

Chiltern Airwords



80 YEARS AGO

On 24th May 1939 the Fleet Air Arm regained complete independence from the Air Ministry and underwent a massive rearmament programme. One of the many types ordered was the Grumman Martlet Mk I such as AL246, the only F4F-4 in existence and on show at the FAA Museum, Yeovilton. Originally ordered by the French Navy, after the fall of France in 1940 the order was taken over by Britain. After careful removal of later paint schemes by the FAAM, the original camouflage scheme now shows through, as proof that the first order of Martlets, AL246 included, were originally painted in the US, in a vague approximation of the FAA's Dark Slate Grey and Extra Dark Sea Grey over Sky undersides. **Photo by Lawrence Hayward**

The Chiltern Aviation Society Magazine
May and June 2019

CHAIRWORDS

Showing some visitors around the BA Heritage Centre recently, I pointed out the model of the BOAC Argonaut on display and remarked what a wonderful workhorse the aircraft was. However, the era of piston-engined aircraft brought its fair share of technical problems, including the dreaded 'magdrop' during the pre-take off power checks at the holding point at Heathrow. Having dispatched the aircraft on schedule the call would often follow from BOAC Tarmac Control that the Argonaut was returning to the stand with a magdrop on No.2 engine. The aircraft would be pulled out of the queue at the holding point and slowly taxi back to the Northside, as if in disgrace. Another aircraft change! A similar situation often occurred during my BEA service with the Pionairs (DC-3 Dakotas) and the aircraft would return slowly to the already overcrowded Northside apron. Taxying a tail-wheel DC-3 aircraft on one engine was not the most popular exercise in a congested area. Thank heavens that the advent of turbine engines resolved the 'magdrop' problem at last.

Finally, congratulations to Lawrence Hayward and Terry Coffey for winning the John Taylor Cup and the Memorial Trophy respectively this year, both well-deserved for their efforts in supporting the Society. **Keith Hayward.**

EDITORWORDS

Note to contributors; When emailing articles for Airwords, please send the words and any photo captions in MS Word Times New Roman, Font Size 11 format without any photos or images included in article. Photos and images need to be sent separately in JPEG format. This greatly helps with formatting. Thanks **David Kennedy.**

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President; Philip Birtles. **Patron;** David F. Ogilvy OBE FRAeS. CAS Membership £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*. Plus, our Mid-month Pub Socials, Wednesdays, 8pm *The Coach & Horses Pub, 1 High Rd, Ickenham, Uxbridge UB10 8LJ*. Please contact CAS for exact date of the mid-month.

2019 PROGRAMME;

WED June 26th - The History of Brooklands - **Tim Morris** (Confirmed)
WED July 24th - History of Martin Baker – **Dave Fanshaw & Lawrence Hayward** (Confirmed)
WED Aug 27th - Light Aircraft at Denham – **Eva Ceh** (Confirmed)
WED Sept 25th - The North Atlantic Challenge – **Jim Davies** (Confirmed)

High Flights by BEA DH Mosquitos – by Keith Hayward

On 2nd August 1947, BSAA Lancastrian G-AGWH *Stardust*, commanded by Captain N H Cook, crashed into the high Andes mountains on the Argentinean/Chilean border en route from Buenos Aires to Santiago. The subsequent inquiry recorded that the Lancastrian had flown at a much higher altitude than usual, in order to keep clear of thick cloud and possible turbulence. Captain Cook had unknowingly flown into a hitherto unrecognised jet stream area of high winds crossing the Andes from the west. Maintaining his normal flight plan Captain Cook descended into cloud believing that he was now over lower ground on his approach to Santiago. Disaster followed. Following the accident and other evidence that was coming to light, BEA became concerned that with the advent of jetliners that were shortly coming into service that would be flying at high altitudes, more research was needed into clear air turbulence. BEA suggested to the Government that the airline set up a Gust Research Unit at Cranfield, Bedfordshire. This was agreed in 1947 and two Canadian built ex-RAF Mosquitos PR Mk 34s were purchased; G-AJZE (ex-RG231) and G-AJZF (ex-RG238). These aircraft were delivered between March and June 1948; they were duly painted in BEA colours of maroon and grey with the BEA 'flying key' motif on the tailfins. The two crew members chosen to fly them were Captain T Thomas, DFC and bar, FRMetS and Navigator First Officer D L Jones. Thomas had been a First Officer with BEA flying scheduled services and previously a Pathfinder with the Royal Air Force. Jones was a Photographic Reconnaissance Mosquito navigator during WW2. It was to be a very demanding job ahead of them. A route would be selected and the aircraft initially climbed to 20,000ft and then zig-zag vertically to 40,000ft searching for pockets of disturbed air. An accelerometer was fitted to record the turbulence. If the turbulence was severe, they would stay in the area to test the thickness of the layer of air so they were tossed about; a most disturbing activity for the crew. The flights ranged from areas over the Cairngorms in Scotland at 19,000ft down to the Brest Peninsular and on to the north of Spain at 30,000ft and Northern Italy at 21,000ft. The Mosquitoes had pressurised cabins with outside air temperatures down to 70 degrees below freezing point! In 1948 and 1949 these aircraft flew 77 research flights with the final operation in November 1949. The unit was closed down in January 1950. Much useful information had been gleaned, and areas of regular turbulence over Europe pinpointed. This would prove useful for flight planning purposes when the new high-flying turbine airliners came into service. However, the information came at a price. It is believed that both crew members later developed health problems as a result of flying in low temperatures and extreme turbulence over extended periods of time during these research flights. They were two very courageous airmen who paved the way for safer high altitude flying.



The Mosquito PR Mk 34 was quite a fast aircraft for its time and G-AJZF, while with the RAF as RG238 (see photo left), flew from London to Cape Town in just 21 hrs, 32 mins in 1947, crewed by Sqn Ldr HB Martin and Sqn Ldr EB Sismore. During WW2 other Canadian built Mosquito PR Mk 34s flew routine delivery flights to the UK and in April 1945, one flew to the UK via the Northern Route, in just 5 hours 30 minutes. On 6th September 1945, Mosquito PR Mk 34 serial RG241, flown by Wing Cdr JRH Merrifield DSO, DFC, and F/Lt JH Spires DFC, DFM made the fastest east-west crossing of the Atlantic, for the time, from RAF St. Mawgan to Gandar in 7 hours and returned to the UK on 23rd

October 1945 in 5 hours 10 minutes. Even today a typical flight between Gander to Prestwick would have a flying time of about 4 hours 14 mins, assuming an average flight speed for a commercial airliner of 500 mph.

Abingdon Country Show and Air Display 2017 – by Brian Jones

This popular annual event provides entertainment for all the family. As well as static and flying displays of aircraft, there are classic cars, military vehicles, traction engines and country crafts and pastimes. The 2017 event, held on 14th May in variable weather produced a number of items of aviation interest but was marred by a crash, and a forced landing of the Great War Display Team's newly introduced Avro 504K during a mock air battle between replica WWI aircraft, both of which understandably delayed and reduced the overall flying programme. I would mention that, while entry to Abingdon was reasonably controlled, exit arrangements at the end became 'survival of the fittest' and took up to an hour to depart from the site. The 2019 show was scheduled to take place on 5th May – see www.abingdonairandcountry.co.uk



Above Left; This French registered Yakovlev Yak-3U made its first UK display appearance at Abingdon Airshow. Originally powered by a Klimov VK-105 V12 engine, the aircraft now has a Pratt and Whitney R-1830 engine and is owned and flown by Belgian Rick Van Der Graaf. The flaming engine exhaust is apparently “normal”. Above Right; One of only two Antonov AN-2 biplanes currently airworthy in the UK, Hungarian Registered HA-MKF was able to demonstrate its impressive slow flying qualities.



Above Left; The Gloster Meteor T7 still employed by Martin Baker Aircraft as an ejection seat test aircraft, this Meteor has a canopy over the front seat only. It was flown at Abingdon Airshow by Andy Gent. Note the area of staining on the side of the Meteor, presumably from ejector seat tests. Above Right; A Ryan SCW-145 Sport Coupe VH-SCW was another participant at the show. The Ryan S-C was a low-wing cantilever monoplane with a fixed tailwheel landing gear, designed to be an up-market version of the Ryan S-T trainer. The prototype first flew in 1937, and had a nose-mounted 150 hp (112 kW) Menasco inline piston engine. Production aircraft were fitted with a 145 hp (108 kW) Warner Super Scarab radial engine. With the company's involvement in producing trainer aircraft for the United States military, the S-C was not seriously marketed, and only 11 complete SCs (s/n 202 through 212) were built, all delivered in 1938.



Above Left; DH 90A G-AEDU (c/n 7526) has been registered in the United Kingdom since 1992, now owned by Shipping and Airlines at Biggin Hill as part of its Historic Aircraft Collection and previously owned by the Norman Aeroplane Trust. Originally delivered to Angola in 1937, it flew as CR-AAB and later as ZS-CTR in South Africa. Above Right; G-AFZL is 1939 Porterfield CP50 Collegiate, one of 400 produced between 1936 and 1941 at Kansas City, Kansas Powered by a Continental A50 engine it is currently the only CP50 flying in Europe.



Above Left; The Great War Team were on hand with eight of their unique machines – all of which are replicas – giving an insight into aviation during World War One. Arriving from their staging base at White Waltham, many couldn't but help notice a new shape joining the team's medley of types – that of the Avro 504K replica making its public debut with the team. Sadly, the machine developed an engine problem during its show segment, which saw it be chased down by one of the Junkers CL.1s as it performed 'observation duties' over the lines, and then carry out a forced landing for real.

Above Right & Below; The unfortunately, registered, G-JINX a German-built Silence SA1100 Twister comes in for a very hard landing after suffering engine failure. It was flown by Chris Burkett, as part of the Swipteam pair. The engine failed during a comparatively low speed manoeuvre at a low altitude when out of formation, causing it to stall and descend vertically into the ground. Chris miraculously recovered from the dive, to perform a very hard landing. It was



subsequently found the pilot had suffered a broken sternum and two broken vertebrae but has since recovered from those injuries. He chose not to wear a helmet (not enough space?) while the other pilot did. The aircraft had been used during 2016 for a story in Auto Express magazine in which it had been pitted against a Jeep Grand Cherokee SUV on a lap of Blyton Park racetrack in Lincolnshire. The protagonists crossed the starting line together, with the plane airborne. The power differential, 110bhp for the plane against 461bhp for the Jeep's V8 engine was the deciding factor with the aircraft coming a fraction of a second behind the car at the finishing line.

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A Short History of the Fleet Air Arm - Part 1, The Early Years 1939 to 1940 - by Lawrence Hayward

When the RNAS merged with the RFC to become the RAF on 1st April 1918, naval flying was controlled by the Air Ministry. However, on 1st April 1924, the Fleet Air Arm was formed as a branch of the RAF which included those RAF units that normally embarked on aircraft carriers and fighting ships. The year was significant for British naval aviation as only weeks before the founding of the Fleet Air Arm, the Royal Navy had commissioned HMS *Hermes*, the world's first ship to be designed and built at the outset as an Aircraft Carrier. Over the following months RAF Fleet Air Arm Fairey IIID reconnaissance biplanes operated off *Hermes*, conducting flying trials.



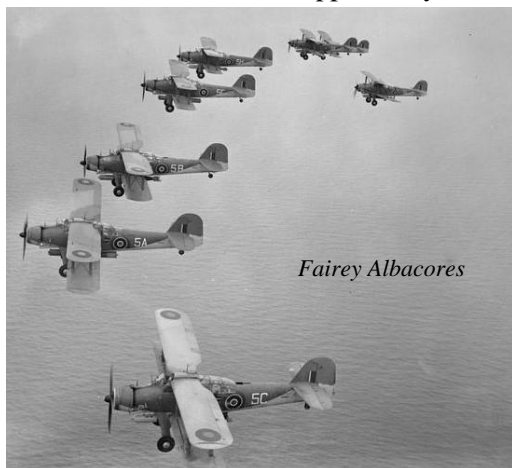
A Blackburn Roc, the FAA's version of the BP Defiant, seen at RAF Northolt in May 1939 for an exhibition of new types

However, RAF pilots and personnel serving aboard ship, never really suited their Lordships at the Admiralty and after various inter-governmental discussions, on 24th May 1939 the FAA was put under complete Admiralty control under the "Inskip Award" (named after the Minister for Co-ordination of Defence overseeing the British re-armament programme) and was officially called the Air Branch of the Royal Navy. On the same day control of the FAA was transferred to the Admiralty, Lee-on-Solent became the first air station to be commissioned, as HMS *Daedalus*. Even before independence from the Air Ministry, the FAA had started a massive re-equipment programme in aircraft and Aircraft Carriers. At the onset of the Second World War, the FAA consisted of 20 squadrons with only 232 aircraft and 7 carriers. By the end of the war the strength of the FAA was 59 Aircraft Carriers, 3,700 aircraft, 72,000 officers, and men and 56 Naval Air Stations.

After the Nazis came to power in Germany in the 1930s, the FAA was keen to replace its aging bi-planes with more modern ones. Fairey Aviation had since the 1920s, been one of the principle providers of aircraft to the FAA, including Flycatcher, Fairey IIIF, Seal, Shark and Seafox and venerable Swordfish. Most of these were, torpedo bombers and reconnaissance aircraft either flown from Aircraft Carriers or launched from ships as catapult float planes. Fairey soon started work on the Albacore to replace the Swordfish and also developed the Fairey Fulmar as a heavily armed eight-gun monoplane fighter powered by the Rolls-Royce Merlin. However, the Admiralty did not believe a pilot could navigate on his own over water, so they insisted that the Fulmar had an Observer in a second cockpit that somewhat reduced its performance. In the 1930s Hawkers also supplied a navalised Fury, called the Nimrod and naval Hart called the Osprey, but made no further attempts at a more modern fighter, until it was forced to modify the Hurricane during the early war years. Another contender for new types for the FAA was Blackburn Aircraft that developed two related types; the Skua dive bomber and the Roc four-gun turret fighter, the FAA's version of the BP Defiant. Neither of these types were a great success. The Skua carried a single 500lb bomb and although one did manage to sink the German cruiser *Konigsberg*, in an attack if the bomb missed, the mission was wasted. The Skua did at least have four forward facing 0.303 Browning machine guns so did manage to shoot down a few German aircraft. As for the Roc, it never operated off an Aircraft Carrier and never had an opportunity to attack a German bomber stream broadside as planned, so it was withdrawn as a fighter and relegated to target towing.



Two Blackburn Skua four-gun dive bombers



Fairey Albacores

While Carrier-based FAA spotter and torpedo aircraft operating far out to sea might reasonably expect not to encounter enemy aircraft, especially as the Germans never completed their only Carrier, the *Graf Zeppelin*, once the RN started operating within range of land-based enemy aircraft, the FAA urgently needed an effective fighter to counter the threat. Great hope was attached to the Fulmar which first flew in February 1940, but in the interim the FAA received sixty Sea Gladiators in from February 1939, some converted from RAF stocks.

The Fairey Seafox floatplane served as a FAA spotter



In WW2 the Germans put their faith in Battleships and Cruisers which they assumed could sail the world's oceans with impunity attacking enemy shipping, at a time when convoys were not used. Sadly, for the Germans, during the Battle of the River Plate, the RN proved them wrong! The Battle was the first major naval battle in WW2 and was the first occasion an FAA aircraft was employed to spot for ship's guns in a sea battle. The German heavy cruiser *Admiral Graf Spee* had been commerce raiding since the start of the war in September 1939. It was found and engaged off the estuary of the River Plate off the coast of Argentina and Uruguay by one of the hunting groups set up by the British Admiralty, comprising three smaller Royal Navy Cruisers: HMS Exeter, HMS Ajax and HMS Achilles. While HMS Exeter's two Walrus aircraft were both put out of action by an 11" shell, HMS Ajax was able to launch one of her two Fairey Seafox seaplanes either K8591 or K8582, which carried out reconnaissance flights every day. During the engagement an 8" shell penetrated *Graf Spee*'s two decks, destroying her fuel processing system and leaving her with just 16 hours fuel, insufficient to allow her to return home. At 20:45 on 17th December 1939, the Seafox signalled that the *Graf Spee* had blown herself up. Lt EDG Lewin, the pilot, became the first FAA officer to be decorated in the war when he was awarded the DSC for his part in the action.

During the early war period typically known as the 'Phoney War' to the BEF, the RAF and the public at home, there was no such respite for the Royal Navy and the FAA operating in support for Coastal convoys and their RN escorts, ranging from the North Sea and all waters between Southend and the Shetland Islands and equally the English Channel and all waters on the south coast between Southend and Bristol, east of a line Ushant to the Scilly Islands then to the north coast of Cornwall. Whenever Naval Air Squadrons spent time ashore between being Carrier assignments, some Squadrons, such as 812 NAS based at Ford, (equipped with Fairey Swordfish aircraft), served under RAF Coastal Command for minelaying, and bombing in the North Sea. In early 1940, the Fairey Albacore was introduced in to the FAA as the all new FAA torpedo bomber to replace the Swordfish but didn't as the ruggedness of the Swordfish was greatly appreciated. Nevertheless, Albacores carried out many attacks from shore bases. Albacores of 826, 827, 828, 829 NASs targeted enemy installations at night such as Borkum, Boulogne and all the way to Brest!

On the 9th April 1940 the Germans invaded Denmark and Norway, so it was claimed to stop Britain invading Norway first to help the Fins fighting the Soviet Union and to block Swedish iron ore shipped to Germany via Norwegian port of Narvik. The Germans wanted to counter this supposed threat and also wanted to secure airfields and ice-free ports with access to the Atlantic for their U-Boats. Unlike the Danish who had no effective armed forces, Norway resisted German invasion for longer than most countries. While the Germans occupied the capital Oslo and the south, Britain and France immediately came to Norway's aid with their own landings in the north. When the German invasion of Norway commenced, the only Carrier in home waters was HMS Furious in refit on the Clyde. She cut short her refit and sailed early without her Skua fighters, leaving it without fighter cover for two weeks.



The legendary Fairey Swordfish 'Stringbag' needs no introduction!

The Swordfish Floatplane served as a Fleet Spotter but retained its attack capabilities



Therefore, when HMS Furious joined the Home Fleet off the coast of Norway on 10th April 1940 it was only with 18 Swordfish of 816 NAS and 818 NAS aboard. Sixteen Swordfish carried out the first airborne torpedo attack of the war on two German destroyers in Trondheim harbour on 11th April though it was not a success. On 12th April both squadrons attempted to attack German ships in Narvik in bad weather. Disappointed with the failure of the torpedo attacks the previous day bombs were carried instead. 818 NAS, making the first attack, damaged several captured Norwegian ships, but lost two aircraft to flak, although the crews were rescued by the cruiser HMS Penelope and the destroyer HMS Punjabi.

Hurricanes of 46 Sqn RAF in Norway in May 1940



816 NAS followed 40 minutes behind but was forced to turn back by bad weather. One aircraft was lost while landing, but the crew was recovered. Another attack was launched on 13 April in support of the British ships entering Narvik, and another pair of Swordfish were shot down. On 13th April 1940, a Swordfish float plane (L9767) of 700 NAS was launched from HMS Warspite and bombed and sank U-64, anchored in the Herjangsfjord near Bjerkvik. Most of the crew of the U-boat survived and were rescued by German mountain troops. This was the first U-boat to be sunk by an aircraft during WW2, and the only instance where an aircraft launched from a battleship sank a U-Boat. On the same day, Warspite's Fairey Swordfish floatplane spotted the German destroyer *Erich Koellner* which was subsequently

torpedoed and shelled by allied ships becoming the first German battleship of three to be sunk, excluding another five that were scuttled.

While the FAA carried out bombing, reconnaissance and torpedo attacks, limited fighter cover was provided by 263 Sqn RAF, first with Gloster Gladiators but with little success in late April while operating from frozen lakes. The Squadron had been recalled to the UK but returned with Hurricanes on 21st May supplemented by Hawker Hurricanes of 46 Squadron. 263 Sqn had a short but intense fight with the Luftwaffe defending the fleet anchorage on the island of Hinnøya but on 2nd June to prepare for evacuation. Ten surviving Gladiators were landed on HMS Glorious on 7th June for the Aircraft Carrier's return home, together with the remaining Hurricanes of 263 and 46 Squadrons. This was the first time Hurricanes had landed on a Carrier without arrestor hooks, and this was achieved by adding 7lb sandbag to the rear fuselage to help with braking. Sadly, HMS Glorious was intercepted by the German battleships *Scharnhorst* and *Gneisenau* and sunk with great loss of life and all the aircraft from four squadrons. Subsequent investigations established that HMS Glorious was not flying any air cover that day, which it has been claimed, might have saved the Carrier, and may have been to the RN's advantage if its spotters had allowed the *Scharnhorst* and *Gneisenau* to be damaged or sunk by its Swordfish torpedo bombers. Even one torpedo hit on each ship might have slowed them sufficiently to allow them to be sunk by further attacks. Despite the loss of HMS Glorious and the fact that the British and French were forced to withdraw from Norway on 8th June 1940, the German sea invasion of Norway did not go well for the *Kriegsmarine* with crippling German losses, including the sinking of one of its heavy cruisers, two of its light cruisers, ten of its destroyers and six U-boats, leaving the *Kriegsmarine* with a surface force off Norway of one heavy cruiser, two light cruisers and four destroyers. The German navy was greatly weakened, directly hindering Hitler's plans for an invasion of the UK. In part this was due to the efforts of 816 NAS and 818 NAS which were very active in the strike and reconnaissance role being the only such support for the Allied Expeditionary Force ashore.

Fairey Swordfish patrolling the French coast.



During the Dunkirk evacuation, FAA aircraft, while not in any way designed for daylight battlefield operations, tended to have longer range than the RAF types, particularly the fighters, and could spend more useful time over the beaches. The FAA could support the RAF in tasks that were appropriate, such as anti-shipping and anti-submarine warfare, vital to protect the armada of rescue ships and boats from the predations of E-boats and submarines. Though the crews were not trained for direct support of ground forces, many Swordfish and Skua crews had experience of this from Norway, where the RAF struggled to provide adequate air cover and the FAA had to step in. The FAA also had capabilities to support an army on the ground that the RAF lacked. Specifically, the absence of a dedicated dive-bomber

in the RAF's inventory at the time was a significant failure. The gap could only be plugged by obsolete types on the brink of retirement, such as RAF Hawker Hector army co-operation aircraft and FAA types which could dive-bomb such as its Swordfish and new Albacore torpedo bombers, and Skua and Roc dive-bomber/fighters. Several FAA Squadrons were engaged to give support, and joining them was a rag-tag collection of naval types, including at least one Blackburn Shark which had been in use as a target tug. The second line aircraft were not technically meant to engage the enemy, but on occasion came uncomfortably close. On 24th May, Swordfish aircraft even carried out two attacks on a German tank column on the road between Calais and Gravelines, potentially suicidal in daylight considering the Swordfish's slow speed and paltry defensive armament.

Even more surprisingly, Swordfish were dispatched to patrol over the beaches when the evacuation was underway, in the hope that the Luftwaffe would mistake them for Gloster Gladiators and overestimate the RAF's fighter strength.

On 28th May, the Dunkirk evacuation started in earnest and on this day the skies were swarming with German aircraft. On their first fighter patrol over the Channel, 806 Squadron's Skuas were set upon by RAF Spitfires, who shot down Lieutenant Campbell-Horsfall (who lost a finger as a result) and left Midshipman Hogg's aircraft to limp back to Manston where it crashed on landing. Naval Airman Burton, Hogg's TAG, was killed. Aircraft recognition was poor on both sides at this time, and the Skua would have been largely unfamiliar to both the RAF and the Armée de l'Air. Moreover, the FAA's camouflage at that time bore some resemblance to that worn by the Luftwaffe's fighters. Modifications to FAA colours soon appeared, with the upper camouflage demarcation line being extended down to the level of the wing from the rear of the cowling to the front of the tail fin. The FAA's contribution of the evacuation has largely been forgotten.

Following the Dunkirk evacuation and the commencement of the Battle of Britain, the Royal Air Force soon found itself critically short of fighter pilots. In the summer of 1940, the RAF had just over 800 fighter pilots and as personnel shortages worsened; the RAF turned to the Admiralty for help from the FAA, either with FAA aircrew seconded individually to RAF fighter squadrons or entire Naval Air Squadrons such as 804 NAS which provided dockyard defence during the Battle of Britain with Sea Gladiators and 808 NAS that defended the west coast of the England with Fairey Fulmars.



Fairey Fulmar 'landing on'

On 10th June 1940 Italy joined the war on the side of Germany, no doubt in part to enjoy the spoils of war and take over British Colonies in Africa. Despite Britain being hard pressed and alone in Europe against the Axis, the Royal Navy was still a force to be reckoned with in the Mediterranean, with Force H (Vice-Admiral James Somerville) based at Gibraltar and the Mediterranean Fleet (Admiral Andrew Cunningham) in Alexandria to protect the Suez Canal. The RN was on a par with the Italian Navy in ships and men but as later events would show, it was the RN that was the more aggressive of the two. In Malta much of the RN was withdrawn pre-war, as the Government thought Malta could not be defended. This policy was somewhat reversed in 1939 and so the number of anti-aircraft guns was increased as was the number of fighter aircraft on Malta but in 1940 with the UK under threat of invasion, only six obsolete Gloster Sea Gladiator biplanes of the FAA were stationed

on the island, with another six in crates when, on 10th June 1940 Mussolini declared war.

Initially the Italian assault on Malta stood a reasonable chance of gaining control of the island, given the Italian naval and air supremacy in the central Mediterranean. If Malta was lost the Mediterranean would have been split in two, separating the British bases at Gibraltar and Alexandria. To the Italians (and later the Germans), air power was the key weapon against Malta. The *Regia Aeronautica* immediately began bombing the island from airbases in Sicily. On the first day, 55 Italian bombers and 21 fighters flew over Malta and dropped 142 bombs on the three airfields at Luqa, Hal Far, and Ta Qali. Later, 10 Italian Savoia-Marchetti SM.79s and 20 Macchi C.200s flew over the island, with no air opposition. At the time of these first air raids, the defending fighters on Malta consisted of obsolete Gloster Sea Gladiators, in the Hal Far Fighter Flight. Ten Sea Gladiators in crates for transit were assembled and as no more than three aircraft flew at once, hence these aircraft were called '*Faith*', '*Hope*' and '*Charity*'. The pilots were 'borrowed' from flying-boat units and other fliers with no experience of fighter operations. One Sea Gladiator was shot down but the rest managed to shoot down several Italian aircraft. The Italians flew at around 20,000 ft and the monitor HMS Terror and gunboats HMS Aphis and Ladybird were on constant readiness to open fire. In the afternoon, another 38 bombers and 12 escorting fighters raided the capital.

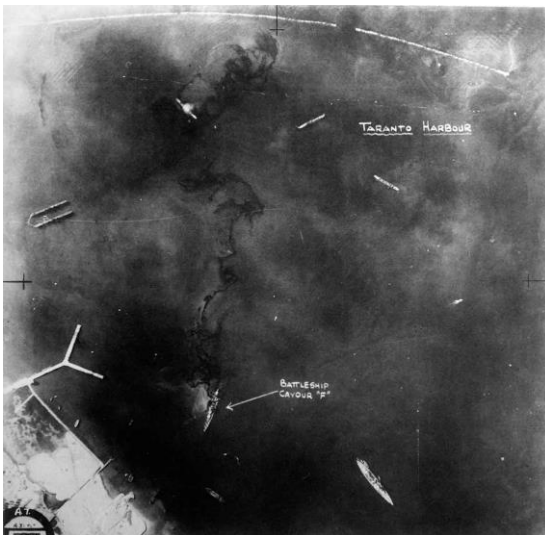


The raids were designed to affect the morale of the population rather than inflict damage to dockyards and installations. No RAF interception of the raiders was made because there was no RAF force ready to meet them. Despite the absence of any operational RAF airfields, at least one Sea Gladiator flew against a raid of 55 Savoia Marchetti SM 79 and their 20 escorting fighters on 11th June. It surprised the Italians, but the defences, almost non-existent on the ground and in the air, failed to impede the Italian force. On 12th June an Italian aircraft on reconnaissance over Malta was shot down, which also surprised the Italians as they assumed the defences were ‘done’.



An odd development took place on 19th June. Twelve Fairey Swordfish torpedo bombers of 767 (Training) NAS flew into the FAA base at Hal Far, having escaped from southern France following the French capitulation. They flew to the French colony of Tunisia, but insecurity compelled them to seek friendlier surroundings. The FAA aircraft were to form the nucleus of what was to become 830 Naval Air Squadron, providing Malta with its first offensive strike aircraft. Before June was out, they raided Sicily and sank one Italian destroyer, damaged a cruiser and destroyed oil storage tanks in the port of Augusta. By the start of July, the Sea Gladiators had been reinforced by RAF Hawker Hurricanes and the defences were organised into 261 Squadron RAF in August. Twelve aircraft were delivered by HMS Argus in August, the first of several batches ferried to the island by the Aircraft Carrier. A

further attempt to fly 12 Hurricanes into Malta on 17th November, led by a FAA Blackburn Skua, (*Operation White*) ended in disaster with the loss of eight Hurricanes; they took off too far west of the island due to the presence of the Italian fleet and ran out of fuel, and several pilots were lost.



A moral boost to Britain occurred at the Battle of Taranto which took place on the night of 11–12th November 1940 when British naval forces, under Admiral Andrew Cunningham, attacked the Italian Navy in port. The FAA launched the first all-aircraft ship-to-ship naval attack in history, employing 21 Fairey Swordfish biplane torpedo bombers from the Aircraft Carrier HMS Illustrious in the Mediterranean. The attack using flares for illumination, struck the battle fleet of the *Regia Marina* at anchor in the harbour of Taranto. Swordfish aircraft flew with two crew to save weight and make room for an auxiliary fuel tank and carried either bombs, or torpedoes despite the shallowness of the water. The success of this attack augured the ascendancy of naval aviation over the big guns of battleships. As a consequence of the FAA Swordfish attack, the Italian fleet lost half of its capital ships in one night; the next day, the *Regia Marina* transferred its undamaged ships from Taranto to Naples to protect them from similar attacks, until the defences at Taranto (mainly the anti-torpedo nets) were brought up to adequate levels to protect them from further attacks of the same kind

(which happened between March and May 1941). Repairs to *Littorio* took about four months, to *Caio Duilio* seven months; *Conte di Cavour* required extensive salvage work and her repairs were incomplete when Italy changed sides in 1943. Following the attack, the Imperial Japanese Navy sent Lieutenant Commander Takeshi Naito, the assistant naval attaché to Berlin, to Taranto to investigate the attack first hand. Naito subsequently had a lengthy conversation with Commander Mitsuo Fuchida about his observations in October 1941, which heavily influenced Japan’s attack on Pearl Harbor the following year.



Photos; Above Taranto harbour after the attack, with oil spills in the water and ships adrift. Right; HMS Illustrious the only Carrier available to launch its aircraft for the attack.

To be continued in Part 2 – The Battle of the Atlantic, US Aircraft arrive in greater numbers, Fairey struggles to get the Firefly and Barracuda in to front line service, and Escort Carriers arrive.



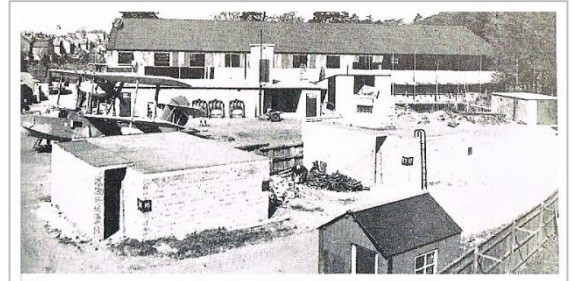
Above Left; Seen from a departing aircraft at Gardermoen, Oslo's principal Airport, in September 2017, this hulk is believed to be LN-KLG, a Convair 440 (c/n 506) which was initially delivered as a US Navy R4Y-2T on 13 February 1958 but then cancelled and delivered to Scandinavian Airlines Systems as "Sigurd" on 27 February 1958. It was eventually withdrawn from use and scrapped at Oslo – Fornebu in early 1975. Above Right; The same aircraft in a far better state of repair when in service with SAS, before being abandoned.



Left; With its registration G-BEEZ applied in an unusual location, this Comet 4C is pictured at Dan Air's maintenance base airfield, Lasham in Hampshire. Originally delivered to United Arab Airlines on 22 December 1962, it had subsequently worn Misrair and EgyptAir liveries. Dan Air utilised it, together with sister aircraft G-BEEX and G-BEEY for spares parts recovery and scrapped them in October/ November 1977

Now, a puzzle that readers might be able to resolve: The b&w photo below, captioned by the Addlestone Historical Society, and reproduced in one their excellent local history books, shows an industrial estate area that has now disappeared and been replaced by industrial buildings. It will be seen that the aircraft, wrongly identified as a

Sea Otter is, in fact, a Walrus with the prop to the rear. Members of the AH Society have told me that they believe that aircraft completed at the factory were flown on delivery from a nearby site (land or water?), not Brooklands airfield, which is only a mile or so away as the crow flies. My own belief is that the Walrus is a "pattern" aircraft placed on site to allow workers to check how components were fitted and final assembly of major components would have been completed elsewhere, possibly at Brooklands or Wisley airfields.



Editor's Note; Supermarine Walrus aircraft were built at two sites; Supermarine at Woolston and Saunders Roe, Cowes, so perhaps the site shown above was involved in repairs or modifications.



The Walrus was a British amphibious biplane reconnaissance aircraft designed by R. J. Mitchell and first flown in 1933. Used as a fleet spotter for catapulting from RN ships (Left) the Walrus was later employed in Air Sea Rescue (Right with Lysander in the foreground). On several occasions Walrus ASRs taxied across the Channel with rescued Allied airmen on board because the sea was too rough to take-off! (Interestingly the Walrus was originally known as the Supermarine Seagull V)

More Aviation in Svalbard – by Brian Jones

I recently came across a reference to an additional brief attempted aviation activity in Svalbard, not mentioned in my previous two-part overview of flying in that northern region. *Below left; Pictured at Hamble aerodrome, Hampshire, before despatch, the unique three seat Avro Arctic G-EBJD (a.k.a. Avro 504Q) was constructed in 1924 for an Oxford University Air Squadron, led by George Binney. The expedition had its Base Camp at Reindeer Peninsula, Liefde Bay (Photo below right). Spitzbergen. G-EBJD made its first flight on 11th June 1924 and was abandoned in Spitzbergen on 18th August 1924 after a crash. The Expedition was described in George Binney's book 'With Seaplane and Sledge in the Arctic', but I have yet to examine a copy. Below middle; George Binney and crew in arctic clothing.*



Left; Not a photo-shopped image, but a picture taken at Mojave airfield, California in 1976 of "human fly," Rick Rojatt, standing on top of the fuselage of an ultra-low flying DC-8. The aircraft, then owned by American Jet Industries, was ex-Japan air Lines, whose basic livery it still wore. Below; Finally, a small item that caught my eye in The Times on 9 December 2018 (Brian Jones)

.....
 Martin Fuller, a reader, sends in an empty packet of Lidl's "Deluxe Iberico Chorizo" because it has a typo. The meat, it says, comes "from select pigs free to roam and forage the planes of Iberia". Martin assumes they don't go in economy class. Personally, I'd have preferred him to send the contents and for the spelling to be perfect.

Armistice Air Power – the RAF, as of November 1918. Part Three, the winding-down – by Dave Kennedy

James J. Halley produced an epic work for Air-Britain called *The Squadrons of the Royal Air Force & Commonwealth, 1918-1988*. Using his data, I've covered the types in use October/November 1918. Note by now, many squadrons were being disbanded with their personnel being sent to augment others remaining as active units.

| Sqn No | Aircraft Type(s) | Dates and Remarks |
|--------|------------------|---|
| 113 | BE.2c, BE.2e | From Aug 1917 to Dec 1919, a corps recce unit Palestine |
| | RE.8 | From Sep 1917 to Feb 1920, |
| 114 | BE.2c, BE.2e | From Sep 1917 to Oct 1919, formed Lahore for army co-op |
| | Bristol Fighter | From Oct 1919 to Apr 1920 when it became 28 Sqn |
| 115 | H. Page O/400 | From Jul 1918 to Mar 1919, night raids on Germany. Reformed 1937 operated a succession of bombers before becoming a radar calibration unit latterly Varsity, Argosy & Andover |
| 116 | H. Page O/400 | From Aug 1917 to Nov 1918 when disbanded |
| 117 | Nil | Non-operational at time of Armistice |
| 118 | Nil | As above, had planned to have HP O/400 & Vimy bombers |

| | | |
|-----|--------------------------|---|
| 119 | Nil | Non-operational at time of Armistice, possibly some crew trained on |
| 120 | Nil | Non-operational at time of Armistice, was to have had DH9A |
| 121 | Nil | As above but planned to use DH.10 bombers |
| 122 | Nil | Had disbanded, to have reformed 1.12.18 with DH.10 but this didn't happen |
| 123 | DH.9A | From Nov 1918 (replacing DH.9) to Feb 1920 -disbanded |
| 124 | Nil | Had been disbanded Aug 1918 |
| 125 | Nil | As above |
| 126 | Nil | As Above |
| 127 | Nil | Disbanded Jul 1918, DH.9A training but never operational |
| 128 | Nil | Exactly same as above |
| 129 | Nil | Exactly same as above |
| 130 | Nil | Exactly same as above |
| 131 | Nil at time of Armistice | Unspecified types for training but disbanded Aug 1918 |
| 132 | ? | Day bomber Sqn, unspecified types for training, disbanded Dec 1918 at Castle Bromwich |
| 133 | Nil | HP O/400s expected but never delivered before disbandment |
| 134 | Nil | Non-operational at Armistice, delivery of HP. O/400 cancelled |
| 135 | Nil | Non-operational at time of Armistice |
| 136 | Nil | As above |
| 137 | Nil | As above, would have been a day bomber squadron |
| 138 | Bristol Fighter | From Sep 1918 to Feb 1919, fighter-recce based Chingford but seemingly not |
| 139 | Bristol Fighter | From Jul 1918 to Feb 1919 based in Northern Italy |
| | Sopwith Camel | B6313 was sole example, used from July to Oct 1918 only |
| 140 | Nil | Non-operational at time of Armistice |
| 141 | Bristol Fighter | From Mar 1918 to Feb 1920. Home defence (Rochford & Biggin Hill), moving to Ireland in March 1919 |
| 142 | BE.2c, 2d & 2e | From Feb 1918 to Feb 1919, based in Palestine |
| | RE.8 | From Apr 1918 to Apr 1919 |
| | Armstrong Whitworth FK.8 | From May 1918 to Mar 1919 |
| 143 | Sopwith Camel | From Aug 1918 to Oct 1919 (succeeded by Snipes in 1919) |
| 144 | DH.9 | From Aug 1918 to Dec 1918, Palestine, Egypt & the Aegean region for ops in Dardanelles, Turkey surrendered days later |
| 145 | SE.5a | From Jun 1918 to Apr 1919, in Palestine for Allenby's final victory over the Turks in First World War. |
| 146 | Nil | Not formed until 15 October, 1941 at Risalpur, India |
| 147 | Misc types for training | Formed in India but never became operational, disbanded 3.19 |
| 148 | FE.2b & FE.2d | From Feb 1918 to Jun 1919, night bombing missions |
| 149 | FE.2b & FE.2d | From Mar 1918 to Aug 1919, as above but relocated to Ireland in March 1919 |
| 150 | SE.5a | April 1918 to Dec 1918, based Macedonia, hence exotic selection of types! |
| | Bristol MC monoplane | From April 1918 to Sep 1919 |
| | Nieuport 17 | From April 1918 to Dec 1918 |
| | Sopwith Camel | From May 1918 to Sep 1919 |
| 151 | Sopwith Camel | From Jun 1918 to Sep 1919, often used for night fighting |
| 152 | Sopwith Camel | From Oct 1918 to Jun 1919 |

| | | |
|--------|--------------------|--|
| 153 | Nil | Planned as night fighter sqn but never declared operational |
| 154 | Nil | Planned Bristol Fighters but not operational |
| 155 | DH.9A | Based Feltham 14 Sep 1918 to Dec but not operational & disbanded 7.12.1918 |
| 156 | Nil | Would have had DH.9A but never operational until WW2 |
| 157 | Sopwith Salamander | Nov 1918 to Feb 1919, ground attack sqn but never declared operational. |
| 158 | Sopwith Salamander | Sqn had a ground attack role but never used in anger, disbanded Nov 1918 at Upper Heyford |
| 159 | Nil | Disbanded at time of Armistice, flew Liberators in WW2 |
| 160 | Nil | Exactly the same as above |
| 161 | Nil | Disbanded at time of Armistice, reformed in WW2 for supply & agent dropping in occupied Europe |
| 162 | Nil | Disbanded at time of Armistice, reformed 1942 Middle East as bomber squadron |
| 163 to | Nil | Disbanded at time of Armistice |
| 166 | FE.2b | From Jun 1918 to Oct 1918 |
| | HP V/1500 | Oct 1918 to Mar 1919, Bircham Newton. Would have been 1st user of this giant bomber but Armistice prevented offensive use. |
| 167 | HP V/1500 | Nov 1918 to May 1919, at Bircham Newton, both were part of 27 Group intending to use the 4-motor Handley Page. In the event the type was quickly withdrawn from RAF service after the war. |

(This concludes Squadrons formed in WW1. The next part will cover numbered Sqns in WW2.)

'Eviation Alice Aircraft' - by John Roach

Eviation, a global manufacturer of all-electric air mobility solutions, has selected Siemens to provide high-power, all-electric propulsion systems for its fleet of regional 'Alice electric planes'. Eviation says it is working towards the commercialisation of aviation's first all-electric plane, called Alice, and that and the Siemens collaboration marks a significant point in the journey towards this. The partners will collaborate on propulsion system integration, including electrical integration, fly-by-wire (FBW) system connectivity, thermal management system development, and mechanical mounting. Eviation said it selected Siemens due to its leading development in extremely low weight and high-power compact efficient motors designed to meet aviation safety regulations. Dr Frank Anton, Head eAircraft, at Siemens, said:



"At Siemens, we believe that we are in a new era of aviation and mobility, an era that will be dominated by high-performing electric propulsion, automation, and efficiency, which is why partnering with Eviation is so befitting. This partnership will serve as an industry milestone to demonstrate information exchange and system adaptations to create the first all-electric solution. We are committed to providing technology that provides solutions to some of the world's most challenging problems, and by collaborating with Eviation to develop the Alice, we are able to further our mission."

Omer Bar-Yohay, of Eviation commented: *"For more than 150 years, Siemens has been a pioneer in developing motors designed for performance, efficiency and are well-respected for reliability. By utilising Siemens' advanced motor technology, Alice is further established as a front runner for high performing zero-emission electric aviation. We are thrilled to collaborate with Siemens to develop the first fully operational all-electric regional commuter and we're pleased to work with iconic partners who share our vision of making clean regional air travel accessible for all."*

The Alice will be on display at Paris Air Show this June 2019 and is set to conduct its first flight later this year. The Alice aircraft can fly with nine passengers at 220 knots to a range of 650 miles on a single charge. Following test flights this year and certification in 2021, Eviation will hopefully begin shipping the aircraft for commercial use in 2022.

It Could Fly for 100 Years? Meet the MiG-21 Fighter by Prof. Robert Farley of The National Interest



Could the MiG-21 fly for 100 years? Is that even possible? The MiG-21 has easily reached sixty years of service, however, and probably seventy without breaking a sweat. It remains one of the iconic fighters of the supersonic age. Military aircraft can have notoriously short lifespans, especially during periods of technological ferment. The most elite aircraft of World War I could become obsolete in a matter of months. Things weren't much different in World War II. And at the dawn of the jet age, entire fleets of aircraft became passé as technologies matured. The advanced fighters that fought in the skies over Korea became junk just a few years later. But a few designs stand the test of the time. The B-52 Stratofortress first flew in 1952, yet remains in service today. New C-130s continue to roll off the production line, based on a design that became operational in 1954. But those are bombers and transport aircraft; they don't fight one another. Fighters face a special problem of longevity, because they must compete directly with newer models. Thus, very few fighters have had long lifespans, either in production or in service. Initial suitability studies for the MiG-21 began in 1953. The success of the MiG-15 and MiG-17 suggested that Soviet aerospace engineers could compete with their Western counterparts, and with the MiG-19 the Soviets had their first supersonic fighter. However, technology changed so quickly in the first two decades of jet flight that the fighters that had dominated the Korean War were effectively obsolete by the mid-1950s. MiG-15s could cut apart a formation of B-29s, but couldn't even catch modern American bombers. The Soviets intended the MiG-21 to change that, while also providing an effective air superiority option.

The MiG-21 (eventually dubbed "Fishbed" by NATO) would exceed Mach 2.0, with an internal cannon and the capacity to carry between two and six missiles (the Fishbed actually preceded the missiles into service). Like most fighters the MiG-21 would eventually serve in a ground attack role, in which it can carry a limited number of bombs and rockets. As with many of their fighters, the Soviets preferred to operate the MiG-21 directed by ground control, eliminating the need for bulky, sophisticated radar equipment. Altogether, the USSR would build 10,645 Fishbeds between 1959 and 1985. India would construct another 657 under a licensing and technology transfer agreement with Moscow, while Czechoslovakia built 194 under license. Under complicated and somewhat dubious circumstances, the People's Republic of China acquired sufficient aircraft and technical documents to reverse engineer the MiG-21 into the Chengdu J-7/F-7. China produced around 2,400 Fishbeds between 1966 and 2013. The combined numbers make the Fishbed by far the most produced supersonic aircraft in world history.



With the MiG-21, engineers sorted through a set of basic problems that future research could not substantially improve upon. Modern fighters don't fly much faster than the MiG-21, or manoeuvre much more capably. While they do carry more ordnance and have more sophisticated electronic equipment, many air forces can treat these as luxuries; they simply want a cheap, fast, easy-to-maintain aircraft that can patrol airspace and occasionally drop a few bombs. The Fishbed fits the bill. To be sure, the Fishbed would not have been a particularly useful fighter in Western service. It has short legs, cannot carry a great deal of ordnance, and lacks the space for sophisticated electronic equipment.





The shape of its cockpit limits pilot awareness. However, it aptly fulfilled the Soviet need for a ground control intercept fighter that could fly and fight over the battlefields of Western Europe, as well as act in a limited interceptor role. During the Cold War, the United States came into possession of a number of MiG-21 variants (eventually purchasing a squadron of J-7s from China). Generally speaking, American pilots spoke well of the plane, and it performed more than adequately in aggressor training situations. Indeed, highly trained American pilots probably pushed the MiG-21 farther than most Soviet pilots could have done. The MiG-21 never saw combat on the Central Front in a NATO-Warsaw Pact

war, but it certainly has seen its share of action. In Vietnam, pencil-thin MiG-21s found that they could take advantage of American rules of engagement by using their size and speed to cut through bomber formations before U.S. fighters could visually identify and target them. The size and manoeuvrability of the Fishbed also allowed them to evade early air-to-air missiles. After attacking, the MiGs would run for home. One exception to this pattern came on January 2, 1967, when a group of F-4 Phantom IIs under the command of legendary pilot Robin Olds tricked North Vietnamese commanders into a disastrous engagement. The Phantoms shot down seven Fishbeds that day, including one flown by Nguyen Van Coc, who would survive the crash and accumulate nine kills over the rest of the war. This would mark Nguyen as the most successful Fishbed pilot of all time, although several other Vietnamese and several Syrian pilots would achieve ace distinction flying the MiG-21.

The MiG-21 saw extensive service in wars across the Middle East. The fighter-bombers of the Israeli Defence Force devastated Egyptian and Syrian Fishbeds in the opening strikes of the Six-Day War. Fishbeds fought Israeli fighters in the War of Attrition, the Yom Kippur War, and the Lebanon War, generally suffering badly at the hands of outstanding Israeli pilots. In one case, several Israeli fighters ambushed and destroyed several MiG-21s flown by Soviet pilots. The success of Western aircraft against the Fishbed in the Middle East, as well as in Angola, caused many to conclude that Soviet fighters were outclassed by their Western counterparts. However, pilot training issues make comparison difficult. The MiG-21 performed more



than adequately in comparable pilot training contexts. For example, Fishbeds acquitted themselves well in air combat in the Iran-Iraq War. Also MiG-21s of the Indian Air Force flew in the 1965 Indo-Pakistani War, achieving kills in the 1971 War and the Kargil War. As recently as February 2019 an IAF MiG-21 'Bison' shot down a PAF F-16 but was then shot down itself and the pilot captured. The number of operational MiG-21s began declining in the late 1980s and 1990s, as more modern models replaced them in front-line service, and after the collapse of the Soviet Union led to the dramatic reduction of Russian strength. Soviet client states felt the pinch as well, and could no longer keep their aircraft in service. However, numerous air forces continue to use the MiG-21 and its Chinese variants. The MiG-21 currently serves in eighteen air forces worldwide, including two members of NATO (Romania and Croatia). Fishbeds flew in about forty other air forces (counting is difficult because sometimes countries ceased to exist before the MiGs that served them) since 1960. The J/F-7 serves another thirteen countries, and has been retired by four. China, Russia, and Ukraine still carry out maintenance and update work on existing aircraft. North Korea still uses the MiG-21 as they are limited by UN sanctions from acquiring something more modern. The advent of 3D printing may make it even easier for current operators to keep their Fishbeds in service, as they can produce spares and upgrades in country. Very few of the Fishbeds in service today bear much resemblance to the fighter that rolled off the line in 1959. They carry different, far more sophisticated weapons, including the R-60 AAM, the Magic 2 and the Python III. This makes them far more lethal than their older cousins.

Moreover, upgrades to their electronics have improved their radar and communications equipment, and have made possible the delivery of precision-guided munitions. Will the MiG-21 (or a variant) remain in service in 2059? China has ended production on the J-7, meaning that we have seen the last MiG-21 variant roll off the assembly line. Croatia and Romania will dispose of their Fishbeds in the next five years. After a spate of accidents, India is finally retiring its MiG-21s (assuming it can ever actually acquire or produce a replacement) but this decision was made before they lost a couple of MiG-21s in the retaliatory air strikes in February 2019 against Kashmiri militants over the border in Pakistan. Chinese J-7s have been relegated to local defence and training duties. This hardly means the end of the Fishbed, however. Many of the J-7 and F-7 models remain of fairly recent vintage, and can stay in service for quite some time. Bangladesh acquired the last dozen F-7s in 2013, and won't need a replacement anytime soon. And plenty of air forces simply have no requirement for anything much more sophisticated or expensive than a Fishbed. There may never be a hundred-year fighter (although the B-52 may quite possibly reach that number before final retirement). The MiG-21 has easily reached sixty, and probably seventy without breaking a sweat. Reputedly, during the aerial engagement on 27th February 2019, a MiG 21 'Bison' of the Indian AF shot down a Pakistani F-16 in the Nowshera sector, and so remains its usefulness today as one of the iconic fighters of the supersonic age.



Credit; Robert Farley, a visiting Professor at the United States Army War College.

Further Postscript to Air France A330 (F-GZCP) Crash in Atlantic on 1st June 2009 by Bob Hickox



Along with computerisation of the flight deck there has also been the introduction of side-stick controllers in both airliners and fighters. In the latter they are well suited for manoeuvrability but in airliners, such as the Airbus with two side sticks and two pilots, it is possible to operate them independently without one knowing what the other is doing. Previously the yoke controls were mechanically linked so it was impossible to input contrary control movements.

However, in the crash of F-GZCP, the co-pilot was inputting climb movements while the captain having re-entered the flight deck, and realising that the aircraft was in a flat stall, was pushing the side stick forward to get the nose down. There appeared to be no clear indication as to who was in control so that the side stick inputs were cancelling out each other. Due to the icing of a pitot tube accurate airspeed information was lost to the aircraft's computers, which lead to confusion of the two junior pilots regarding the aircraft's speed and attitude. The pilot flying raised the nose which resulted in a stall. The arrival of the captain on the flight deck was too late to prevent the aircraft crashing into the sea. Although the captain tried to push down the nose, he did not make it clear who was in control. The co-pilot therefore continued to try and raise the nose and the two contrary control inputs resulted in the crash into the sea. Thus, the side sticks can cause real and dangerous problems regarding coordination between the two pilots flying the aircraft, unless it is made clear who is flying the aircraft. When a difficult situation develops it is essential that it is made clear who is in control and for one crew member to make clear from other crew members verbally what the controlling pilot thinks is going on and what they are doing about it, and who is controlling the aircraft in the absence of the visual cues afforded by the control stick and wheel. Sadly, in this case the words "I have control" were not said by the Captain.

Credit: Side stick controllers in transport aircraft - Air Clues Spring 2013

Halesland Airfield visit in September 2018 by Brian Edmondson



On Wednesday, 5th September 2018, having travelled together from Maidenhead to Halesland, Somerset in my rather ancient but reliable 3 Series BMW, John Hartill and I decided to treat ourselves to a light Lunch at a French Restaurant overlooking the Sea Front at Weston-Super-Mare. John and I have been good friends for ages now, and for many Years we were both Instructors at No. 613 Gliding School, RAF Halton, and No. 612 V.G.S. at RAF White Waltham and RAF Benson, where, like many other FOGIES (Former Old Gliding Instructors' Extension Society), we had first flown various types of Conventional Gliders and then converted to Venture Motor Gliders in 1980. We first met during the Sixties when we were both serving in very different capacities at No. 342 (Ealing) Squadron, in Middlesex Wing, A.T.C. and before either of us

had any involvement with Air Cadet Gliding. John had been to Halesland, Somerset several times before with one of the truly great characters in Air Cadet Gliding and a keen supporter of FOGIES: the late Malcolm Marshall. My one and only previous visit to this unique Gliding Site, on top of the Mendips was during August 1966, when I attended a very successful Advanced Gliding Instructors Course organised by a legendary Officer from the Central Gliding School named Doug King – who is now also a distinguished FOGIES member. In those days we were accommodated in the Officers Mess at RAF Locking and only visited 'The Webbington Hotel' in the evenings for liquid refreshment and, perhaps, a particular type of naughty entertainment in the Night Club? Once off-duty, in those 'Good Old Days', the Halesland fraternity would sometimes quench their thirsts and have a game of Skittles in the nearest Pub, just below the Gliding Site, in Draycott Village. Nowadays, long after 'The Webbington' was completely refurbished and it became very respectable, its full title is 'The Webbington Hotel and Spa' and it is part of the Best Western Group.

FOGIES Organiser, Gary Hewins had successfully used 'The Webbington' as a base for the FOGIES visit to Halesland in 2017, and he managed to arrange a special preferential Bed & Breakfast rate for FOGIES members to stay there again this Year. John and I were both looking forward to meeting and dining with about a dozen other FOGIES and then staying overnight at such an upmarket Hotel as 'The Webbington', as we set course on the short journey from Weston-Super-Mare to the Hotel. Although 'The Webbington' is situated on the side of a wooded Hill overlooking the M5 Motorway, finding the entrance to its driveway took us longer than expected, and required the combined use of an O.S. Map, Sat. Nav. and our Navigational skills. After booking in at Reception and visiting our Rooms, we decided to make a quick visit to the Halesland Site to check on the best route and journey time etc. We completed this worthwhile journey without any difficulty and we returned to 'The Webbington' with ample time to freshen up, and meet other FOGIES in the Bar and then sit out on the terrace, before dinner at 7.00pm.



The Hotel Management had made a special effort for our FOGIES Dinner, by rearranging most of the furniture in their elegant Library, so that we could all sit together at one long table in this fine, oak-panelled room, surrounded by books and paintings and lit by candelabra. Everyone appreciated this ideal arrangement and, by having the exclusive use of this large room we were able to enjoy our nice three-course meal and then afterwards, linger and chat with other members, before moving into the Bar and eventually retiring to our own rooms. Next morning, after a superb Full-English Cooked Breakfast at 7.30am, we checked out and drove to Halesland without any delay and we arrived there at about 9.00am. The actual Airfield itself (*see AB photo above from 2010*) seemed to be unchanged, and the Mendip Gliding Club's gliders are all housed in the same old Hangar, but next to it there is now a very new, spacious wooden Clubhouse, complete with a Lounge-Briefing Area, Kitchen, Toilets, and Storeroom.

The Winches, vehicles and various other large items of equipment are kept safe in a large out-building nearby. parked beside this out-building is one of the club's most prized possessions; a huge, white, 25-year-old double-decker bus; this excellent multi-purpose vehicle serves as a mobile club base for light-signalling, log keeping and briefing, etc. as well as a welcome 'launch point' refuge for instructors, club members, students and passengers. Our FOGIES members were met and welcomed by several club members who then busied themselves with the usual preparations for today's gliding activities, helped by some members of our group, while others continued to explore the site. At 10.30am everyone assembled in the clubhouse for the daily briefing by the duty instructor: Peter Moorehead, including the weather forecast



which, unfortunately, was not very promising with a broken low cloud base and rain showers expected for most of the day. ever hopeful, the club members had already prepared most of their fleet of aircraft for flight and moved them to launch point ready for use, including two K.8's, two K.13's and a motor glider. The winch had been sited at the far end of the airfield and the large white club bus repositioned and parked on the airfield boundary near the launch point. So now we were almost in a 'go state'!

Gary Hewins, our brilliant FOGIES Organiser, spoke to us all at the launch point and he explained the difficulties that he was having in finalising today's flying programme. He said that he was fairly confident that there would be sufficient

sorties for everyone to fly in the motor glider, if they wanted to. His chief concern was that there would not be enough K.13 sorties for everyone to have a ridge soaring flight, partly because of their variable duration, but mainly because the duty instructor was the only instructor qualified to fly the K.13 in today's prevailing weather conditions. Gary asked all members to state their preferences between the K.13 and the motor glider and noted their choices. Both John and I decided to opt for a K.13 flight and risk disappointment if necessary. Gliding operations commenced almost immediately after the briefing, with the motor glider getting airborne with the first FOGIES member for a 15-minute flight along the Mendips to the city of wells and back again. Although the broken low cloud base restricted the K.13 winch launch heights to 800 feet AGL, the visibility was good and the ridge seemed to be working most of the time, so gliding continued throughout the day, during the long spells of fine weather between occasional showers of light rain.

Everyone agreed with Gary that Peter Eyes (Ex. 631, RAF Sealand) who has severe mobility problems, should be given top priority for a K.13 flight as soon as possible. With help from his daughter and some fellow FOGIES, Peter managed to get comfortable in the front cockpit of a K.13 and then demonstrate his ridge soaring skills by making the longest K.13 flight of the day, a well-deserved 26 minutes. Later on that Thursday afternoon, when our turn came to fly the K.13, John and I were not so lucky (or skilful?) and the best that we could do were ridge soaring flights with durations of 15 minutes and 12 minutes, respectively. My own flight was typical of most on that September day. I released the winch cable when we entered the Cloud at 800ft. AGL and then flew along the Ridge in both directions, in weak lift which gave 'NIL SINK', just below the Cloud Base and never below 500ft, until we decided to break away and return to the Airfield and land. Although very short in duration, my flight was very enjoyable and it brought back many happy memories of my last solo flight at Halesland in August 1966. On that fine Summer's day 52 years ago, when both the weather and the objectives had been very different from today's, I had been extremely lucky throughout my solo ridge soaring flight in an Air Cadets Swallow glider and had stayed airborne for 6 hours 23 mins to qualify for the award of a B.G.A. Silver C Certificate.





By about 4.30pm on this challenging day in September 2018, thanks entirely to the combined tireless efforts of both Gary Hewins and members of the Mendip Gliding Club, everyone in our group of FOGIES members and friends had flown at least once, and the main purpose of our Halesland Visit had been achieved. Everyone said how much they had enjoyed this Visit and expressed their sincere gratitude to Gary for organising this successful 2-day event for FOGIES members. As we bade farewell and thanked the Mendip Gliding Club members for all they had done for us, during our Halesland Visit, our FOGIES members were given an open invitation to revisit the Club sometime in the near future.

Above Left; Unrelated to gliders, Brian also had a flight in a Spitfire at Headcorn last year. Sadly, a photo of him in the Spit could not be taken as proof, so here he is in front of a Tiger Moth! (Well he would say that, wouldn't he? We believe you Brian!)

Aviation News by David Kennedy

MAXimum troubles for Boeing. I had originally planned a lengthy coverage over events which may prove comparable to the tragic demise of the world-beating de Havilland Comet 1. That was eventually attributed to metal fatigue and the design was improved into the Comet 4 a longer-legged, increased capacity airliner which just beat the Boeing 707 over the prestigious transatlantic route with BOAC. Ironically it was the latest version of the monumentally successful twinjet Boeing 737 which fell out of the skies in October 2018 – a Lion Air 737 Max crashed in the Ocean off Indonesia, having taken off from Jakarta –all 189 occupants perished. Then this year an Ethiopian example also plunged to earth shortly after take-off. On the night of 10 March all 149 passengers and 8 crew died. Many occupants on the flight from Addis Abbaba to Kenyan capital Nairobi were going to attend a UN Environmental Assembly there. As the most recent version of a proven design the cause was puzzling. Both planes were quite new and well-maintained. On 12 March it was announced that the cockpit data & voice recorder had been retrieved in damaged condition but that the captain had requested and been granted permission to return to Addis Abbaba after making an emergency call. Elsewhere many airlines operating the 737Max began grounding their planes as a precaution. The European Union Aviation Safety Agency (EUASA), joined agencies in Australia, China & Singapore in grounding the 737 Max Eight and Max Nine. Argentina and Mexico followed suit but the Federal Aviation Authority (FAA) and Boeing delayed grounding the type for some days. In the meantime, Boeing shares also nosedived! In the UK TUI and Norwegian grounded their examples. On the night of 13th March President Trump pushed through an emergency order to the FAA to ground all 737 MAX Eight/MAX Nine aircraft. American are a major user of the type but it was images of Frontier examples, looking like a flock of exotically-coloured parrots, temporarily parked-up in a desert location which I found most striking. One of these later had to declare an emergency after an engine quit on take-off. Only ferry flight crew were aboard.

Ryanair Response. This famous (or infamous?) Irish budget carrier is expecting delivery of a new fleet of B737Max jets soon and their CEO Michael O'Leary bullishly denied that the recent crashes would significantly delay this. Some days later it was announced that he will in future play a less 'full-on' role in Ryanair and on this news, their shares rose! Many punters will have raised a glass (or two) to the Irishman; he owns 'Tiger Roll' which won this year's Cheltenham Grand National for the second year running. The only other horse to achieve back-to-back wins was the legendary 'Red Rum' in the early seventies.

B737Max - Crash Findings. The airliners anti-stall software has been blamed for both crashes. Disturbingly a cockpit data & voice recorder from the Lion Air crash shows the crew repeatedly trying to switch off the device which erroneously misinterpreted the jets attitude and forced the nose down. Many lawsuits have been filed against Boeing for not rectifying this software sooner. Airlines too may sue as they have unusable aeroplanes, grounded until the software can be correctly updated. President Trump later suggested that Boeing should rebrand the Max 8 & Max 9 series. Shareholders have since suggested a boardroom shake-up with Dennis Muilenburg being stripped of his role as joint chairman & chief exec. CITY A.M. 17th April. I'm freezing story there for now. Sources' BBC media, City.AM, Metro.

EasyJet's newest recruit. Metro 18th March praised Ellie Carter. Having first piloted a light plane aged 16 and three days, last January; she is now to be mentored by EasyJet with a view to her gaining Captain status with them. Zoe Ebrey, EasyJet training captain said "Ellie's drive, determination and achievements are impressive and I look forward to helping her more on her journey". EasyJet are hoping to have 20% female trainee pilots by 200, from 15% in 2017. Ellie comes from Great Torrington, Devon. She's been interested in physics and powered flight for as long as she can remember.

RIP to Jack Lion, he was a Flight Lieutenant, from Bexhill-on-Sea, East Sussex. He helped formulate the famed 'Great Escape' from Stalag Luft III in 1944, but wasn't one of those who went out. He has died, aged 101. AVM David Murray said of him "His legacy and those of his brave comrades are the freedoms we enjoy today". Tribute in Metro 13th March.

RIP also to Tom Cullen, a RAF doctor who, with fellow POW, John Grieg, escaped from Stalag XXA and crossed 100 miles of occupied Poland before getting in a small boat and reaching sanctuary in Sweden in 1944. Tom has recently died, aged 102.

Flying Cars may be a solution for longer journeys, projects are being developed by Airbus, Boeing & NASA. A study found that flying cars would be more efficient than using roads for trips over 22 miles, Metro 10th April for above 2 stories. On another subject I have read that the Civil Aviation Authority (& other bodies) is concerned that if supersonic executive craft ever become a reality and enter large-scale use then the environmental damage, both noise-wise and carbon footprint-wise could be considerable. What will the rules be about flying such planes over land? I've always maintained that if Boeing had managed to get their SST, the 2707 into service then Climate Change Green lobbies would have been suppressed. As it was the relative rarity of Concorde services made it less of a concern to most folks. The CAA long ago prohibited the use by civilians of supersonic planes, even if the pilots were ex-military. Consequently, EE Lightnings were denied UK permissions and were exported where they could fly, such as South Africa or if kept in the UK were destined for fast taxi displays at most.

LAB, the tech section in Metro for 18th April, discussed and illustrated a helium-filled manta ray shaped airship. Named Breeze or Bio-inspired Ray for Extreme Environments and Zonal Exploration it's one of several projects being studied and funded by NASA. Its purpose is to flap around the atmosphere of the planet Venus collecting data. The designer is a Professor Javid Bayandor of State University, New York. Hybrid Air Vehicles Airlander G-PHRG had its reg cancelled 1.10.18 as wfu after crashing Cardington 18.11.17. However, later last year the CAA apparently gave the OK to future development of this airship.

Farnborough has announced the ending of the public weekend at their air shows, instead the public can enter on the Friday and visit the chalets. More on this next time. Times have changed, including the post-Shoreham Hunter crash precautions. Aerospace firms make money from sales not from spotters and often the most interesting types at Farnborough have flown away before public days.

Airbus announced on 14 Feb that the A380 production will cease. Emirates had announced they were slashing their next tranche for the super-jumbo and others such as Lufthansa had previously stated that they were not interested in obtaining more. Production won't cease for a year or more but I don't know if it is feasible to convert used A380's into freighters. Airbus abandoned plans to offer a dedicated A380F years ago in favour of concentrating on passenger versions. Fed Ex were the first to reserve a cargo version of the A380 on the production line but it was never built.

After attempting to create an airworthy Starliner, **Lufthansa** announced on 21 Jan this year that funding for the Lufthansa Traditions-Flug Ju52 would cease. Although flights in Ju52s ended for the Swiss-registered fleet, Lufthansa said their decision to end theirs had no relevance to the fatal crash of Ju-Air's HB-HOT but was purely a cost-cutting decision. Whether D-CDLH (a nod to Deutsche Luft Hansa and the newer weight-related 'C' reg category, pre and during WW2 as 'heavy' types the DLH Junkers 52 fleet were in the D-A*** registration category), will be kept for non-passenger carrying work is still to be decided. It certainly made a welcome addition to UK air shows.

The demise of **Flybmi**, which I only remember as British Midland Aw, with a head office in Donington Hall in Derbyshire. Unlike Monarch, which went under a year ago, BMA was an airline my family & myself used a fair bit – to travel to Belfast (Aldergrove), to meet relatives. Sorry but we felt their service was better than that offered by rival British Aw. Respected travel correspondent, Simon Calder said that in 2018 their average flights were only carrying 18 passengers –this wouldn't have been great even had they still been using Dakotas!

A 1969 survey showed British Midland with seven Viscounts, four of them in the 800 series, the rest the smaller 700 series, but still two faithful Dakotas; G-AGJV & G-ANTD. I've fond memories when BMA was (I think) the last airline to operate Vickers Viscount schedules from Heathrow. I once turned up, basically saying I don't care where it flies to, but I want to go in a Viscount. Sadly, the female check-in person said 'we retired them a few days back'. One was repainted in their blue-top Diamond service livery which was also applied to their DC-9 jets. (BMA became the first UK airline to use the type, their 1st flying with a US reg before getting a UK one). Previously doing business as Derby Aw (as such they became the only UK airline to successfully operate the Marathon), they rebranded as BMA when still flying ex-BOAC Canadair Argonauts. Viscounts were on order and the firm would acquire BAC 111's and Boeing 707's. These ex-Pan Am early versions were mainly leased out to foreign carriers, presumably being over-large for BMA's schedules. The company was first established as Air Schools in 1938– but after offering charter flights post-war would rebrand as Derby Aw. Recently, Flybmi was criticised for selling flights right up to their closure- flights they must have known they had no way of honouring.

Ju 87 Stuka's on the Rise? Of all the classic warbirds of the 1940-45 period one of the most feared (at least in the earlier years), was the Junkers Ju87 Stuka. The abbreviation Stuka, strictly applied to ALL dive-bombers but became synonymous with the inverted gullwing, fixed undercarriage robust Ju87. When used against infantry, light-skinned vehicles or fleeing refugees the appearance and sound –a 'Jericho' siren was fitted to an undercarriage leg thus the plane screamed in its near-vertical dive prior to dropping one or more bombs. Later versions were equipped as tank-busters on the Eastern Front and as night harassment platforms in the same theatre. It became clear that the type was rather an easy target for single engined fighters –as seen in the film Battle of Britain. I saw in a documentary that the last Luftwaffe plane seen over Berlin before it fell to the Russian and Western forces was a solitary Stuka, its occupants probably feeling somewhat lost. Captured examples were used as exotic hacks by some RAF squadrons, notably in the Western desert but it is doubtful any were still being flown by their captors much after then end of 1945. The makers of The Battle of Britain film (1968) dearly wanted to get the late-variant Cosford machine airworthy but budget and time thwarted the notion. Fast forward to 2019 and a US restoration group are hoping to make this happen for their example (6234). It was briefly on the UK register (as G-STUK), in the event little work was accomplished in our country before it went Stateside several years back). It had been shot down attacking Murmansk on 24th April 1942.

| Model | Werk no | Location – Examples range from substantial wrecks to potential flyers |
|---------------|---------|--|
| Ju 87B-2 | 1301643 | Technik Museum, Sinsheim, Germany, front fuselage & wings rescued from sea off St Tropez |
| Ju 87D-3/Trop | 100375 | Hellenic AF Museum, Dekelia, Athens, crew died when it ditched |
| Ju 87G-2 | 494083 | RAF Museum, Hendon, complete but static |
| Ju 87R-2 Trop | 5954 | Museum of Science & Industry, Chicago, USA |
| Ju 87R-4 | 5856 | Substantial wreck, Deutsches Technik Museum, Berlin –ex Russia |
| Ju 87R-4 | 6234 | Flying Heritage & Combat Armor Museum, Everett, Washington |

(Based on data contained in Aeroplane Jan 2019 and other sources)

Last 'Classic' Boeing 747 flight. This took place in December 2018 when retired General Electric engine test-bed N747GE flew from Victorville, California to the Pima Air & Space Museum, Tucson Arizona. This plane is con number 19651 was a model -121 first flying 3.3.70 as N744PA. Delivery to Pan Am took place on 23 March and it was named 'Clipper Star of the Union'. (The airline would rename it 'Clipper Ocean Spray' during 1980). The engine firm bought her on 26.6.81 but leased it back to Pan Am until December 1991 when ownership nominally changed to General Electric Co and reg became N747GE. It was replaced by GE by a newer-version (400 series I think), ex JAL Jumbo some years ago but was fired-up again for this historic last flight. By the way Boeing insisted the crew of the prototype 747 should wear normal suits for the maiden flight rather than boiler suits to emphasise to watchers that the plane was perfectly conventional – and safe –just MUCH Bigger! The Pima museum contains several unusual types such as a Sturmovik and two Canberra TT.18's all awaiting restoration, a rare Douglas A-20G Havoc also awaits reassembly.

Demise of a classic aeroplane manufacturer. **Piaggio Aerospace** announced its insolvency on 23 Nov 2018 and that it was entering administration. Just two examples of their unconventional-looking Avanti Evos transport had been delivered in 2017 and only three the following year. Famous already for the gull-winged P136 pusher amphibian and the larger, later landplane P166 of similar configuration. The Avanti featured fore planes and AT-tail in addition to the wings which carried turboprop motors again as pushers. I've seen Italian military ones and they do look most distinctive in the air.

US primary trainer competitions. 1949. In an excellent and in-depth article on the Beech T-34 Mentor (& developments), Keith Share said the Beech 45 (makers' designation), was up against the Fairchild XNQ-1 (T-31) –this would be declared the winner. They also considered the de Havilland Canada Chipmunk, Boulton Paul Baliol, and Temco TE-1A (T-35). These fly-offs were done at Wright Field. However, there was a call for a rethink and after further evaluation, this time at Randolph Field Texas; the Beech machine was chosen and would be rolled out to 1,098 units largely for the USAF but just over 400 went to the US Navy with the balance for export. This was just the piston-engined variants, turboprop versions would follow. The type was a nose-wheel single-engined primary trainer with tandem cockpit and succeeded older types, notably the Harvard. Article was in Air-Britain Aviation World, Spring 2019.

TONY FOULDS – One Man and his MISSION. I think it was late last year when BBC Breakfast presenter Dan Walker first said that he'd encountered by chance a lovely senior gentleman in Endcliffe Park, Sheffield who was sweeping up leaves and tending a modest memorial. Eager to chat to any passers-by Tony said that on 22 February 1944 he and a bunch of pals were playing on the green when they saw a Boeing B-17 in distress, flying at little more than rooftop height. Though just 8-years old he recalled crewmen waving at them. At the time they cheerfully waved back not realising the crew were trying to signal the kids to make way so the plane could crash land. Instead, the crippled B-17 bomber attempted to circle over the adjacent housing estates but impacted into woodland apparently after its last working engine packed-up. All ten US crewmen perished. In later decades he researched the background to this unforgettable tragedy. He told Dan that he had increasingly felt at least partly responsible for the deaths of these young aircrew (typical age 21). By around 1969 he set up a plaque with their names on. Dan said he worked for the BBC at Manchester and would spread word of Tony's wish that one day there might be a flypast over the Endcliffe on the anniversary date. To cut a moving long story shorter, the US Embassy and USAF representatives got to hear about this and some weeks later he was informed live by a US Colonel that he should 'look to the skies next 22 Feb.' The story travelled the social networks worldwide and come the day about 15,000 of people turned up. The whole of that morning's Breakfast show was filmed there live. In the interim the local council had funded continued maintenance of Tom's memorial garden plot including supplying a new flagpole. Despite the chance of February fog, the weather played ball. There can't have been a dry eye in the house. Planes from three RAF stations, Coningsby, Lakenheath & Mildenhall overflew. First the BBMF Dakota in RAF D-day colours led a pair of Typhoon jets. Then followed a MC-130 Hercules and an Osprey tilt-rotor craft and a KC-135 operated I believe by the present-day version of the 'Bloody Hundredth' who flew B-17 'Mi Amigo' on the day it fell to earth. Lastly a quartet of USAF F-15 Strike Eagles approached and one peeled up & away in the classic 'missing man' salute. These jets later overflew the American Cemetery in Cambridge where the bodies of three of the Fortress' crewmen are interred. Tony Foulds criticised a comment that the self-funded memorial was to his friends. He told the presenter he sees them as family and 'chats to them every day'. Had the bomber which we were told had been extensively shot-up by a Luftwaffe fighter forcing it to drop its bombs and struggle back to the UK. Low cloud didn't help and the plane could have caused on houses and schools with enormous loss of life. Instead the Captain elected to give the children time to run to the edges of the park – a generous act of humanity which led to the crews' demise instead. The crew were all named with their role, just before the flypast commenced. A truly wonderful event sanctioned at the highest levels in the UK & US; 75 years on Tony Foulds, now 82, has had his mission in life finally fulfilled. Well done to you sir!

Speaking of Memorials, the Daily Mail is campaigning for a tribute to our D-Day fallen overlooking the beaches where so many met their fate. They hope by crowd funding the monument, to have it done by the person who did the Bomber Command memorial in London in time for 6th June.

Also, an odd picture appeared in this Feb's Flypast magazine, the engineless hulk of a 737-500 VP-BXV is now mounted as a gate guard at Teruel Airport in Spain and carries large orange airport titles. Since it lacks many crucial parts, I'm not sure what the effect on morale will be for arriving passengers –especially those of a nervous disposition as it looks like it's already been in a nasty accident!

Mossie flies; Mark FBVI PZ474 has taken to the air after a very long restoration in New Zealand, full info from Aeroplane Monthly April 2019. With a grey top and duck egg blue under-surfaces added colour comes from full D-Day stripes and red spinners, all authentic to real machines used in the war –eight dummy missiles on launcher add to the string already afforded by the guns. PZ474 was used by the RNZAF until US interests bought her and some others. To cut a long story short someone in the NZ ministry realised it was a potential weapon of war and the remaining aeroplanes were ordered to be destroyed lest they be employed as real warplanes.

The Mosquito, speedily re-registered from ZK-BCV to N9909F (to avoid a raft of aeronautical objections made by the Kiwi examiner the enterprising ferry-pilot had a word in the ear of someone in the US embassy and the machine became American ‘overnight’. Rumours that it was used as a CIA camera plane remain neither confirmed nor denied –like I say ALL Mosquitos are marvellous but this one’s history is more complex than most. As I write this the murder of Muslims in Christchurch, NZ is but a couple of days old. Impressed that at the start of the rugby between Wales and France today a minute’s silence was held. Followed by lusty singing of course! I believe the same occurred at sporting events.

Julian Nott, 74 has died after a freak ballooning accident. Holder of 170 plus ballooning records and seen as the father of modern ballooning he had worked for NASA and the US Navy in balloon experiments, he was in the capsule of one of his own creations when it was blown down a mountainside and he succumbed to injuries in hospital a few days later in March. He had been the first to cross Australian and the Sahara by balloon and the first to pilot a solar-powered craft across the English Channel. He was the only balloonist ever elected to the Society of Experimental Test Pilots. He was presented with the prestigious gold Royal Aero Club award in 2014 by Prince Charles and will be buried in a family plot in the UK. Credit Metro Mar 30 where a much fuller illustrated article appeared.

Extinction Rebellion, eco-activist protestors’ attempts to disrupt access to Heathrow Airport failed as they were outnumbered and kept to a small area by police this Easter. Meanwhile folk on the International Space Station will enjoy pork chops & asparagus this Easter when a Northrop Grumman C rocket launched from Wallops Island in Virginia reaches them on Good Friday –that’s some take-away order!

The RHS Chelsea Garden show will feature life-size sculptures of D-Day soldiers. They are made from metal washers giving them an ethereal ghost-like see-through effect. After the event they will be displayed near Gold Beach in Arromanches, Normandy as part of the 75th commemoration of that mission. Credit Evening Standard Thursday 18th April, which included an illustration.

A sad story was told in Metro on 4 April. Retired Concorde captain Tony Meadows, 84, who made some Royal flights as well, is believed to have killed his 83-year-old wife Paula who had been suffering from dementia; before committing suicide himself. Thames Valley Police say they are not looking for anyone else. Photos showed the couple in happier times as well as a picture of him in uniform in front of a Concorde at Heathrow and as a retired man sitting in a preserved example. The couple had been married 60 years and lived in a farmhouse in Bucklebury, West Berks.

Defence giant **BAE Systems** confirmed on 5th April that it may well sell the plans of our latest aircraft carriers –the Queen Elizabeth class; to the Indians. In the past we have sold them actual retired carriers and Sea Hawks, later Sea Harriers to fly off them. Also, in other news, it is speculated that the Gatwick drone incidents around last Christmas were an ‘inside job’ by persons with knowledge of airport procedure.

Stratolaunch; With a wingspan of 385ft the twin fuselage Stratolaunch 6-jet carrier vehicle took off from a Mojave airstrip recently –photo Metro 15 April. Boasting the longest span of any flying machine the craft will launch satellite-carrying rockets. The Stratolaunch company was established by Microsoft co-founder Paul Allen who died last year.

‘Local’ News. Thanks, Lawrence, for the pics of The Airman in Feltham (and of the beer demo; a nice surprise inclusion). A 2005 pub guide says that at that time the location, near the former Hanworth Air Park offered Courage Best and most aptly a *Shepherd Neame Spitfire*.

Meanwhile in Morehall Rd, Harefield, I read, in London Drinker, that the Bear on the Barge (owned by Star), had closed with the lease up for sale. A correspondent said barriers had been erected to keep unwelcome visitors out. Hopefully the pub with massive grounds will reopen soon. Sunny Easter bank holiday weather and the operation of a funfair in a field opposite would have guaranteed maximum footfall. Situated by the canal it was a great place to observe traffic flying from LHR, Northolt, and Denham. Previously the Horse & Barge, as a kid I recall it named The Halfway House as it was between the villages of Denham & Harefield.

Rebellion Brewery, Marlow Bottom continued to release their Aviator series of fine ales this year. It had *Contact*, with ground crew servicing a cartoon Spitfire IX. Then came *Afterburner*, 4.4% dark & malty. I’ve the clip for this and the Biggles-like pilot has just bitten into a chilli and is now clutching his throat! Then came *Loop the Loop* with the same airman inverted over a runway. Various detritus falls past him from the cockpit floor including a sandwich and an aforementioned chilli. Lastly, as I write this late April; was *Dive Bomb*. Biggles has crashed his Spitfire into a tree and the bird which had been nesting there is now attacking the man’s head.

British Airways; Four passengers were injured on Oct 8, a report released on 11th April said. As BA flight 4458 from Rotterdam was descending into London City Apt, a drinks trolley broke from its restraints and sped down the aisle. Injuries were minor I'm glad to say. Credit Metro 12th April, 2019. Lost in translation, a sign in an Asda store in Cwmbran, South Wales promised 'Alcohol am ddim'. They meant alcohol-free drink but it actually it translates as *alcohol for free*. The sign was hurriedly altered to 'di-alcohol' alcohol-free. Talking of translation problems, I once read that on DC-10's a recurrent problem affected the lifts (elevators) used to move food from the galley up to the main cabin. The FAA were concerned that the new wide body airliner had a problem with its tail unit elevators! As such it became the only occasion where DC-10 documents substituted the American word elevators for the European lifts. The Welsh story was in Metro 18 April and I included it as the photos made me honestly think it was at an airport. I was wrong but it may make you smile all the same! Cheers all, David. PS Best wishes to Graham Williams and his dear wife in their new home near Luton.

Emiliano Sala; In the last Airwords much was said about the pilot on the ill-fated Nantes-Cardiff flight carrying the footballer. It now seems the pilot was colour blind and thus only permitted to fly in daylight and the flight took off over an hour after sunset. And to cap it all Horacio Sala, the father of Emiliano, died of a heart attack in April just three months after his son's tragic plane crash. CAA investigations are continuing but whether those who arranged such a sleazy and potentially illegal flight, will face prosecution remains to be seen. I guess those involved will blame someone else. Not that it would have saved the occupants of the Piper Malibu, but wearing life jackets was compulsory, when I flew with Ches Cole from Biggin Hill for cross-Channel jaunts as requested by the flying club, Civilair. I also recall seeing areas of the French coast with water-filled shell holes, presumably a legacy of both World Wars.

Takin' the Bird. Planes are delayed for all manner of reasons. A series called Airline which screens on a CBS channel every Sunday features the joys (& otherwise) of travelling with and working for the budget carrier EasyJet. It is old film with HS 748s sometimes visible in background as well as sightings of Monarch & Debonair jest. However, a photo in Metro 9th April showed a flamingo stubbornly sitting in front of an EasyJet Airbus A319 at Palma Airport, Mallorca. The caption said the pilot tried honking a horn but the pink bird just casually strolled in front of the airliner, leading to a slight delay. A member of ground staff was there to record the event!

1949 was a vintage year for British aviation.

| Date | Details |
|--------------------------------------|---|
| 13 th May 1949 (Friday !) | Canberra prototype VN799 made its maiden flight, Roland Beaumont piloting |
| 27 th July 1949 | Comet I prototype maiden flight, G-5-1 (later G-ALVG), John Cunningham captaining |
| 4 th September 1949 | Brabazon Mk 1 maiden flight at Filton. G-AGPW. A.J. Pegg easily flew the giant 8-engined airliner off the runway. The extension of the runway & demolishing of a village thus being proved unnecessary! The project & turboprop-powered Mk II were abandoned in 1952 and scrapped at Filton the following year. |

(The fortunes of the above-mentioned aircraft are too well known to require repeating).

Concorde G-BBST; The maiden flight of the first British built example on 9th April 1969, was celebrated by BBC Breakfast with several engineers being interviewed at Filton. Footage of the first in-service BA one, several years late, show one B747 in the distance still sports BOAC tail colours. A Canberra was used as a chase-plane for Concorde trials.

Drive Takes to the Air. In Spring 1969 AA house-mag 'Drive' produced a special edition which I still treasure. I'll do an article on it this year, hopefully. Included were colour cutaways of an Empire flying boat and, by contrast a B747 in BOAC livery, due to enter service in 1970. Various aviation personalities were interviewed – most are sadly no longer with us.

Denham hasn't been a lucky place for WW2 warplanes –remember the Blenheim crash? In late February this year a 2-seat Spitfire apparently made a wheels-up landing there, my source (ABN), did not say the u/c collapsed. Internet-users probably already know more but I'll try and glean some info for next issue.



Largely due to the interest of Uber Elevate and its work with the US National Aeronautics and Space Administration and Federal Aviation Agency, the move to provide urban ride-sharing in electrically powered vertical take-off and landing (VTOL) vehicles is moving forward at a surprising pace. Defined “skylane” networks are being proposed that would penetrate Class B air space like tunnels at low level (500-1500 feet) over urban areas. As early as 2020, experimental flights will commence in Dallas and Los Angeles and also in an international (non-US) city yet to be selected. Uber has five aerospace partners currently developing vehicles against a proposal by Uber that it would start commercial operations with 50

aircraft in 2023. The present Uber operational proposal envisages vehicles with a pilot and four passengers. With principles established, a move to autonomous operation, and thus removing the cost of the pilot would, in Uber's projections, create a profitable product.

While technical aspects of that proposal seem to be moving forward smoothly, it may be interesting to consider the broader implications of a new travel dimension that will be offered. Helicopter passenger operations have already penetrated urban airspace, but they have generally only been successful when operated, in a personal executive capacity, to privately maintained landing pads. Scheduled helicopter routes, usually linking a city to its urban airport have rarely provided any commercial success. The electric VTOL vehicles under development will have vastly reduced noise footprints against present aircraft (though some may rely on on-board generators to sustain or enhance electrical power) and initial proposals for the skylanes propose routes and terminals above areas with existing high ambient noise, for example motorways. The gain against ground transportation for point to point travel would be achieved by high vehicle speed (up to 200mph) and semi-direct routing, with no immediate capacity (traffic congestion) problems. Little has been revealed concerning the wider issues that the project will need to confront. Not in any order of importance or priority, I would suggest that the following topics will need to be addressed and resolved: -



- 1) At present, routing would be likely to be to or from a fixed terminal for one part of each journey. While a pick-up from or near a domestic address or work place may be possible in outer urban areas, inner town /city access would be limited to sites on the skylanes. Time may be lost against ground transport by travellers when accessing terminals.
- 2) Will the vehicles and supporting infrastructure provide step free disabled access? Also, will there be a need to evaluate potential passengers prior to potential travel; would four Sumo wrestlers possibly lead to an overload?
- 3) What security framework would be created for the system? Would users be subject to similar levels of security screening to those presently deployed at ports?
- 4) The use of helicopters to facilitate the escape of prisoners from prisons has already demonstrated the flexibility that these craft can provide and it is likely that the new transportation mode, particularly if autonomous, could afford new opportunities for terrorists. The carriage of dangerous goods over populated areas could also introduce serious risks.
- 5) Bird strikes have proved too dangerous to operation of much larger vehicles (regular aircraft) than those proposed. The low level skylanes would surely route through well-established areas for bird populations such as pigeons, crows, gulls and water fowl. What protective measures could be introduced to avoid conflict? Drones could also pose either accidental or deliberate threats to Uber type operations.
- 6) Almost all urban developments world-wide, include areas of open water, rivers, lakes, reservoirs, etc., making it likely that the skylanes would cross those at some point. Would all vehicle types include automatic deployment of flotation gear if an emergency water landing became necessary (thus adding to the vehicles weight and complexity)?

- 7) With numbers of vehicles following the same aerial routes, there would be a need to ensure safe separation. Would it be possible, at the outset, to specify the necessary equipment that could be common to a range of alternative vehicles and thus eliminate any risk of collision?
- 8) Autonomous operations would almost certainly be reliant on ground based wireless direction. There will be a need to ensure the integrity and protection of such links and the power supplies serving them.
- 9) Proposals for autonomous operation of cars is already raising legal and moral issues related to responsibilities for any possible failure causing damage, injury, or death. Uber type proposals have yet to publically provide proposals to resolve those issues.
- 10) The above list of topics is by no means comprehensive and readers are likely to add, from their own knowledge or interests, further challenges that would need to be met before low-risk operations could be achieved.
- 11) The commercial promise and the interest in investment and development that is already underway will almost certainly mean that there will be a skyway near you in the foreseeable future, the resolution of the operational challenges should provide interesting news updates in the meantime.

Historic Aviation News for May and June 1969,1979 and 1989 compiled by John R Roach

1969

May 4-11 – The Daily Mail Transatlantic Air Race commemorates the 50th anniversary of Alcock and Brown's crossing. It is won by a Royal Navy F-4 Phantom II, taking 4 hours 47 minutes.

May 5 – Wanted in Canada for a series of bomb attacks and armed with a revolver, 22-year-old Front de Libération du Québec ("Quebec Liberation Front") member Alain Allard joins with an older comrade in hijacking National Airlines Flight 91 a Boeing 727 flying from New York City to Miami, Florida, with 75 people on board – when it is about 40 miles (64 km) north of Miami. They force the plane to fly to Havana, Cuba.

May 7 – First flight of the Westland Sea King (serial XV649)

May 13 – First flight of the Conroy Turbo Three (registration N4700C)

May 19 – First flight of the Beagle B.125 Bulldog (registration G-AXEH)

May 26 -- Three hijackers commandeer Northeast Airlines Flight 6, a Boeing 727 with 20 people on board flying from Miami, Florida, to New York City, and forces it to fly to Cuba.

May 26 -- The U.S. Army cancels the Lockheed AH-56 Cheyenne attack helicopter programme, worth \$US 900 million.

June 4 -- Mexicana Flight 704, a Boeing 727-64 (registration XA-SEL), crashes on approach to Monterrey, Mexico, killing all 79 people on board. Among the dead is Mexican tennis star Rafael Osuna.

June 5 -- The American bombing of North Vietnam resumes after a seven-month pause.

June 5 -- The Tupolev Tu-144 makes its first supersonic flight.

A USAF one-of-a-kind Boeing RC-135E Rivet reconnaissance aircraft crashes in the Bering Sea, killing all 19 on board.

June 17 – Black Panther Party member William Lee Brent hijacks TWA Flight 154, a Boeing 707 with 89 people on board from Oakland, California, to NYC and forces it to take him to Havana where he resides until his death in 2006.

June 20 – Three passengers hijack Líneas Aéreas La Urraca Flight 801, a Douglas C-47A-DL Skytrain (registration HK-500) with 25 people on board making a domestic flight in Colombia from Monterrey to Aguazul and demand that it fly them to Cuba. After stops at Barrancabermeja and Barranquilla, Colombia, the airliner flies to Santiago de Cuba.

June 22 – Three hijackers commandeer Eastern Airlines Flight 7, a Douglas DC-8 with 89 people on board flying from Newark, New Jersey, to Miami, Florida, and force it to fly them to Cuba.

June 28 – Armed only with a penknife, 55-year-old Raymond Anthony hijacks Eastern Airlines Flight 173 – a Boeing 727 with 104 people on board flying from Baltimore, Maryland, to Tampa, Florida – and forces it to fly to Havana, Cuba, saying that he is dressed in Bermuda shorts and sandals so that he can go to the beach as soon as he gets there. Cuban authorities jail him until they return him to the United States in November.

1979

May 7 – Beechcraft announces its will re-enter the commuter airliner market. It had last commuter airliner was in 1977.

May 15 – First flight of the Dassault Mirage 50 (serial 01)

May 18 – First flight of the Piper PA-42 Cheyenne

May 25 – American Airlines Flight 191, a McDonnell Douglas DC-10-10 (registration N110AA) crashes at O'Hare International Airport, Chicago shortly after take-off after its number one engine detaches during its take-off, killing all 271 on board and two more on the ground, making it the deadliest air disaster in American history.

May 27 – A Mauritanian Air Force DHC-5D Buffalo (serial 5T-MAX) crashes in to the Atlantic off Dakar, Senegal, killing all 12 on board. The prime minister of Mauritania, Lieutenant Colonel Ahmed Ould Bouceif, is among the dead.

May 30 – First flight of the Cessna Citation III.

May 30 – Downeast Airlines Flight 46, a de Havilland Canada DHC-6 Twin Otter 200 (registration N68DE) strikes trees and crashes on approach to Knox County Regional Airport, Rockland, Maine, killing all 17 of 18 people on board.

June 6 – In the wake of the May 25 crash of American Airlines Flight 191, the U.S. Federal Aviation Administration revokes the Douglas DC-10's type certificate, grounding all DC-10s pending modifications to their slat actuation and position systems and stall warning and power supply changes. Until July 13, all U.S. DC-10s will remain grounded and foreign DC-10s will be prohibited from operating in the United States.

June 7 – An Indian Air Force Hindustan Aeronautics Ltd. HAL-748-LFD Srs.2M (serial H-2178) crashes in the Karmwal Pass in the Himalayas near Leh, India, at an altitude of 16,000 feet (4,877 meters), killing all 28 on board.

June 8 – Apparently wanting to be flown to the United States to see his estranged wife and children, 36-year-old Phillip Sillery enters the cockpit of a TAA Douglas DC-9-31 armed with a sawed-off 12-gauge shotgun and hijacks the airliner during a domestic flight in Australia from Coolangatta to Brisbane. After the plane lands at Brisbane's Eagle Farm Airport, Sillery allows all the passengers to disembark. As he holds the shotgun to the captain's head, a stewardess knocks him off balance, allowing the co-pilot to grab him. The crew then overpowers Sillery, who is arrested.

June 11 -- A US Forest Service Douglas C-47A-90-DL Skytrain (registration N148Z) carrying personnel, two dogs, and 3,100 pounds (1,406 kg) of equipment to the Moose Creek Ranger Station on Idaho's Selway River suffers the port engine failure, after which the other engine catches fire, explodes, and detaches from the aircraft. The C-47 glides to a crash-landing in which it strikes a tree and lands in a river in a narrow canyon at an altitude of 2,000 feet (610 meters). Killing 9 of the 12 on board immediately, and 1 of 3 survivors succumbs to his injuries before reaching a hospital.

June 11 -- Eduardo Guerra Jimenez, who had flown from Cuba to the United States in 1969 in a stolen Cuban Revolutionary Air and Air Defence Force MiG-21 (NATO reporting name "Fishbed") fighter, hijacks Delta Air Lines Flight 1061, a Lockheed L-1011 Tristar with 207 people on board flying from NYC to Fort Lauderdale, Florida – and forces it to fly to Havana, Cuba, where he is arrested. The airliner then flies to Miami, Florida. It is the first hijacking of a U.S. airliner to Cuba in 4½ years and the 170th hijacking of a U.S. airliner in history.

June 12 – First flight of the Rutan Long-EZ prototype (registration N79RA).

June 12 – Flying the Gossamer Albatross from Folkestone Warren, England, to a French beach south of Cap Gris-Nez in 2 hours 49 minutes, Bryan Allen becomes the first person to cross the Channel in a pedal-powered aircraft.

June 17 – Air New England Flight 248, a DHC-6 Twin Otter 300, crashes at Camp Greenough in the Yarmouth Port section of Yarmouth, Massachusetts, while on approach to a landing at Barnstable Municipal Airport in Barnstable County, Massachusetts. The pilot, Air New England co-founder George Parmenter, dies, but the other nine people on board all survive, including author Robert Sabbag.

June 20 -- Nikola Kavaja, a Serbian nationalist and anti-communist, hijacks American Airlines Flight 293, a Boeing 727, shortly before it lands in Chicago, Illinois, intending to gain control of an aircraft that he can crash into Yugoslav Communist Party headquarters in Belgrade, Yugoslavia. He allows the passengers and most of the crew to debark, then orders the crew to fly the 727 to LaGuardia Airport in New York City. There he demands and receives a Boeing 707, which he orders to be flown to Shannon, Ireland, where he intends to take control of the 707 for the suicide flight to Belgrade, but the hijacking ends when he surrenders to authorities in Shannon.

June 23 – The Tupolev Tu-144 supersonic transport, withdrawn from passenger service in June 1978, re-enters service, with the longer-range Tu-144D model beginning Aeroflot cargo-only domestic flights in the between Moscow and Khabarovsk.

June 27 – Israeli Air Force F-15 Eagles shoot down four Syrian Air Force MiG-21s; the first kills for the F-15.

June 28 – French documentary filmmaker Philippe Cousteau, son of Jacques-Yves Cousteau and Simone Cousteau, dies at Lisbon, Portugal, while at the controls of a PBY-6A Catalina for a high-speed taxi run on the Tagus to test the hull for leaks after a water landing. One of the plane's propellers separates and cuts through the cockpit, killing him.

June 30 – Wanting to return to Cuba to join Fidel Castro's revolution after living in Puerto Rico and armed with a bottle, 46-year-old Cuban exile Igoberito Gonzalez Sanchez hijacks Eastern Airlines Flight 932, a Lockheed L-1011 Tristar with 306 people on board flying from San Juan, Puerto Rico, to Miami, Florida. Crew members and passengers subdue him, and he is arrested after the airliner arrives at Miami.

1989

May 13 – An Antonov An-225 Mriya carries the Soviet Buran orbiter for the first time.

May 23 – First flight of the second and last Grumman X-29, American experimental aircraft that tested a forward-swept wing, canard control surfaces, and other novel aircraft technologies.

May 26 – Eurofly is founded. It will begin flight operations in February 1990.

June 2 – Two Israeli Air Force F-15C Eagles shoot down two Syrian MiG-29s (NATO reporting name "Fulcrum").

June 7 – With its crew knowingly attempting to land using an inappropriate navigation signal and ignoring alarms warning them of an impending crash, Surinam Airways Flight 764, a McDonnell Douglas DC-8 Super 62, crashes on approach to Paramaribo-Zanderij International Airport at Paramaribo, Suriname, killing 176 of the 187 people on board and injuring all 11 survivors. Among the dead are 15 players of the Colourful 11 professional exhibition football (soccer) team; three other players are injured. It is the deadliest aviation accident of 1989.

June 8 – A Soviet Air Force Mikoyan MiG-29 suffers a bird strike during a display at the Paris Air Show. Pilot Anatoli Kvochur manages to prevent the plane from injuring anyone, and saves himself by ejecting at only 400 feet (122 m).

June 17 – American astronaut S. David Griggs is killed when the vintage World War II-era North American AT-6D training aircraft (registration N3931S) he is piloting crashes at Earle, Arkansas.

June 23 – Trump Airlines began operations, but like many other Donald Trump investments it ran into financial troubles and ceased operations in September 1990 and 17 Boeing 727s were eventually sold by administrators, to US Air in 1992.

Airline and Airliner News for March and April 2019 - by John R Roach

Qatar Airways plans to place an aircraft order at the Paris Air Show and, separately, is looking to further develop its aircraft leasing business.

India's **Jet Airways** has been forced to ground more of its aircraft because of lease payment defaults, as negotiations continue over a bailout plan and an ownership reshuffle for the Mumbai-based carrier.

Air France, KLM and Virgin Atlantic have launched their first codeshare partnership, marking a step toward the closer cooperation targeted under their expanded joint venture with Atlanta-based Delta Air Lines.

EasyJet will convert 3,000 flight attendant licenses and aircraft spare parts into its Austrian air operator's certificate (AOC) as the UK-based LCC prepares for a no-deal Brexit, says EasyJet CEO Johan Lundgren on the side lines of the Airlines 4 Europe (A4E) summit in Brussels. EasyJet has taken itself out of the running to invest in Alitalia—the latest twist in the long-running rescue process for the bankrupt Italian carrier.

Japan Airlines (JAL) has officially established its new medium- to long-haul LCC and has also revealed the first international routes it will launch in 2020.

A series of legal challenges to the planned expansion of **Heathrow Airport** were heard in the UK High Court, by Sadiq Khan, Mayor of London and Greenpeace activists joining local authorities in a bid to stop plans to build a third runway.

Ryanair said UK nationals would not be allowed to buy Ryanair shares in the event of a no-deal or “hard” Brexit as part of updated guidelines for ensuring the Irish LCC remains majority European Union owned. Also, Ryanair has announced plans to rename Polish leisure carrier Ryanair Sun as “Buzz,” reviving the name of the LCC that it acquired from KLM in 2003.

The last control inputs from the flight deck of **Atlas Air** Boeing 767-300ER that dove into a marshy bay on approach to Houston Intercontinental Airport (IAH) Feb. 23 included maximum thrust and nose-down elevator deflection, a National Transportation Safety Board (NTSB) update reveals.

Indonesia and **Lion Air** are reconsidering Boeing 737 MAX orders following the Ethiopian Airlines ET302 crash March 10 that killed 157 people soon after take-off from Addis Ababa, and the worldwide grounding of the type. A preliminary analysis of data from Ethiopian Airlines flight ET302's flight data and cockpit voice recorders provided the strongest evidence yet linking the accident sequence to the October 2018 crash of Lion Air flight JT610.

Saudi Arabian Airlines (Saudia) CEO Jaan Albrecht said the carrier is evaluating a major wide body order within the next six months—which could be either an Airbus A350 or Boeing 787—and is considering new long-haul routes to North America.

Avianca is cancelling orders for 17 Airbus A320neo family aircraft and deferring delivery of 35 more by at least seven years, the Colombia-based airline said March 15.

Bankrupt German leisure airline **Germania** and **Bulgarian Eagle** will be permanently shut down, its administrator Rüdiger Wienberg said 25th March.

China Aviation Supplies Holding Co. (CAS) has signed a ‘general terms agreement’ (GTA) with Airbus for 290 A320 family aircraft and 10 A350s, in one of the Toulouse-based manufacturer's biggest deals.

AirAsia X is working with Airbus on details of a potential order for longer-range versions of the A321neo, with discussions covering issues such as configuration, quantity, timing, and variant.

Key changes to the **Boeing 737 MAX's** manoeuvring characteristics augmentation system (MCAS) will incorporate more redundancy into the aircraft's much-scrutinized flight-control law and give pilots ultimate elevator authority by limiting the degree of nose-down stabilizer command the automated system can trigger. An FAA update of minimum training required for pilots to fly the Boeing 737 MAX will cover the aircraft's manoeuvring characteristics augmentation system (MCAS), but simulator sessions will not be needed, a draft of a new report reveals.

After failing to attract investors, Icelandic ultra-LCC **WOW Air** ceased operations March 28.

Airbus is adding a sixth BelugaXL to its internal fleet of large cargo transports to ensure the system is capable of future production rate increases. Also, an appellate body of the World Trade Organization (WTO) has upheld European and **Airbus** claims that the US side of an ongoing airliner manufacturing subsidies dispute failed to withdraw subsidies granted by Washington state, which Airbus proponents assert has helped lead to \$15-\$20 billion in harm. Airbus's UK factories "could well remain competitive" even after Brexit, outgoing CEO Tom Enders said March 29.

Air is adding circa 5 Boeing 737-800Fs to its network via a revamped deal with Atlas Air Worldwide Holdings. Scottish airline **Loganair** is gearing up for a huge expansion of operations in the aftermath of the collapse last month of sister company **Flybmi**.

Virgin Atlantic is planning to use the acquisition of UK regional Flybe to boost its own long-haul growth, which will have a renewed business traveller focus. One of these partners is Air France-KLM, which is acquiring a 31% stake in Virgin Atlantic. Flybe is also slated to become a significant partner,

Slovenian flag carrier **Adria Airways** and Russian manufacturer Sukhoi Civil Aircraft Co. (SCAC) have failed to convert the airline's November 2018 letter of intent to acquire 15 Sukhoi Superjet 100 (SSJ100) regional jets into a firm order after they were unable to reach an agreement on contract terms. The longstanding "Flying Lady" motif will not feature on **Virgin Atlantic's** incoming Airbus A350-1000s, as the UK carrier is instead adopting range of "Flying Icons"(both male and female) that reflect a focus on diversity and inclusion.

Lufthansa has transferred its vintage Junkers Ju 52 from Munich, by overnight road transport (on 3rd April), to the company's Hamburg station. The airline had kept the aircraft in a hangar of its CityLine division at Munich since August last year. Lufthansa has since decided to stop using the Ju 52 (D-AQUJ) for sightseeing flights, in order to save money.

Qantas Freight will replace the two Boeing 747-400 Freighters it wet-leases from Atlas Air with larger 747-8Fs that will still be operated by the US carrier. The upgrade to the newer jets will allow Qantas to offer an additional seven pallets, representing a 20% increase in capacity over the 747-400Fs.

In case of minimizing interruption to **Icelandair's** flight schedule following the suspension of the Boeing 737 MAX aircraft, Icelandair has entered into a leasing agreement regarding two Boeing 767 and a Boeing 757.

Flybe said it was ending jet operations at several UK airports as part of a previously announced fleet reduction plan,

Nigeria's **Air Peace** ordered 10 Embraer E195-E2s and took options on 20, becoming the first E2 operator in Africa.

JetBlue Airways intends to launch multiple daily flights to London from its New York and Boston hubs, marking the New York-based carrier's first foray into the crowded transatlantic market.

As the investigation continues into the causes of last month's **Ethiopian Airlines** Boeing 737 MAX accident, sources close to the probe say flight data recorder (FDR) data firmly supports the supposition that the aircraft's left angle-of-attack (AOA) sensor vane detached seconds after take-off and that, contrary to statements from the airline, suggests the crew did not follow all the steps for the correct procedure for a runaway stabilizer.

Avianca Brazil has been forced to make more flight cancellations after lessor Aircastle reclaimed all 10 of its Airbus A320-200s on lease to the carrier, cutting the insolvent operator's fleet by 30%.



Jet Airways is suspending flight operations after failing to secure emergency funding to continue operations. In an update to the Indian stock market, the carrier confirms that it has cancelled all domestic and international flights after 16th April.

Responding to allegations by American Airlines, Delta Air Lines and United Airlines that **Air Italy's** US service additions violate the US-Qatar Open Skies agreement, the Italian carrier said, "We are puzzled (but slightly flattered) that the three very largest US carriers claim to be threatened by us." Finally, **United Airlines** new livery (left), was revealed on 24th April (Credit United Airlines)