 and 0930 to arrive in daylight in Papeete at 1400. The return service departed as flight TE353 from Papeete on Sundays at 0730 and transited Aitutaki for refuelling between 1100 and 1230 to arrive in Apia at 1700 for the night stop. On Mondays TE353 departed Apia at 0800 and after crossing the International Date Line arrived in Suva at 1055 on Tuesdays. TEAL operated a DC-6 service from Auckland to Nandi (Fiji) on Tuesdays as TE742 returning on Wednesdays as TE737 to connect with the ‘Coral Route’ and passengers were flown by Fiji Airways

local air service between Nandi and Suva. Passengers for Rarotonga, Cook Islands had to travel by sea to and from Aitutaki to connect with the ‘Coral Route’. A monthly service was also provided from Suva (Fiji) to Nukualofa (Tonga) starting in March 1953 using the Solent Mk IV flying boat and in 1959 that service was handed over to Fiji Airways when operations were started using four engine de Havilland DH 114 Heron aircraft after an airstrip had been constructed.

From 1956 there was only one Solent S.45 Mk IV flying boat remaining in the TEAL fleet to operate the ‘Coral Route’.



ZK-AMO was painted in the TEAL livery with teal blue cheat lines with dark blue outer stripes, a white top and white tail fin with a broad teal blue band with dark blue stripes and TEAL, the company bird logo in dark blue and the New Zealand flag above the tail markings. (See photo on the next page)



The aircraft registration was painted in black on the rear fuselage. The underside of the fuselage wings, engines and floats were painted grey. The flying boat was based and beached at Lauthala Bay, Suva for maintenance from mid-1950s.

In September 1960 the last flight by the TEAL Solent Mk IV took place from Papeete to Suva to end flying boat operations on the 'Coral Route'. On 15<sup>th</sup> September 1960, with Captain J. Shephard in command, ZK-AMO (*above*) made the final flight from Lauthala Bay, Suva to Mechanics Bay, Auckland. That marked not only the end of TEAL flying boat operations but effectively the end of the golden age of the flying boat era now some 60 years ago. TEAL replaced the Short Solent flying boat on the 'Coral Route' in September 1960 with a weekly DC-6 aircraft via Auckland, Nandi, Pago Pago & Papeete.



The TEAL DC-6 service (*left*) had to route to Bora Bora for one month from September until 22<sup>nd</sup> October 1960 when the new Faa'a International Airport was opened in Papeete. The original flying boat routeing was changed as the existing airfields in Apia and Aitutaki were not suitable for DC-6 aircraft. On 24<sup>th</sup> March 1961 the new TEAL Lockheed L.188 Electra took over the 'Coral Route' from the ageing DC-6 but continued using the same routeing. It would be many years before direct services were re-introduced to the Cook Islands whilst waiting for a new airport at Rarotonga to be constructed capable of sustaining long range jet operations. On 1<sup>st</sup> April 1965 TEAL, became Air New Zealand Limited.

Air New Zealand had not operated to the Cook Islands since the end of the TEAL flying boat era in September 1960. In September 1970 Air New Zealand started a new service using a sub-chartered Air Pacific HS748 connecting with the Air New Zealand DC-8 flight from Auckland at Nandi which then routed Nandi – Pago Pago (technical stop) – Rarotonga as flight number TE570. Flights were scheduled every alternate Thursday departing Nandi at 0100 and after crossing the International Date Line and refuelling at Pago Pago (American Samoa) arrived in Rarotonga at 1100 on Wednesday morning. The return flight as TE575 routed Rarotonga – Aitutaki – Pago Pago (technical stop) – Nandi to connect with the Air New Zealand DC-8 to Auckland. TE575 departed Rarotonga every alternate Thursday at 0730 then transited Aitutaki 0815-0900 and after the technical stop in Pago Pago crossed the International Date Line and arrived in Nandi at 1530 on Friday.

In the Cook Islands the HS748 aircraft operated into the coral surfaced airstrips that had been constructed by the US military in the mid-1940s. The schedule was increased to weekly from 4<sup>th</sup> April 1972. After a mutual agreement with Air Pacific, Polynesian Airlines took over the weekly Air New Zealand sub-charter flights from 15<sup>th</sup> December 1972 to increase the utilisation of their new HS748 aircraft. Air New Zealand eventually started direct DC-8 services from Auckland to Rarotonga on 2nd December 1973 when the new international airport was opened and the sub-charter operation was terminated.



## Flying on the 'Coral Route'

The Solent Mk IV normally operated with 45 passenger seats but the configuration could be changed if a stretcher case or other requirement was necessary. Service was single class, equivalent to first class, with spacious cabins on the lower and upper decks with comfortable seats, toilets on both decks and an upper deck galley.

Food was of equally high quality on board with 'silver service' by stewards and linen table cloths. 'Jet lag' was not a consideration with the slow speed of the flying boat and overnight accommodation at the Grand Pacific Hotel in Suva where dinner would be taken in the restaurant. Passengers stayed at the famous Aggie Grey's Hotel in Apia, Western Samoa. The un-pressurised cruising height was normally between 7,000 to 9,000 feet, and sometimes even lower, offering the passengers a marvellous panorama of the aquamarine sea, pacific islands with palm trees, lagoons and white sand beaches as they flew along majestically at a cruising speed around 220kts/400kph. This was truly the golden age of air travel and the 'Coral Route' became famous for its service and exotic destinations.



The flight crew comprised Captain, First Officer, Flight Engineer, Navigation Officer, Radio Officer, Stewards and a Flight Clerk. In TEAL service a First Officer who obtained the first-class navigation licence held the rank of Senior First Officer. The Captain had to have not only flying skills but understand the water currents, tides and the effect of wind conditions on the water and location of underwater obstructions such as coral heads when operating the flying boat. Navigation was still basic using wind, time, speed, astronavigation and plotting as well as monitoring the sea swell, there was no inertial or satellite navigation in those days. The stewards prepared and served the meals on the long over water sectors. Weather was an important factor for flying boat operations with strong winds, heavy sea swells, thunderstorms and heavy rain reducing visibility all effecting punctual operations. As most flying was in daylight any weather problems were likely to cause a 24 hours delay. Traffic on the 'Coral Route' was initially mail and government officials but as the popularity of the service spread wealthy tourists and the movie stars of the era joined the passenger list.

## Restoration of Short Solent Mk IV ZK-AMO



After its final service on 15<sup>th</sup> September 1960 Short Solent Mk IV ZK-AMO was withdrawn from use, the engines were removed, and later it was towed to Meola Creek near Hobsonville for open storage. The flying boat was moored in the creek and over the years the hulk deteriorated due to weather, vandalism and lack of adequate protection. Eventually the derelict flying boat with such an important history was donated to the Museum of Transport and Technology (MOTAT) in Auckland. A restoration group was started called 'Friends of the Flying Boat' which primarily comprised members of an ex-TEAL employee group. Fund raising for the restoration started in 1983 and the Solent Preservation Society Incorporated was formed with the

intention to fully restore ZK-AMO. After some corrosion prevention and other work was started the decision was taken to tow the hulk to the North Auckland shore and beach the flying boat for further restoration work to be undertaken and then eventual display in the museum. During 1989 the Solent Mk IV was moved into the new MOTAT display hangar which enabled major restoration work to be carried out including the interior fittings. Restoration work is now completed thanks to the co-operation of MOTAT, sponsors and the hard work of the Solent Preservation Society. The Solent Mk IV was repainted into the TEAL livery and the interior was completely restored. If you are ever in Auckland a trip to MOTAT to see this magnificent restoration and such an historic flying boat is a 'must do'. MOTAT is split into two sections with the Solent Mk IV displayed at MOTAT II at the Sir Keith Park Memorial Airfield.



### Acknowledgements

The author would like to thank the MOTAT in Auckland for providing colour photographs of Solent Mk IV ZK-AMO and for supporting my research for the article. Thanks also to my good friends John Roach for assisting with the preparation of the photographs and Finlay Cunningham for his advice about flying boat operations.

*Photo left; The Solent in the Museum of Transport and Technology (MOTAT) in Auckland.*

## HISTORIC AVIATION NEWS FOR JULY AND AUGUST 1970, 1980 & 1990 BY JOHN ROACH

### 1970

**July 1** -- Melbourne, Australia, opens its new international airport.

**July 1** -- Trans World Airlines becomes the first airline to offer a no-smoking section aboard every aircraft in its fleet.

**July 2** – First flight of the Saab SK37 Viggen

**July 3** -- A Dan-Air de Havilland DH 106 Comet Series 4 (registration G-APDN) crashes on the slopes of the Montseny Range near Arbúcies, Catalonia in northern Spain, killing all 112 people on board.

**July 3** -- The Canadian Armed Forces decommission Canada's last aircraft carrier, HMCS Bonaventure (CVL 22), at Halifax, Nova Scotia.

**July 5** – While landing, Air Canada Flight 621, a Douglas DC-8-63 (registration CF-TIW) , hits the runway at Toronto International Airport in Toronto, Ontario, Canada, with such force that its number four engine and pylon break off the right wing. The pilot manages to lift off again for a go around, but a series of explosions in the right wing break off the number three engine and pylon and then destroy most of the wing before the pilot can make a second landing attempt. The plane crashes in Brampton, Ontario, killing all 109 people on board.

**July 16** – First flight of the Aérospatiale Corvette registration F-WRSN

**July 18** – A Soviet Air Force Antonov An-22 (NATO reporting name "Cock") disappears over the North Atlantic Ocean during a flight from Reykjavik, , to Sydney, Nova Scotia, Canada, with the loss of all 23 people aboard.

**July 18** -- Six passengers hijack Olympic Airways Flight 255, a Boeing 727, during a flight from Beirut, Lebanon, to Athens, Greece, demanding the immediate release of seven Arab terrorists from Greek prisons and threatening to blow up the plane if their demands are not met. It lands at Athens, where its passengers are released, then flies to Cairo, Egypt.

**July 18** – First flight of the Aeritalia G.222

**July 18** -- West Germany and the United Kingdom sign an agreement to develop the Multi-Role Combat Aircraft as the Panavia Panther. It later will emerge as the Panavia Tornado.

**July 25** – After an Aeronaves de México Douglas DC-9-15 (registration XA-SOE) with 31 people on board takes off from Acapulco, Mexico, for a domestic flight to Mexico City, six armed members of the "Commando Unido Revolucionario Dominicana" (Dominican Revolutionary United Command) hijack it. After the airliner refuels at Mexico City, they force it to fly to Havana, Cuba.

**July 30** – The Egyptian Air Force loses five MiG fighters and their pilots in a single day of combat with the Israeli AF

**August 3** – A 28-year-old male passenger aboard Pan American World Airways Flight 742, a Boeing 727 flying from Munich, West Germany, to West Berlin with 125 people on board, pulls out a gun and demands to be flown to Hungary. The airliner continues to West Berlin and lands at Berlin Tempelhof Airport, where police arrest the hijacker.

**August 6** – Three minutes after take-off from Rawalpindi, Pakistan, for a domestic flight to Lahore, a Pakistan International Airlines Fokker F27 Friendship (registration AP-ALM) crashes in a thunderstorm, killing all 30 people on board.

**August 7** -- A hijacker commandeers a LOT Polish Airlines Antonov An-24 during a domestic flight in Poland from Szczecin to Katowice and demands to be flown to West Germany. The airliner diverts to East Berlin, East Germany.

**August 7** -- After over three years of fighting, a ceasefire brings the War of Attrition between Egypt and Israel to a close.

**August 9** – LANSAs Flight 502, a Lockheed L-188A Electra (registration OB-R-939), crashes shortly after takeoff from Quispicquilla Airport near Cusco, Peru, killing 99 of the 100 people on board and two people on the ground. It is the deadliest air accident in Peruvian history at the time.

**August 12** – China Airlines Flight 206, a NAMC YS-11 (registration B-156) , crashes into a bamboo grove on the top of Yuan Mountain in fog during a severe thunderstorm while on approach to land at Taipei Songshan Airport in Taipei, Taiwan, killing 14 of the 31 people on board.

**August 20** – First flight of the Sikorsky S-67 Blackhawk

**August 22** – First flight of the Aermacchi MB-326K

**August 24** -- Two U.S. Air Force Sikorsky HH-53C Sea Stallion helicopters complete a nine-day, seven-stop flight of 9,000 miles (14,493 km) from Eglin Air Force Base, Florida, to Da Nang, South Vietnam. The trip has included the first transpacific flight by helicopters, a 1,700-mile (2,738-km) non-stop segment on August 22 from Shemya Island in the Aleutian Islands to Misawa Air Base, Japan, with in-flight refuelling by HC-130 Hercules tanker aircraft.

**August 29** – An Indian Airlines Fokker F-27 Friendship 400 (registration VT-DWT) strikes a hill and crashes just after take-off from Silchar Airport in Silchar, India, killing all 39 people on board.

**August 29** – First flight of the McDonnell Douglas DC-10 registration N10DC

**August 31** – Three passengers armed with handguns and a Molotov cocktail hijack an Air Algérie Convair CV-640 during a domestic flight in Algeria from Annaba to Algiers and demand to be flown to Albania. The airliner first lands at Cagliari on Sardinia, where the hijackers release 11 passengers. The plane then stops at Brindisi, Italy, before proceeding to Albania. After Albanian authorities refuse to let it land, the airliner diverts to Dubrovnik in the Socialist Federal Republic of Yugoslavia, where the hijackers are arrested

## 1980

**July 6** – The largest light airplane meet outside the United States brings 750 small planes to the Popular Flying Association's annual meeting in Leicester, England.

**July 7** -- An Instituto Mexicano de Seguridad Social Embraer EMB-110P1 Bandeirante air ambulance (registration XA-DAK) carrying 10 patients, a nurse, and a crew of two crashes into a hill three minutes after take-off from Tepic Airport in Tepic, Mexico, killing everyone on board.

**July 8** – Aeroflot Flight 4225, a Tupolev Tu-154B-2 (registration CCCP-85355), gets caught in a downdraft two minutes after take-off from Alma-Ata Airport in Alma-Ata in the Soviet Union's Kazakh Soviet Socialist Republic. It stalls, strikes a farm, crashes in a wheat field, disintegrates, catches fire, and falls into a ravine 3.1 miles from the airport, killing all 166 people on board. At the time, it is the deadliest accident involving a Tu-154, the deadliest aviation accident in the history of Kazakhstan, and the second-deadliest aviation accident in the history of the Soviet Union.

**July 11** – At Seattle-Tacoma International Airport outside Seattle, Washington, 18-year-old Glenn Kurt Tripp hijacks Northwest Orient Airlines Flight 608 – a Boeing 727 with 64 people on board bound for Portland, Oregon – and demands a US\$600,000 ransom, two parachutes, and the assassination of his boss. After a 10-hour standoff, police storm the plane and arrest Tripp. While on probation, he will hijack the same flight in January 1983.

**July 12** – First flight of the McDonnell Douglas KC-10 Extender serial 79-0433

**July 12** – In the Philippines, a hijacker commandeers a Philippine Air Lines Boeing 727 bound from Manila to Cebu, demanding a ransom and to be flown to Libya. At Manila Intl Airport, security forces storm the plane and arrest the hijacker.

**July 16** – First flight of the British Aerospace Nimrod AEW3 (serial XZ285)

**July 17** -- A Vickers Viscount 708 (registration G-ARBY) of the charter airline Alidair lands safely near Ottery St Mary, Devon due to the aircraft being under fuelled at Santander Spain.

**July 21** – The General Dynamics F-16 is officially named the "Fighting Falcon" in a ceremony at Hill AFB, Utah.

**July 24** – Two hijackers take control of a Kuwait Airways Boeing 737-269 (9K-ACV) during a flight from Beirut, Lebanon, to Kuwait City, Kuwait, and demand a ransom. After the plane lands at Kuwait City, they force it to fly to Manama, Bahrain, back to Kuwait City, to Abadan, Iran, and back to Kuwait City again before surrendering to Kuwaiti authorities.

**August 7** – Janice Brown pilots the MacCready Gossamer Penguin on its first solar-powered flight.

**August 13** – Complaining that they had been unable to find jobs in the United States, seven men who had arrived in the United States from Cuba as refugees during the Mariel boatlift earlier in the year hijack Air Florida Flight 707 – a Boeing 737 with 74 people on board flying from Key West to Miami, Florida – splashing gasoline (petrol) on the floor and threatening to ignite it. They force it to fly to Havana, Cuba, where they surrender to Cuban authorities. Thirty-nine-year-old passenger Martin Thomas makes his second unplanned trip to Havana in three days; he also had been aboard Air Florida Flight 4 when it was hijacked three days earlier.

**August 16** – A record three hijackings of U.S. airliners take place on the same day. First, six Latin men threatening to ignite a fluid they said was explosive commandeer Eastern Air Lines Flight 90, a Boeing 727 with 53 people on board flying from Miami to Orlando, Florida. Later in the afternoon, four Latin men armed with bottles they say contain inflammable liquids take control of Republic Airlines Flight 228, a Douglas DC-9 with 116 people on board flying from Miami to Orlando. A half-hour after that, three Latin men threaten to ignite four containers they say contain gasoline (petrol) aboard Delta Air Lines Flight 1065, a Lockheed L-1011 Tristar with 183 people on board flying from San Juan, Puerto Rico, to Miami. All three airliners divert to Havana, Cuba, where Cuban authorities arrest all of the hijackers. In addition, two men armed with bottles containing gasoline are arrested at Miami International Airport in Miami while trying to board an Air Florida flight to Key West. Finally, a homesick Cuban refugee arrives at Miami International Airport displaying \$200 in cash and asking for help in purchasing a plane ticket to Cuba, but leaves by taxi disappointed when he is informed that there are no flights from the United States to Cuba. Sky marshals have begun flying aboard airliners flying to and from airports in South Florida during the weekend of August 16–17 to combat the wave of hijackings to Cuba.

**August 18** – A hijacker commandeers Eastern Air Lines Flight 348 – a Douglas DC-9 with 59 people on board flying from Melbourne, Florida, to Atlanta, Georgia – demanding ransom money and to be flown Cuba. Police storm the airliner at Atlanta and arrest the hijacker.

**August 19** – A fire breaks out in the aft cargo compartment of Saudia Flight 163, a Lockheed L-1011-200 TriStar, a few minutes after takeoff from Riyadh, Saudi Arabia. The plane returns to the airport and makes a safe emergency landing, but instead of ordering an immediate emergency evacuation, the flight crew taxis onto a taxiway before stopping. Engine shutdown takes another 3 minutes 15 seconds, by which time all or most of the passengers and crew apparently have been overcome by smoke and fire. By the time airport emergency personnel get one of the plane's doors open 23 minutes after engine shutdown, all 301 people on board have died. It remains the second-deadliest single-aircraft accident in history, the deadliest in Saudi Arabian history, and the deadliest involving an L-1011.

**August 26** -- The right horizontal stabilizer of a Bouraq Indonesia Airlines Vickers 812 Viscount (registration PK-IVS) separates from the aircraft in flight. The airliner crashes in Indonesia 16.3 miles northeast of Jakarta's Kemayoran Airport, killing all 37 people on board.

**August 28–31** – The 3rd FAI World Rally Flying Championship is held in Aschaffenburg, West Germany. Individual winners are 1. Witold Świadek / Andrzej Korzeniowski (Poland), 2. Otto Höfling / Michael Amtmann (West Germany), 3. Luckerbauer / Meszaros (Austria). Team results are 1. Poland, 2. West Germany, 3. Austria.

## 1990

**July 1** – East Germany's national airline, Interflug, becomes a member of the International Air Transport Association.

**July 7** – The Portuguese regional airline Portugália begins flight operations with a domestic flight in Portugal from Lisbon to Porto. Later in the day it operates a flight from Lisbon to Faro, Portugal.

**July 24** – After over 29 years of accident-free flights logging over 281,000 flying hours since it began on February 3, 1961, the United States Air Force ends continuous airborne alert missions under Operation Looking Glass, although Looking Glass aircraft remain on continuous, 24-hour ground or airborne alert.

**August 1** – First flight of the Embraer/FMA CBA-123

**August 2–4** – Iraq invades and occupies Kuwait. At the time, the United States Navy aircraft carrier USS Independence (CV-62) is in the northern Arabian Sea; during the month, additional aircraft carriers will deploy to within striking range of Iraq and Kuwait, with USS Dwight D. Eisenhower (CVN-69) deploying to the eastern Mediterranean Sea and then the Red Sea, and USS Saratoga (CV-60) departing Norfolk, Virginia, to deploy to the Red Sea. USS John F. Kennedy (CV-67) relieves "Dwight D. Eisenhower" in the Red Sea in mid- August

**August 2** – Invading Iraqi forces capture British Airways Flight 149, a Boeing 747–136 with 385 people on board, while it is on the ground at Kuwait International Airport near Kuwait City, Kuwait. The Iraqis kill one passenger and detain the other 384 passengers and crew for use as "human shields" around important targets in Iraq; all survive and the Iraqis eventually release them before the onset of Coalition attacks against Iraq in January 1991. The B747 is looted and destroyed.

**August 6** – The United States issues its first orders deploying military forces in response to the Iraqi invasion of Kuwait, sending two squadrons of United States Air Force F-15 Eagle fighters to the Persian Gulf region and several U.S. Air Force B-52 Stratofortress bombers from the continental United States to Diego Garcia in the Indian Ocean.

**August 24** – Early in the build-up of forces in response to the Iraqi invasion of Kuwait, the U.S. Air Force has 222 fighters, ground-attack aircraft, and bombers deployed in and around Saudi Arabia.

**August 25** – The United States Marine Corps' 7th Marine Expeditionary Brigade has deployed 124 aircraft to Saudi Arabia. The U.S. Air Force's Military Airlift Command has flown 259 sorties in support of the brigade's deployment.

**August 27** – First flight of the Northrop YF-23



The Northrop/McDonnell Douglas YF-23 is an American single-seat, twin-engine stealth fighter aircraft technology demonstrator designed for the United States Air Force (USAF).

The design was a finalist in the USAF's Advanced Tactical Fighter (ATF) competition, battling the Lockheed YF-22 for a production contract but the YF-23 lost out to its competitors and was cancelled by the USAF.

Two YF-23 prototypes were built, and are seen here flying over the Mojave Desert. They were nicknamed 'Gray Ghost' (foreground), and 'Black Widow'