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The Typhoon Era



DC-10 TRIBUTE

Biman's Farewell Flights

IN THE NEWS

- A-10 & U-2 face axe
- Canadian Lancaster to visit UK
- New tail design for Red Arrows

WEST ATLANTIC
ATP Advocate

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See pages 34 and 35 for more details.



Main cover photo: **A 1(Fighter) Squadron Typhoon over RAF Leuchars.** Geoffrey Lee/PlaneFocus. Inset photos (middle left): **Biman Bangladesh Airlines DC-10-30 at Birmingham Airport.** Charles Cunliffe. Bottom right: **A USAF C-121A landing at Tempelhof Airport, Berlin in 1965.** Ralf Manteufel

A-10 and U-2 Face Axe



A USAF A-10 Thunderbolt II from the 23rd Wing at Moody AFB, Georgia. The US Fiscal Year 2015 budget proposes that all of the USAF A-10 fleet are to be retired. USAF/Airman 1st Class Benjamin Wiseman

The latest round of US defence cuts, if they go ahead, will result in the retirement of all the USAF A-10s and U-2s, together with all of the US Army's OH-58D Kiowa Warrior helicopters. The proposals, which had been anticipated for some time, were announced by US Secretary of Defense Chuck Hagel at a Pentagon media briefing on February 24 to preview the Fiscal Year 2015 budget. The plans were confirmed when the full budget proposals were unveiled on March 4, on which date they were sent to Congress, which must give its approval before they can be implemented.

Hagel said the new budget places emphasis on capability over capacity in order to protect key modernisation programmes. This means that funding is protected for the new long-range bomber, F-35 Lightning II Joint Strike Fighter (JSF) and the KC-46A tanker. Hagel said, however, that in order to fund these investments, some serious

cuts have to be made elsewhere. As a result, the USAF will reduce its number of tactical air squadrons, which will include retiring the entire A-10 fleet, confirming previously announced proposals. Hagel said: "the advent of precision munitions means that many more types of aircraft can now provide effective close air support, from B-1 bombers to remotely piloted aircraft." Hagel also confirmed that the USAF will retire the veteran U-2 reconnaissance aircraft in favour of the unmanned Global Hawk system. He commented: "This decision was a close call, as DoD had previously recommended retaining the U-2 over the Global Hawk because of cost issues. But over the last several years, DoD has been able to reduce the Global Hawk's operating costs. With its greater range and endurance, the Global Hawk makes a better high-altitude reconnaissance platform for the future."

Hagel also warned that: "If sequestration-level cuts are re-imposed in 2016 and beyond, however, the air force would need to make far more significant cuts to force structure and modernisation. The air force would have to retire 80 more aircraft, including the entire KC-10 tanker fleet and the Global Hawk Block 40 fleet, as well as slow down purchases of the JSF, resulting in 24 fewer F-35s purchased through [to] Fiscal Year 2019. The air force would also have to take deep cuts to flying hours, which would prevent a return to adequate readiness levels."

Changes proposed for the US Army include transfer of all Army National Guard Apache attack helicopters to active-duty units. Hagel also said that the active-duty US Army will transfer Black Hawk helicopters to the National Guard, while all of its Kiowas will be withdrawn, along with the TH-67 Creek training helicopters

LEMV Reborn

A former military airship project is being resurrected in the UK by Hybrid Air Vehicles as a commercial venture to provide a long-range transport system. The carriage of freight is an obvious function for the aircraft, which was originally developed by Northrop Grumman, Hybrid Air Vehicles and other suppliers under a 2010 US military contract. Known as the Long Endurance Multi-intelligence Vehicle (LEMV), it was to have provided intelligence, surveillance and reconnaissance (ISR) support for the US Army. Funding issues, as well as some technical and performance problems resulted in the project being cancelled in February 2013.

Hybrid Air Vehicles bought the airship from the US Government last September for \$301,000 and is to use it in the development of a new 'Airlander 50' airship – capable of carrying 50 tons. The design uses three sausage-shaped balloons joined together in such a way that they generate lift – meaning it can be heavier than air and it does not need to be tied down when it lands – unlike a traditional airship.



The former Northrop Grumman LEMV is being put back together by Hybrid Air Vehicles at Cardington in Bedfordshire as part of the development of a new commercial 'Airlander 50' airship. Northrop Grumman

The former LEMV is now at Cardington in Bedfordshire – home to UK airships such as the R101 during the first quarter of the last century – and is being put back together. The UK Government has committed £2.5m in funding and its Business Secretary Vince Cable commented: "We are jointly funding

£2bn of research and development into the next generation of quieter, more energy-efficient and environmentally friendly planes. That includes backing projects like Hybrid Air Vehicles' innovative low-carbon aircraft, which can keep us at the cutting edge of new technology."

Russian Forces Deployed in Crimea

As this issue of *Aviation News* went to press, the crisis in Ukraine remained unresolved amid international diplomatic efforts to find a peaceful solution. The situation has been tense since Russian troops flooded into the Crimea peninsula at the end of February. At that time, 13 Russian Air Force Ilyushin Il-76 *Candid* transport aircraft were reported to have arrived, bringing in around 2,000 Russian troops to Belbek Air Base, near Sevastopol. Each reportedly delivered around 150 troops.

A further five Il-76s landed at the Russian Navy's Su-24 *Flanker* base at Gvardeyskoye, northwest of Simferopol, carrying more troops. Ukraine officials also reported that 11 Russian helicopters (eight Mi-24 *Hind* attack helicopters and three Mi-8 *Hips*) had also illegally crossed the border into the Crimea region and were seen flying over Sevastopol on February

27. There were other reports of 12 attack helicopters heading towards Kacha Air Base, although it is unclear whether these were additional helicopters or those seen earlier.

On March 1, Russian President Vladimir Putin formally asked the Russian parliament for permission to use the country's military for operations in Ukraine and approval was granted, although by that time thousands of Russian troops were already in Crimea. Putin said the move was required to protect ethnic Russians and those at Russian military bases in the Crimea. As of early March, Russian troops remained in occupation of the main airports and various military installations in the region. However, with many Crimean residents being pro-Russian, there has been no bloodshed as yet and a fragile peace seemed to be holding, although it is

unclear what Russia's next move will be. The most recent development has been that the Crimean parliament announced that a referendum will be held on March 16 on whether to become part of the Russian Federation.

Meanwhile, to reassure coalition partners, US Defense Secretary Chuck Hagel announced on March 5 that an additional six US Air Force F-15C Eagles would be deployed during that week to Šiauliai Air Base, Lithuania, where four of the type are already in place for the Baltic Air Policing mission. All will be from the 48th Fighter Wing/493rd Fighter Squadron 'Grim Reapers' from RAF Lakenheath, Suffolk, which is supplying the aircraft currently deployed for the mission. In addition, a KC-135 Stratotanker will also be deployed to the base to provide further support.

Canadian Lancaster to Visit UK

On February 24, the Royal Air Force Battle of Britain Memorial Flight announced it will host the Canadian Warplane Heritage Museum (CWHM) Avro Lancaster Mk X at its RAF Coningsby, Lincolnshire base during the summer. If all goes according to plan, the Lancaster will depart its Hamilton, Ontario home on August 4, arriving in the UK four days later. The aircraft will cross the Atlantic via Goose Bay, Labrador, Canada; Narsarsuaq, Greenland and Keflavik, Iceland.

It will undergo a scheduled maintenance inspection before the CWHM crews work through a brief training programme with their BBMF counterparts, preparing them to fly the aircraft alongside the BBMF Lancaster and fighters at several events from August 14. A limited number of flights aboard the Canadian Lancaster will be available from Humberside Airport for passengers holding CWHM UK Bomber Membership. Further information on membership can be found at www.warplane.com.



The Canadian Warplane Heritage Museum Lancaster Mk X FM213/C-GVRA is painted as KB726 'VR-A', which flew with RCAF's 419 (Moose) Squadron. © Crown copyright 2014

Squadron Leader (Ret) David G Rohrer is president and chief executive officer at the CWHM. One of the Lancaster's pilots, he describes the BBMF visit as a 'once in a Lanc time' event, noting: 'A rare window of opportunity was identified to bring the last two flying Lancasters together as a special salute to all the veterans of Bomber Command.' It will also serve to highlight the contributions of Canada and the entire Commonwealth to Bomber Command and the wider Allied air campaign.

Your Chance to Put a Question to RIAT's Tim Prince

Aviation News will be interviewing Tim Prince, Chief Executive of the Royal International Air Tattoo (RIAT), for an upcoming article. If you have a question on any aspect of RIAT you have always wanted answered, here is your chance. Readers should send their questions to *Aviation News* and the best will be put to the Chief Executive during the interview. Tim Prince has been involved since 1971 in what has grown into the annual airshow extravaganza that is RIAT. Please send your questions for consideration to dino.carrara@keypublishing.com headed 'RIAT Questions' or write to Dino Carrara, Editor, *Aviation News*, PO Box 100, Stamford, Lincolnshire, PE9 1XQ. Please ensure you supply your telephone number. The deadline for receiving questions is April 4, 2014.

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Closing date: April 17, 2014

First Japanese A330



Skymark Airlines has taken delivery of its first two Airbus A330-300s, part of a lease order for ten of the type, making it the first Japanese carrier to use the aircraft. The initial example, JA330A (c/n 1483) was due to enter service in April on the Tokyo Haneda to Fukuoka route. The A330s will also be introduced on routes to Sapporo and Naha from Tokyo Haneda at a later date. Airbus

Windowless Supersonic Jet

The Spike S-512 Supersonic Jet being developed by Spike Aerospace as a high-speed business aircraft will have no cabin windows, according to the company. Cameras positioned in the aircraft's skin will take images that will be combined to generate panoramic views on interior screens embedded into the cabin wall.



The Spike S-512 Supersonic Jet will not have conventional cabin windows – passengers will watch long, thin display screens embedded into the cabin wall. Spike Aerospace

The displays will be dimmable to allow passengers to sleep; stored scenic views can also be shown.

The innovation will simplify fuselage design and construction, and reduce weight and aerodynamic drag.

Ethiopian Airlines Hijacking

The co-pilot of an Ethiopian Airlines Boeing 767, flight ETH702 from Addis Ababa to Rome, effectively hijacked the aircraft on February 17 and landed at Geneva Airport. He was unarmed and waited for the pilot to go to the toilet and then locked himself in the cockpit. He then alerted air traffic control of the hijacking and even set the special hijack squawk on the transponder when over Sudan. Passengers remained unaware of the situation while in the air. As the 767 approached Italian airspace from the direction of Libya, two Italian Air Force Typhoons were scrambled from Gioia de Colle to shadow it. According to the Italian Air Force there were no risks as the Ethiopian pilot immediately explained his intention to land in Geneva and seek asylum.

Equatorial Guinea-Bound RJ85



Air Annobón has acquired ex-CityJet BAE Systems Avro RJ85 EI-RJS (c/n E2365); the Equatorial Guinea-based carrier currently uses a 99-seat BAe 146-300 on domestic services. The aircraft was repainted at Shannon Airport, Ireland, and is seen arriving at Dublin Airport on February 27 for further attention. Upon delivery it will take up the registration 3C-MAA and has been named *Mebana*. Michael Kelly

Indonesian Turboprop Project

Indonesian Aerospace (IAe) is developing a 19-seat turboprop – the N219 – which could enter the regional market competing with the Viking Twin Otter and Harbin Y-12F. Current plans are for a first flight next year and certification with Indonesian authorities in 2016. International certification will follow later.

Interest has already come from local airlines, with low-cost carrier Lion Air signing an order for 50 aircraft, with options for a further 50, to provide feeder services around the country. Nusantara Buana Air (NBA), a small regional airline in Western Indonesia, has also signed a Memorandum of Understanding for 20, with options for a further ten.

The Honourable Company of Air Pilots

The former Guild of Air Pilots and Air Navigators has unveiled a new name – The Honourable Company of Air Pilots – reflecting the notable honour recently bestowed upon it by Her Majesty the Queen. His Honour Judge Tudor Owen FRAeS, Master of the Air Pilots, said: “As an active 21st century organisation we are very privileged to receive this rarely bestowed historic title.” The ‘Honourable Company’ status is a rare distinction, which is in the gift of the monarch and has only previously been granted to three companies; The Honourable Company of Master Mariners (by King George V, when its Master was Edward Prince of Wales), The Honourable Artillery Company (in 1656) and The Honourable East India Company (now defunct).

The new title is its major distinction, but there will be no change in either the organisation or its ethos. Based in London, but with an international membership, The Honourable Company of Air Pilots is dedicated to ensuring aircraft are flown by pilots who are highly competent, well-trained, dependable and respected.

China Southern Airlines' First 777-300ER



China Southern Airlines received its first Boeing 777-31B(ER), B-2099 (c/n 43219), on February 25. One of ten of the type on order, the new aircraft is to be put into service on the carrier's routes from southern China to the US east coast. Boeing

RwandAir's Sole Q400 Delivered



African carrier RwandAir has taken delivery of Bombardier Dash 8-Q400, its sole example of the type. Wearing the test registration C-GXKR (c/n 4464), the aircraft was noted during tests at Toronto Downsview Airport on February 14. Ordered in April last year, it is to be used on short- and medium-haul domestic and regional African routes. Andrew H Cline

Citation Latitude Flies



The Cessna Citation Latitude prototype, N3765L, during its first flight on February 18. Cessna

The Cessna Citation Latitude prototype performed its maiden flight on February 18 from the company's plant at Wichita, Kansas. The first flight tested flaps, landing gear, pressurization systems, anti-ice capabilities, stability and control. The aircraft reached 28,000ft (8,534m) and speeds of 230mph (Mach 0.6). Cessna flight engineers said all systems performed as expected.

The Citation Latitude will have the widest fuselage of any Citation jet, designed with a flat cabin floor and 6ft (1.83m) of cabin height. The aircraft has a range of 2,500nm (4,630km) and can accommodate up to nine passengers. The design includes a new cabin cooling system, Garmin G5000 avionics and auto-throttle capabilities, an electronically-operated cabin door and lower internal cabin pressure.

SPOTTING INFO ...

We can now bring you a photo of the **Terminal 4 View Heathrow Observation Deck**, mentioned in the February issue of *Aviation News* (p11). It provides views across the airport's southern runway towards the central terminal area – as shown in this image. We must reiterate it is situated airside and so is only accessible to passengers with a boarding card. Photo Heathrow Airport Ltd



To mark the tenth anniversary of Emirates Airline introducing flights from Dubai to Glasgow Airport, the carrier will use an **Airbus A380** on April 10 for flights EK027 and the return EK028.

Japan Airlines is to run a charter flight from Osaka's Kansai International Airport into **Edinburgh** using a Boeing 777-200ER on July 2.

Arctic Plume Chaos in Canada

Canadian budget carrier WestJet chartered an Atlas Air Boeing 747-400 on January 9 to help alleviate a huge backlog of passengers stranded at Toronto Lester B Pearson International Airport. The Greater Toronto Airports Authority ordered a stop to operations on January 7 due to extreme cold conditions (-45°C including wind chill), caused by a plume of Arctic air which wreaked havoc at the airport and caused hundreds of flight cancellations. Aprons became severely iced and ground handlers could work for only minutes at a time, with numerous ground support equipment failures. Flights were



WestJet used Atlas Air Boeing 747-447 N465MC (c/n 24784/798) on a relief flight from Toronto to Calgary on January 9 to help relieve a considerable backlog of passengers after severe cold weather caused hundreds of flight cancellations. Andrew H Cline

forced to depart without baggage in many cases and arriving flights were diverted or had to sit for hours awaiting gates. Pearson was full of stranded passengers for several days

and WestJet alone cancelled 192 flights across its network starting on January 6, affecting more than 22,000 passengers.

The 747 departed as flight number WestJet 3017 to Calgary on January 9, carrying almost three times as many passengers as the normal 737-800 would routinely handle. The airline also operated the 757-200 it generally uses for Hawaii flights on other scheduled trips to help alleviate the backlog. Air Canada was similarly affected and used its high-density configured 777-300ERs to help clear backlogs on routes that normally use narrowbodies.

New Iberia Express Colours

Airbus A320-216 EC-LUS (c/n 5501) was captured departing Düsseldorf Airport on March 2 this year wearing the airline's latest colour scheme. It is a low-cost carrier that started operations in March 2012 and is based at Madrid-Barajas Airport using a fleet solely made up of Airbus A320s.

Marcus Steidele



CEIBA Intercontinental's First 737



Boeing 737-8FB 3C-LLY (c/n 41157) was noted at Boeing Field, Seattle, on February 10 after a pre-delivery test flight. The aircraft is the first of three of the type for CEIBA Intercontinental Airlines of Equatorial Guinea and has been named *Bioko*. Joe G Walker

SAT Livery Soldiers On



Aurora Boeing 737-5L9 RA-73013 (c/n 28721) was noted at Seoul Incheon Airport on February 19 still wearing the livery of SAT Airlines. The carrier merged with Vladivostok Air in October last year to form Aurora and one of the latter's Airbus A320s can be seen in the background. Martyn Cartledge

NEW ROUTES (SELECTIVE)

Airline	Route	Frequency	Begins	Notes
Aegean Airlines	Kalamata – Düsseldorf	2	28-05-14	A319
	Athens – Izmir	3 per week	10-06-14	
AirAsia	Kuala Lumpur – Kalibo	4 per week	18-04-14	A320
Air Armenia	Yerevan – Ekaterinburg	1 per week	01-04-14	737-500
	Yerevan – Paris CDG	2 per week	30-04-14	A320
Air One	Catania – Paris CDG	3 per week	30-03-14	A320
China Eastern Airlines	Shanghai Pu Dong – Toronto	3 per week	25-06-14	A340-600
China Southern Airlines	Guangzhou – Changsha – Frankfurt	3 per week	20-06-14	A330-200
Delta Air Lines	Chicago – London Heathrow	Daily	26-10-14	767-300ER
Emirates Airline	Dubai – Chicago	Daily	05-08-14	777
Estonian Air	Växjö – Amsterdam	8 per week	04-05-14	E170
Helvetic Airways	Zürich – Glasgow	1 per week	17-05-14	Until 23-08-14
Spring Airlines	Shanghai Pu Dong – Chiang Mai	4 per week	30-03-14	A320
	Shanghai Pu Dong – Singapore	Daily	25-04-14	A320
StarFlyer	Nagoya Chubu – Fukuoka	Daily	3-03-14	A320
Sun Air/BA	Billund – Zürich	5 per week	28-04-14	328JET
TAM Airlines	Fortaleza – Miami	1 per week	31-05-14	A330/767
Turkish Airlines	Istanbul Ataturk – Oran	4 per week	07-05-14	737-800
Vueling	Ibiza – Munich	4 per week	20-06-14	A320
	Ibiza – Lisbon	3 per week	21-06-14	A320
Wizz Air	Sibiu – London Luton	2 per week	14-06-14	A320

MS-21 Developments

An order backlog for the Irkut MS-21 family of narrowbody airliners has risen to 175, according to the manufacturer's President Oleg Demchenko. The new jet is to be marketed as the Yak-242 and will accommodate 150 to 212 passengers and is intended to replace the Soviet-era Tupolev Tu-134 and Tu-154, although the majority of both types have already been phased out.

Demchenko said: "We have started production of the first two MS-21 aircraft and development of the aircraft and the engine are being carried out in parallel; both programmes are on schedule." He confirmed that 51% of the aircraft's components are manufactured in Russia. This will increase to 75% once the next-generation Aviadvigatel PD-14 engine is certified. The MS-21 is expected to complete its first flight next year with deliveries due to start in 2016.

ORDERS

Airline/Operator	Aircraft	Number	Order Placed	Notes
Air Costa	E190-E2	25	13-02-14	Plus 50 purchase rights for E190-195
	E195-E2	25	13-02-14	
Al Qatani Aviation Company	CS300	16 + 10 opts	16-01-14	Purchase agreement
Amedeo (previously Doric)	A380	20	12-02-14	Firms previous MoU
Bangkok Airways	ATR 72-600	6 + 2 opts	12-02-14	
Binter Canarias	ATR 72-600	6	11-02-14	
British Airways	787-9	6	05-12-13	
	787-10	12	05-12-13	
Cargolux	747-8F	1	14-02-14	
Dubai Aerospace Enterprises	ATR 72-600	20 + 20 opts	12-02-14	
Falcon Aviation Services	Dash 8-Q400	2	09-02-14	
	CS300	1 + 1 opt	26-02-14	Lol
Federal Express	767-300F	2	12-12-13	
First Flying	Twin Otter 400	2	12-02-14	
Goma Air	L410UVP	2	2013	
Jackson Square Aviation	737-800	3	13-01-14	
Kuwait Airways	A320neo	15	20-02-14	Firms previous MoU
	A350-900	10	20-02-14	Firms previous MoU
LAM Mozambique Airlines	737-700	3	05-02-14	Previously unidentified
Libyan Airlines	A350-900	2	07-02-14	
Nok Airways	737-800	8	12-02-14	Purchase commitment
	737 MAX 8	7	12-02-14	Purchase commitment
Spring Airlines	A320	30	22-11-13	Purchase agreement
SunExpress	737-800	25	19-02-14	
	737 MAX 8	15 + 10 opts	19-02-14	
Transaero	747-8I	4	27-12-13	
Undisclosed	A319ceo & neo	15	02-12-13	
	A320ceo & neo	65	02-12-13	
	A321ceo & neo	20	02-12-13	
Undisclosed	A320ceo & neo	40	02-12-13	
Undisclosed	A330-200	4	19-12-13	
Undisclosed	A320neo	20	20-12-13	
Unidentified	737-700	8	21-12-13	
Unidentified	737-800	4	02-12-13	
Unidentified	737-800	75	21-12-13	
Unidentified	737-800	20	26-12-13	
Unidentified	737-800	25	30-12-13	
Unidentified	737 MAX	5	02-12-13	
Unidentified	737 MAX	8	03-12-13	
Unidentified	737 MAX	6	21-12-13	
Unidentified	737 MAX	20	26-12-13	
Unidentified	737 MAX	10	30-12-13	
Unidentified	747-8I	2	21-12-13	
Unidentified	777-300ER	1	21-12-13	
Unidentified	777F	4	22-01-14	
Undisclosed	CRJ900	12	11-02-14	Lol
Undisclosed	CS300	3	09-02-14	
VietJetAir	A320ceo	14	11-02-14	Firms previous MoU
	A321ceo	7	11-02-14	Firms previous MoU
	A320neo	42 + 30 pur rghts	11-02-14	Firms previous MoU

Key: Lol – Letter of Intent; MoU – Memorandum of Understanding.

IN BRIEF

LONDON SOUTHEND AIRPORT had a record year in 2013, recording 970,167 passengers compared with 721,661 who used the Essex facility the previous year. Operator, the Stobart Group, opened a £10m terminal extension on February 13 that includes an enlarged security screening area, four more check-in desks (raising the total to ten), three more boarding gates and departure lounge seating has increased to 300.

QATAR AIRWAYS is to introduce a daily all-Business Class service between London/Heathrow and Doha on May 15. The carrier will use an Airbus A319 with 40 seats in a 2-2 configuration and flights will run from Heathrow's Terminal 4. The flight will leave Doha in mid-afternoon and arrive at Heathrow at 20:25, before returning overnight.

LINKSAIR is to introduce flights from Robin Hood Airport Doncaster Sheffield to Belfast and the Isle of Man from April 11 and 14 respectively. The small carrier has a fleet of British Aerospace Jetstreams and will base a single example at the facility. LinksAir Commercial Manager Roger Hage said: "We are delighted to be making Robin Hood our fourth aircraft and crew base, supporting up to ten new jobs at the airport."

NINE STAR AIRWAYS, a new Thailand-based carrier, is to offer premium charter services using two former Vietnam Airlines Airbus A320-214s, VN-A309 (c/n 648) and VN-A311 (c/n 650) initially for domestic flights. It has ambitious plans to fly to the Middle East, China and India, and says it will acquire a Boeing 767-300 for use on Hajj flights to Saudi Arabia.

TURKISH AIRLINES is reported to be near to signing a lease deal for four Airbus A380s. According to Turkish press reports, the Istanbul-based carrier will use the aircraft on its busy seasonal routes to China. Meanwhile, the airline is also expected to acquire two A330s on dry-lease from Jet Airways of India.

KLM Begins Fokker 70 Phase out

KLM Cityhopper has begun to phase out its Fokker 70s. The veteran Dutch regional airliner is to be replaced by more Embraer 190s with seven F70s replaced initially by six leased E190s. The carrier already has 22 E190s, after introducing the type in November 2008.

By the middle of the year it is planned that 19 F70s and 28 E190s will be in use with KLM Cityhopper. The first F70 to be retired was PH-KZV (c/n 11556) on January 5 and it was ferried to Norwich Airport in the UK for storage. The type will be phased out completely in 2018.

The six new E190s will be in service by the end of April – PH-EZY (c/n 19000649) arrived at Amsterdam Schiphol Airport on November 29, 2013, followed by PH-EZZ (c/n 19000654) on December 20. The remaining four will be registered PH-EXA to PH-EXD).

Air Serbia's First ATR 72



The first Air Serbia ATR 72-202, YU-ALO (c/n 186) has appeared in the carrier's new colours and branding. The former Jat Airways aircraft has also undergone a cabin refit and now has 66 leather seats to join the airline's rebranded Airbus narrowbodies. The remaining aircraft in its fleet will all be repainted shortly. Igor Salinger/Aermedia.com



BIMAN'S DC-10

Charles Kennedy flew from Dhaka on the last passenger DC-10 and experienced some of the memorable flights flown from Birmingham to mark its retirement.

Biman Bangladesh Airlines recently organised three days of pleasure flights on the last passenger McDonnell Douglas DC-10 in the world from the UK's Birmingham Airport.

The carrier sent DC-10-30, S2-ACR named *New Era*, its last operational example, from Dhaka to fly nine one-hour flights in February. It was the famous aircraft's farewell tour before its return to Asia to be scrapped.

Birmingham was originally planned as a fuel stop for the DC-10-30, en route for retirement in The Museum of Flight in Seattle, Washington state after a ceremonial exchange for a new Boeing 777-300ER for Biman.

Against a backdrop of public interest in S2-ACR's retirement the airline extended its Birmingham visit for what the carrier called 'scenic flights'. However, after the tickets went on sale, lack of space at the Seattle museum meant the original plan had to be dropped. The aircraft could not fly there at a later date because paperwork allowing it to fly would have expired.

Biman had stipulated that any UK museums receiving the DC-10 must remove its engines on delivery, because they had 1,500 hours' flying time remaining, but no organisation could meet the requirement.

THE LONG GOODBYE

A total of eight DC-10s have served the Bangladesh airline since 1983. The last scheduled service took place on February 17 when S2-ACR operated flight BG1043 from Dhaka to Chittagong and Kuwait, and back the following morning.

Local press and TV crews gathered to witness the last DC-10 depart Dhaka for Birmingham, on Thursday February 20. There were 25 passengers and ten members of the media for the flight as well as a 777 crew catching a ride to the

Kuwait International Airport fuel stop en route to the UK.

The DC-10 touched down at Birmingham Airport at 17:52 the same day. A team of 20 staff was dispatched from Dhaka – eight flight attendants, two complete cockpit crew totalling four captains and two flight engineers, and five ground engineers, all under the supervision of Biman's Head of Flight Operations, Captain Ishrat Ahmed.

The first flight from Birmingham, BG002 was at 09:00 on Saturday, February 22 with later departures at 12:00 for BG004 and



The DC-10 slows down on the runway at Birmingham after one of the enthusiast flights.
Matthew Weight

Biman Bangladesh Airlines' McDonnell Douglas DC-10-30, S2-ACR New Era, banks away during one of the flights for enthusiasts from Birmingham. Evert Keijzer, Laurens van der Craats



FAREWELL FLIGHTS

15:00 for BG008. The same schedule was followed on the Sunday and Monday.

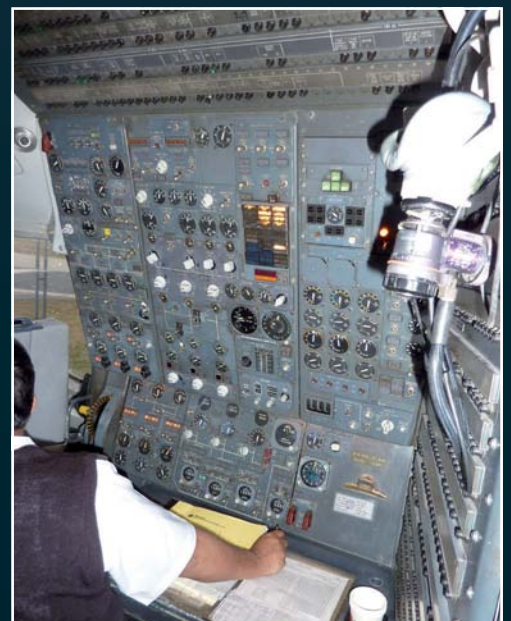
Biman's Managing Director and CEO Kevin Steele was on hand to welcome the first passengers at the check-in desks in the main terminal.

Upstairs in the enclosed viewing terrace the airline had set up a pop-up shop selling models, specially printed T-shirts and hats alongside a stack of now-redundant technical material relating to the DC-10, such as pads of load sheets, trim charts,

take-off speed data and safety cards.

Commercial Director for Biman, John Brayford, explained to passengers on a bus bound for the aircraft that ten minutes would be allowed on the ramp for photography and 30 minutes after landing. Some of the nine flights headed up to the borders of Scotland and back, while others went west over Wales and out into the Irish Sea with the aircraft flying at an altitude of between 19,000 and 24,000ft (5,791-7,315m). There was an added bonus of seeing a Beech 99 in the air

during the noon flight on Saturday as some photographers had chartered it to get some air-to-air photos of the DC-10, while the midday flight on the Monday saw a Citation Bravo acting as a cameraship. Tickets for the last-ever passenger flight on a DC-10 at 15:00 on Monday, February 24 were sold by Ian Allan Aviation Tours. The aircraft has a 2-5-2 seating configuration for 314 passengers and to ensure passengers had a good view only the window seat and the one next to it were offered for sale. Many of ►



This photo of the cockpit and flight engineer's station shows the DC-10 to be from an era before digital displays became commonplace. More modern airliners have dispensed with the need for a flight engineer. Key-Nigel Price

the middle seats on this flight were allocated to press, airport staff and last minute over-the-counter bookings for enthusiasts who just couldn't miss the opportunity to fly on a legend. Others were occupied by passengers including those repeating flights taken earlier in the weekend.

As we taxied out, it was revealed that radio and TV presenter Janice Long was not only onboard but had been a Laker Airways flight attendant on the DC-10 back in the 1970s. As a junior crew member she had



Above: **Radio and TV presenter Janice Long joined one of the flights. She used to be a flight attendant on DC-10s with Laker Airways.** Key-Nigel Price

Below: **Birmingham Airport's fire service provided a water cannon salute as S2-ACR taxied back after the final enthusiast flight on February 25.** Matthew Weight



On board the DC-10 during one of the flights from Birmingham. Only the window seat and one next to it were sold on the 'scenic flights' to ensure people could get a good view. Note the interesting floral pattern on the seats. Key-Barry Woods-Turner

never been allowed to make a passenger announcement and so made up for lost time with a 'welcome aboard' speech. On landing, the significance of the flight ensured there was a large number of press in attendance.

On Tuesday, February 25 the DC-10 lifted off from Birmingham at 18:52 to head back to the Bangladeshi capital where its engines will be removed before the airframe is dismantled.

Entering service with Biman on January 3, 1989, DC-10 S2-ACR was the penultimate DC-10/KC-10 built out of a production run of 446 aircraft. Upon landing for the last time in Dhaka, S2-ACR had flown 85,563 hours during 22,590 flights in its flying career. The airline's three 777-300ERs (with a fourth due to arrive in March) have taken over as its flagship aircraft.

The farewell flights from Birmingham on the

DC-10 were a hit with aviation enthusiasts who experienced them. Biman Bangladesh Airlines is to be applauded for organising such an event and at the same time giving the DC-10 a memorable send-off. **AN**



Above: **A certificate was given to all the passengers who experienced one of the flights during the DC-10's stay in Birmingham.**

Below: **A fine study of S2-ACR over the UK.** Evert Keijzer, Laurens van der Craats





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Deadly Jesters F-35B



Sporting full 461st Flight Test Squadron *Deadly Jesters* markings is Lockheed Martin F-35B Lightning II 168314 (BF-18) '18' at Edwards Air Force Base, California. The fighter jet had undertaken a go-around after a morning test flight over the Mojave desert on February 7. Having made its maiden flight at Fort Worth, Texas, on August 8, 2012, it was delivered to Patuxent River, Maryland, on November 8 of the same year and joined the 461st FLTS at Edwards AFB on April 26, 2013, for further testing. Ashley Wallace

Bulgarian AF MiG-21s Return to Service

A small number of the Bulgarian Air Force's MiG-21 fleet are now being returned to service, after being grounded for over a year. The first aircraft to re-fly, MiG-21UM '28 White', took to the air again for the first time on February 18, at Graf Ignatievo Air Base.

It is now planned to return around five MiG-21s to airworthiness. Bulgaria had taken delivery of a total of 229 MiG-21s of different variants, the first of which (MiG-21Fs) entered service in 1963. Latterly, only a few MiG-21bis (SAU) and twin-seat MiG-21UMs had remained in service with 1/3 Istrebitelna Avio Eskadrla (Fighter Aviation Squadron) at Graf Ignatievo. They were withdrawn at the end of December 2012 as they were nearing the end of their service lives and were becoming increasingly costly to maintain. The decision to bring the aircraft back into service was made as an interim measure, due to delays in the long-running programme to find replacement fighters. This has failed to make progress during the last decade, primarily due to lack of funding.

Su-30Ks to Angola

Irkut Corporation President Oleg Demchenko revealed on February 12 that a contract has been signed to sell 12 upgraded, second-hand Sukhoi Su-30K fighters to the Angolan Air Force. The dozen are part of 18 former Indian Air Force (IAF) Su-30Ks that were traded back to Rosoboronexport and are currently stored at Baranovichi in Belarus, after being dismantled

and shipped from India during 2011. Demchenko said that deliveries to Angola will start next year.

Of the remaining six ex-IAF aircraft, Demchenko said, "there is a country that will buy these aircraft," but declined to elaborate further. All six are already being modernised at Baranovichi in the expectation that a firm contract will be signed shortly, he added.

New Chad Government ATR 42-300



Recently delivered Chad Government ATR 42-300 TT-ABE (c/n 230, ex OY-PCN, F-GKNC) taxis for departure from Mönchengladbach, Germany, on February 14 to return to Chad after a few weeks with Rheinland Air Service (RAS) for maintenance. The aircraft was originally delivered to Chad last October after it had been acquired second-hand on the commercial market. Oliver Jonischkeit

Qatar Pilatus PC-21



Pilatus PC-21 QA-350/HB-HVA (c/n 210), the first of 24 for the Qatar Emiri Air Force (QEAF), undertook its maiden flight at Stans-Buochs, Switzerland, on February 24. The aircraft is pictured a few days earlier on February 20, undertaking its first engine runs at Stans. Stephan Widmer

First Italian Tranche 3 Typhoon

Eurofighter announced on March 4 that the first Tranche 3 standard Typhoon to be built in Italy had been completed at the Turin-Caselle Plant. The aircraft, which is the latest Alenia Aermacchi production Typhoon, serial number C.S.X7338 (IS064), is the 64th Italian single-seat example.

The aircraft has been produced for the Italian Air Force and is now ready for engine tests at Turin-Caselle before being delivered within the first half of this year. The Tranche 3 standard embodies a number of changes that effectively enhance the aircraft's performance and which allow for future upgrades.

Under the Tranche 3A contract signed in 2009, a total of 112 aircraft have been ordered for the four European partner nations of Germany, Italy, Spain and the UK, with 21 aircraft bound for the Italian Air Force. The Italian example is the second Tranche 3 aircraft to be completed. The first was Royal Air Force Typhoon FGR4 ZK355 (BS116, c/n 417), which made its maiden flight at BAE Systems' factory airfield in Warton, Lancashire, on December 2, 2013.

New Tail Scheme for Red Arrows



To mark the 50th display season of the RAF's Red Arrows, the aerobatic team's Hawks have had a new colour scheme design applied to the tail fin. The markings are seen on Hawk T1 XX244 at the team's base at RAF Scampton, Lincolnshire, after being formally unveiled on February 18. MOD Crown Copyright 2014

MILITARY AIRCRAFT ORDERS

Air Arm	Company	Number and Type	Contract Date	Delivery Date and Notes
Algerian Air Force	Helicopters of Russia	42 x Mi-28N	February 28	Unknown
Algerian Air Force	Helicopters of Russia	6 x Mi-26T2	February 28	Unknown
Bolivian Police	MD Helicopters	2 x MD530F	February 25	By mid-2014
Iraqi Air Force	PAC Kamra	20 x AMF Super Mushshak	February 10	Unknown
Italian Navy	Schiebel	1 x Camcopter S-100	February 11	Unknown
Japanese Yamagata Firefighting Agency	AgustaWestland	1 x AW139	February 24	Mid-2015
Japanese Tottori Firefighting Agency	AgustaWestland	1 x AW139	February 24	Mid-2015
Korean Chungham Firefighting Dept	AgustaWestland	1 x AW139	February 11	Late 2015
Philippine Navy	AgustaWestland	2 x AW109E Power	February 11	Not announced
Polish Air Force	Alenia Aermacchi	8 x M-346 Master, plus four options	February 27	2016-2017
Turkish Gendarmerie	Sikorsky	30 x T-70 Black Hawk	February 21	Unknown
Turkish Land Forces Command	Sikorsky	20 x T-70 Black Hawk	February 21	Unknown
Turkish General Police Directorate	Sikorsky	20 x T-70 Black Hawk	February 21	Unknown
Turkish Department of Forestry	Sikorsky	20 x T-70 Black Hawk	February 21	Unknown
Turkish Special Forces Command	Sikorsky	11 x T-70 Black Hawk	February 21	Unknown
Turkish Air Force Command	Sikorsky	6 x T-70 Black Hawk	February 21	Unknown
Turkish Electronic Systems Command	Sikorsky	2 x T-70 Black Hawk	February 21	Unknown
US Air Force	General Atomics	38 x MQ-9 Reaper Extended Range	February 5	By July 7, 2016
US Army	EADS North America	4 x UH-72A Lakota	February 18	By March 31, 2015
US Army	Boeing	72 x AH-64E (remanufactured)	March 4	By June 30, 2016
US Army	Boeing	10 x AH-64E (new-build)	March 4	By June 30, 2016
US Navy	Boeing	16 x P-8A Poseidon	February 25	Unknown
New York Police Dept	Bell Helicopter	4 x Bell 429	January 31	By 2015
Venezuelan Military (Air Force and Navy)	Enstrom Helicopters	16 x Enstrom 480B	February 24	Within 18 months
Venezuelan Military	Diamond Aircraft	36 x DA40 and DA42 Twin Star	February 5	

USAF KC-46A Named Pegasus

The new US Air Force Boeing KC-46A tanker has been officially named Pegasus, after the winged horse of Greek mythology. The choice of name was announced by US Air Force Chief of Staff General Mark Welsh III on February 20.

Four engineering and manufacturing development (EMD) KC-46A aircraft are in various stages of production for the programme, with the first nearing completion, and the aircraft is expected to make its maiden flight in June. It will then be converted to full tanker configuration and is set to re-fly early next year.

First production delivery to the USAF is planned for early 2016, with the contract specifying that 18 combat-ready aircraft are to be in service by the following year. The USAF will buy 179 KC-46As, with deliveries continuing through to 2027.

Two other names adopted recently for US Air Force aircraft have been a little less publicised, both involving types newly introduced into service with Air Force Special Operations Command. They are the PZL M28-05 Skytruck, now designated the C-145A Combat Coyote, and the Dornier 328, which is designated the C-146A Wolfhound.

New Belgian Air Component A321



Destined for use by the Belgian Defence - Air Component is former Onur Air Airbus A321 EI-FDP (c/n 1004), pictured shortly after arrival at Dublin Airport on February 24. The aircraft had been painted in its new colours at East Midlands Airport in the UK and will be operated and leased by Portugal-based company HiFly wearing the registration CS-TRJ. Michael Kelly

Luxembourg's 1,000th Anti-Piracy Mission



Luxembourg SA227TT Merlin IIIC Maritime Patrol and Reconnaissance Aircraft (MPRA) N75X, which is leased from CAE Aviation, at Seychelles International Airport after a mission. It completed its 1,000th operational sortie as part of European Union Naval Force (EU NAVFOR) on February 16. EU NAVFOR

More RAF Reapers

It has been confirmed by the UK Ministry Defence that an additional five General Atomics MQ-9A Reaper unmanned air vehicles (UAVs) have been delivered to the Royal Air Force. Although they are currently still in the USA, it is anticipated they will shortly be deployed to Afghanistan, joining five other RAF examples already operating there.

Plans to acquire five more Reapers were publicly announced on March 8, 2010.

The order was placed later that year and confirmed by UK Prime Minister David Cameron on December 7, 2010, when he said that a £135m contract had been awarded.

They had been due for delivery to Afghanistan by the end of 2013, but gaining clearance for unspecified modifications had resulted in a delay of several months. Since entering service, the existing RAF Reapers have now flown in excess of 54,000 hours.

USMC C-9B Retired to AMARG



McDonnell Douglas C-9B 160047 on the arrivals ramp at the 309th Aerospace Maintenance and Regeneration Center at Davis-Monthan Air Force Base, Arizona. One of two of the type operated by the US Marine Corps, it was retired to the air base on February 3. The aircraft was operated previously by Marine Transport Squadron 1 (VMR-1) Roadrunners, which has taken delivery of an ex-US Navy C-9B as a replacement. 309th AMARG

IN BRIEF

United States use of *TRANSIT CENTER MANAS*, Kyrgyzstan, has now ended, with the final KC-135R Stratotanker aerial refuelling sortie over Afghanistan undertaken from the base on February 24. Airlift operations to transport personnel in and out of Afghanistan ended on March 3, when the final C-17A Globemaster III left for Mihail Kogalniceanu, Romania, which takes over the role previously undertaken by Manas. The Mihail Kogalniceanu Air Base Passenger Transit Center reached full operational capability on February 28.

A ceremony was held at Konya Air Base, Turkey, on February 21, to induct the first *BOEING 737-7ES PEACE EAGLE* airborne early warning and control aircraft into Turkish Air Force service. The aircraft is the first of four that will be operated by 131 Filo at Konya. Two more will be delivered before the end of this year, with the fourth and final example expected in 2015.

A milestone in the US Air Force C-5M *SUPER GALAXY* programme was reached on February 21, when Air Mobility Command officials announced the new variant had achieved Initial Operational Capability (IOC). It was achieved after a successful qualification test, operational test and evaluation, and delivery of the 16th C-5M, with trained aircrew and maintenance personnel now in place at Dover Air Force Base, Delaware.

Australia Chooses P-8A Poseidon

Australia is to proceed with acquiring eight Boeing P-8A Poseidon maritime surveillance aircraft. Purchase approval was announced on February 21. The acquisition had been long expected as Australia has already put considerable funding into the P-8A development programme, in anticipation of later purchasing the type.

The first aircraft will be delivered in 2017, with all eight expected to be fully operational by 2021. The government has also approved an option for a further four aircraft, subject to the outcome of the forthcoming Defence White Paper review. Together with high-altitude unmanned aerial vehicles (planned to comprise seven MQ-4C Tritons), the Poseidons will replace the RAAF AP-3C Orions. They will be based at RAAF Base Edinburgh in South Australia.

AIRSHOW NEWS

As part of celebrations marking their 50th anniversary, the Patrouille Suisse aerobatic display team is to fly a mixed formation flypast with an example of its former mount, the *Hunter Mk 58*. The flypast during the Patrouille Suisse's display routine at RIAT will be the first time the team has flown in formation with a Swiss Hunter at a UK airshow.

Models Roundup

Aviation News incorporating Classic Aircraft reviews the latest models on the market.

Boeing 767-300ER Trans World Airlines EI-CAL, 1:400, Item No GJTWA470. Price £35.00. Gemini Jets

One of ten 767-300ERs operated by TWA, EI-CAL was acquired as part of the carrier's fleet renewal that began in the early 1990s; the 767 modelled was delivered in 1991. Wearing the airline's mid-1990s' red and white livery, with TWA on its fin, this is a fine reminder of a classic airline brand.

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McDonnell Douglas MD-11F FedEx Express N608FE, 1:400, Item No GJFDX1149. Price £36.00. Gemini Jets

Built in 1992, N608FE is one of 64 MD-11Fs in the FedEx fleet. The airline's current colours, predominately white, with purple and orange titles on the fuselage, and purple tail, are depicted.

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Boeing 737-500 Lufthansa D-ABIR, 1:400, Item No GJDLH1327. Price £27.00. Gemini Jets

After 25 years of service, Lufthansa intends to phase its 13-strong 737-500 fleet out of service during 2015. This small model is a gem, with excellently detailed markings of Lufthansa's current scheme.

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Boeing 747-400F Emirates Sky Cargo OO-THC, 1:400, Item No GJUAE1210. Price £43.00. Gemini Jets

Delivered to the freight arm of Emirates Airline, Emirates Sky Cargo in 2007, OO-THC is one of only two 747-400Fs left in the carrier's fleet, with 777Fs now supplying the majority of its freight capacity. This 114-tonne freighter is modelled in the current livery and has moving main wheel bogies and tyres.

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Boeing 747-100F Flying Tiger Line N800FT, 1:400, Item No GJFTL1207. Price £43.00. Gemini Jets

Boeing 747-100F N800FT was one of eight of the type with Flying Tiger when FedEx purchased the company in 1988. The two companies amalgamated the following year, ending the history of an iconic airline that emerged in 1945 using a fleet of ex-US Navy Budd RB-1 Conestoga freighters. This 747 model demonstrates a polished aluminium finish with red and blue fuselage bands, and tiger mouth and eyes on the nose. The carrier was established by former members of the World War Two Flying Tigers fighter unit, which decorated its Curtiss P-40s with shark mouths.

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Airbus A380 British Airways G-XLEA, 1:200, Item No G2BAW422. £132.00. Gemini Jets

This much anticipated 1:200-scale model was in high demand even before its release. It reproduces British Airways' first A380, delivered in 2013, of 12 on order to replace some of its 747 fleet. This behemoth aircraft makes for a monster model in this scale, complete with a stand and the option to display the undercarriage up or down, via interchangeable magnetic parts.

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FAA Veteran's New Home

Built as Douglas TC-47B-35DK 44-77027 and later serving the US Navy as R4D-7 99856, DC-3C N34 was one of 14 R4D-7s loaned to the Civil Aeronautics Administration (CAA) in 1958. The CAA became the Federal Aviation Agency (FAA) in 1959 and N34 was formally transferred to the FAA in August 1966. Operated as a flight inspection aircraft until 1981, it was then assigned to Oklahoma City

Historic DC-3 N34 at Atlantic City earlier in its career. Tom Kaminski

as a flight inspection training aircraft.

The last of 61 CAA/FAA DC-3s, it was declared surplus on January 1, 1983 and stored. In 1985, N34 was restored in CAA markings and flown as a 'goodwill ambassador', educational resource and

visible reminder of the FAA's role in aviation, until 1993. Placed on the National Register of Historic Places on May 29, 1997, it was again stored in Oklahoma City until 2003, when it returned to the air in celebration of the Centennial of Flight. N34 has now passed to the Texas Air & Space Museum at Rick Husband Amarillo International Airport, Texas, flying in on February 13. **Tom Kaminski**

Arnhem D18S on Display



Beechcraft D18S PH-UBX has gone on display at the Oorlogsmuseum in Schaarsbergen, near Arnhem in the Netherlands. Recently restored in an RAF scheme, it had been with the Dutch Rijksluchtvaart School, before the museum acquired it in December 2012. Roger Soupart

Birmingham Spitfire Gallery

The Thinktank Birmingham Science Museum has been awarded two grants, totalling £155,000, for a gallery devoted exclusively to the Supermarine Spitfire. Director of Birmingham Museums Trust, Dr Ellen McAdam says £95,000 is coming from the Heritage Lottery Fund and £60,000 from the DCMS Wolfson Museums and Galleries Improvement Fund.

Objects from the museum's collection will be used alongside loaned exhibits to

tell stories about the people who built and flew the Spitfire, nearby Castle Bromwich having manufactured many of the aircraft.

The gallery will house the collection's Spitfire Mk IX and make comparisons between the Spitfire and the Hawker Hurricane, with a Mk IV version of the latter already on display.

The museum is appealing for objects and stories that may be suitable for inclusion in the new gallery. **Peter Brown**

Coventry Opening for Classic Air Force

When Classic Air Force (CAF) opened its new facility in Newquay, Cornwall, it was forced to leave some aircraft behind at its former Coventry base, generally because they were not airworthy and too large and/or expensive to move by road. Coventry remains CAF's primary maintenance facility and is open again to the public from April 5 and then on subsequent weekends.

According to CAF spokesman Jem Shaw, the café and gift shop have been reopened but, more importantly for enthusiasts, the refurbished maintenance hangars will also be open for inspection, allowing close-up views of aircraft including the English Electric Canberra B.2, Scottish Aviation Twin Pioneer and Percival Pembroke. The Hawker Siddeley Nimrod and Avro Shackleton are also on display, with regular engine runs planned for the latter and less frequent start-ups for the former. Where possible, the plan is to run the Shackleton at twilight, making the most of its flaming exhaust emissions, while taxi runs may operate in the near future.

Admission to the Coventry site is by donation and Jem notes that CAF's Newquay attraction is also reopening for the new season, on April 4. **Paul E Eden**

Bristol Concorde Hangar



Focus Consultants and Purcell Architects have released artist's impressions depicting a proposed hangar for Concorde as part of the multi-million pound Bristol Aerospace Centre heritage museum and learning facility. Award-winning architectural company Purcell Architects is leading the project. It has already been appointed to refurbish the existing

World War One aircraft hangars and develop a Conservation Management Plan for Filton Airfield, the new museum's base to the north of Bristol. The Bristol Aerospace Centre will create a permanent home for Concorde Alpha Foxtrot 216. Nial Phillips, Head of Design at Purcell, says: "Our hangar concept not only contains Concorde, it also frames it with full-

Artist's impression of the new Concorde hangar, designed by Purcell and released by project managers Focus Consultants. Purcell Architects

height glazed curtain walls, enticing visitors inside without giving everything away. Though Concorde is a considerable size, our concept has a minimum footprint so that it does not impose on the surrounding airfield and its contemporary design will complement the existing hangars."

The project is being run by the Bristol Aero Collection Trust and will bring together the Bristol Aero Collection with a number of other important collections of artefacts and archives. The resources will tell the stories of the aerospace industry in the city since 1910, when Bristol entrepreneur Sir George White established the British and Colonial (later, Bristol) Aeroplane Company.

A number of major companies are supporting the project, including Bridgehouse Capital, Airbus and Rolls-Royce. Focus Consultants, based in Nottingham, will be project manager, cost consultant and funding and business planning advisor.

Last year the project received a first round pass for a £4.4m bid from the Heritage Lottery Fund (HLF). The project is now in its outline design stage and will cost an estimated total of £13.5m to construct. **Robin Whitlock**

Vega Flies Again

Lockheed Vega NC12288 recently flew again at Marana, Arizona, after a three-and-a-half-year restoration with Arizona Airframe Services. Dating from 1933, the aircraft is one of only four Vega survivors and is painted as a military Y1C-12 with the USAAC's 35th Pursuit Squadron.

Bolingbroke Recovered

A recovery team has moved ex-Royal Canadian Air Force Bristol Bolingbroke IVT 9887 to Canadian Forces Base Winnipeg. The 1942-vintage aircraft had been stored outdoors on a Manitoba farm for many years and although largely intact, will require extensive restoration.

Prowler Arrives at Museum



The Flying Leatherneck Aviation Museum (FLAM) at Marine Corps Air Station Miramar, California, now has Grumman EA-6B Prowler 161882 on strength for static display. The former VAQ-131 aircraft was delivered on February 4, having also seen service with Marine Corps units VMAQ-1, -2, -3, and -4; the museum plans to return it to VMAQ-3 markings. www.flyingleathernecks.org

Hayes Huey



An Agusta-Bell AB204, representing the earliest incarnation of the licence-built Italian Huey, has gone on display outside the London Car Museum in Hayes, Middlesex. Marked MM80270 to port and MM80279 to starboard, it carries the construction plate of MSN 3037, confirming its true identity as MM80279. It recently arrived at the West London location having been preserved previously at Cormano, Italy. **Peter R Foster**

New Orleans Warhawk

A newly restored Curtiss P-40E Warhawk, marked as 41-5017, joined The National WWII Museum in New Orleans, Louisiana on February 3 this year. Restored by Flyboys Aeroworks, the fighter wears the colours of an aircraft flown by Robert L Scott, commander of the 23rd Fighter Group, 1st American Volunteer Group 'Flying Tigers' and will hang in the museum's China, Burma and India Gallery when it opens next year. The aircraft was discovered in Alaska when ice receded from a trench in which its wreckage had been stored after a taxiing accident in the Aleutian Islands during 1943. www.nationalww2museum.org

Cosford Kestrel Complete



Royal Air Force Museum Cosford now has Hawker-Siddeley Kestrel FGA.1 XS695 on display after completing its restoration. One of nine Kestrels built, the aircraft is finished in the tripartite colours worn during its evaluation in the 1960s.

Forerunner to the Harrier, the Kestrel flew with the Tripartite Evaluation Squadron (TES), also known as the Kestrel Squadron. By November 1965, XS695 had flown 141 TES sorties, before featuring in the Hanover and

Kestrel XS695 outdoors during its transfer from Cosford's Michael Beetham Conservation Centre to its new display position. RAFM Cosford

Farnborough Air Shows during 1966. In 1972 it was allocated to the Royal Navy Engineering College at Manadon, Devon.

The aircraft was roaded to Cosford in November 2001 and remained in storage until autumn 2012 when it was moved into the Michael Beetham Conservation Centre for restoration work.

Avro Heritage Centre

Plans for an Avro Heritage Centre on its former site at Woodford, near Manchester are being backed by BAE Systems. The aerospace company will provide financial backing and support to the Avro Trust and is committed to funding a new museum on the site. Refurbishment of the airfield's 1929-built 'green sheds' as a museum has been ruled out on cost grounds, but the facility's fire station has been selected for rebuild as the Trust works towards attaining small museum status and becoming self supporting.

Avro Vulcan B.2 XM603 will be displayed outside the centre and undergo refurbishment and conservation work. The museum is scheduled for completion in October and some items are meanwhile being prepared for storage in a temperature-controlled building nearby. Especially valuable are 89,000 negatives that remain after a fire at Chadderton in 1959 destroyed a further 75,000. **Ian Frimston**

New DH Heritage Hangar

On January 13, Hertsmere Borough Council granted the de Havilland Aircraft Heritage Centre approval to build a £1m hangar at its Salisbury Hall, London Colney, Hertfordshire base. To more accurately reflect its aim of restoring and displaying de Havilland aircraft, the centre is also changing its name to The de Havilland Aircraft Museum.

Indoor display space will be increased by almost 300% with the new hangar, which will include a mezzanine floor, an educational area

and workshops. A new reception area and shop were completed last year and operations director Ralph Steiner says: "The museum is anxious to upgrade its facilities and enhance what it offers to its many visitors, and we need to raise a further £1 million to complete the building." The museum is also seeking more volunteers to help run its facilities and work with its aircraft. Further details are available at www.dehavillandmuseum.co.uk. With thanks to **Peter Jeffery**

Racing Messenger Returns

Miles M.38 Messenger 2A G-AKBO has been restored by Hornet Aviation and completed its first flight in more than ten years from Sherburn-in-Elmet, North Yorkshire, late last year. The aircraft was victorious in the 1954 King's Cup Air Race and featured in the 1964 film *633 Squadron*. It will be finished in its King's Cup colours.

New Codes for Just Jane

Lincolnshire Aviation Heritage Centre's Avro Lancaster BVII NX611 *Just Jane* now carries DX-F and LE-H codes in tribute to Fred and Harold Panton, the brothers who have been instrumental in the aircraft's activities and restoration.

Marked as YF-C and representing the Station Flight at RAF Scampton when it first arrived at the centre, NX611 was repainted with codes representing 57 (DX-) and 630 (LE-) Squadrons, which were stationed at *Just Jane*'s former RAF East Kirkby base from August 1943 to 1945. The aircraft's original individual code letter 'C' was retained, but has now been replaced by 'H' for Harold to port, with 'F', for his late brother Fred, opposite.

The new codes will have their first public airing on March 29, at a commemoration event marking the 70th anniversary of the Nuremberg Raid, on which Pilot Officer Christopher Panton, Fred and Harold's elder brother, was killed flying a Handley Page Halifax with 433 Squadron. www.lincsaviation.co.uk

Chilean 'Cat' to Fly Again



Chilean Catalina CC-DCT was rolled out after maintenance on December 17. Álvaro Romero

The only airworthy Consolidated PBY Catalina in Latin America is ready to fly again after maintenance and a respray. Built in Canada as an OA-10A, it flew for three decades as a fire-bomber, registered CC-DCT. Now operated from its Santiago-Loc Cerrillos Airport by locally-based Parragué Ltda, the aircraft emerged on December 17, 2013 painted

as a Chilean Air Force OA-10A that flew to Easter Island over January 19/20, 1951.

The original *Manu-tara*, initially serialised FACH 405 and later FACH 560, returned to the island in 1959 before being destroyed in a crash during 1961. CC-DCT will feature in a film based on the 1951 flight and due for release this year.

Álvaro Romero

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1(FIGHTER) SQUADRON

Editor

Dino Carrara

visited RAF Leuchars to hear how the RAF's most recent front-line squadron to be equipped with the Typhoon has achieved a lot in a short space of time.



On September 15, 2012 the RAF's 1(Fighter) Squadron reformed flying the Eurofighter Typhoon at RAF Leuchars in Fife during the base's airshow. The squadron's last mount was the Harrier GR9 with which it flew its final sortie from its previous home base of RAF Cottesmore Rutland, on December 15, 2010 as part of the farewell to the type in the RAF. Disbandment of the unit formally took place on January 28 the following year. On being stood up, it became the RAF's fourth front-line Typhoon squadron and second at the Scottish base after 6 Sqn.

In the short space of time 1(F) Sqn has been on the Typhoon it has had a very busy schedule in the UK and overseas. Initially, it operated

from the facilities and ramp of the co-located unit. Then on January 7, 2013 it moved to the hardened aircraft shelter (HAS) complex on the south-east corner of the airfield, previously used by the Tornado F3s of 111(F) Sqn. Rather than operate aircraft from HASs and so have engineering personnel spread out, aircraft are towed to an apron within the complex that used to be a parking area for fuel bowzers. Used for 'continuous charge operations' (CCO) it has space for five aircraft.

The squadron's first operational commitment was to provide pilots and aircraft for Quick Reaction Alert (QRA) – a duty shared at the base with 6 Sqn. QRA was undertaken by both pilots and engineers on 1(F) Sqn from July 2012 and before the formal stand-up parade in September 2012.

DRON'S NEW ERA



Above: **The Officer Commanding 1(F) Squadron, Wg Cdr Mark Flewin.** RAF/MOD Crown Copyright 2012 - SAC Helen Rimmer

Left: **RAF Leuchars' two Typhoon units, 1(F) and 6 Squadrons, share the QRA commitment at the base. Sometimes they also come together for deployments, such as the joint detachment to Exercise Red Flag. These two Typhoons, one from each squadron, are shown over the HAS site used by 1(F) Sqn at Leuchars.** Geoffrey Lee/Planefocus

However, it wasn't long before the squadron was expanding its horizons and taking part in an Advanced Tactical Leadership Course (ATLC) in November 2012 at Al Dhafra Air Base in the United Arab Emirates, whilst integrated with 6 Sqn who were the lead unit on the deployment. This involved working with F-16s from the United Arab Emirates Air Force & Air Defence and USAF, with the latter air arm also participating with F-22 Raptors and F-15E Strike Eagles. France attended with Rafales and Mirage 2000Ds, and Germany was represented with Typhoons. Missions were flown that involved 60 aircraft and simulated high threat scenarios.

Officer Commanding 1(F) Sqn, Wg Cdr Mark Flewin told *Aviation News*: "I think ATLC is on a different level to the Tactical Leadership

Programme [TLP, run by ten NATO air forces and held at Albacete Air Base in Spain] because of the number of assets that are available in theatre and the diversity of air assets involved. Having a lot of aircraft in one place means you can achieve some extremely good and coherent joint planning. Also, the airspace has been built around the construct of ATLC so is very close to Al Dhafra, is supersonic, and has very few limitations. Finally, the fidelity [of the systems used] for the brief and debriefing process are very good and it's an excellent course in terms of the progression and development of our tactical leaders." Two waves were flown each day, the first for ATLC and a second to allow for other multinational training. ▶

The same aircraft were to be handed over to 3(F) Sqn from RAF Coningsby, Lincolnshire, for the joint Omani-UK Exercise Magic Carpet. However, there was a gap between the two events so the RAF decided to keep the aircraft in the Middle East and organise an exercise called Shaheen Star run from Al Minhad Air Base, also in the UAE. Held in December 2012, this was the first exercise in which 1(F) Sqn had participated on its own. Wg Cdr Flewin said: "We put together a flying programme working with many of the units we had built relationships with at ATLC, and also utilising some of the structure that the ATLC airspace offers."

BOUND FOR ASIA

The squadron wasn't back in the UK for long before it was off to Asia for Exercise Bersama Shield in Malaysia. Four aircraft were trailed 7,000 miles (11,265km) to Butterworth Air Base over four days, via stops at RAF Akrotiri on Cyprus, Bahrain International Airport and Bandaranaike International Airport, which serves the Sri Lankan capital, Colombo. Air-to-air refuelling was provided by an Italian Air Force Boeing KC-767A of 14° Stormo. In March, prior to the trail, one of the tankers visited Leuchars for four days so aircrew could familiarise themselves with each other's aircraft.

Asked why an Italian tanker was used, Wg Cdr Flewin commented: "We've got a very good agreement across Europe in terms of the way we utilize assets, and at the time it made the most sense to utilize the Italians, given the standing commitments of the UK tanker fleet. They hadn't done much trail work with their KC-767s, and we are very well versed in trailing aircraft around the world. So it was very beneficial to share best practices and for them to share with us their knowledge and the capabilities of their new tanker. It was a great opportunity for both units."

Before the start of the exercise in Malaysia 1(F) Sqn pilots undertook some close air support (CAS) work with 16 Air Assault Brigade and RAF Regiment forward air controllers deployed into the jungle. They also conducted some dissimilar air combat training with Royal Malaysian Air Force (RMAF) F/A-18D-50 Hornets and MiG-29 *Fulcrums*.

Wg Cdr Flewin said: "The Typhoon Force hasn't really fought MiG-29s before, so it was fantastic for the squadron's pilots to go up against them both in close air combat and more broadly in the air-to-air arena." Asked how the Typhoon performed against this fighter, he commented: "It went very well for us."

A greater match for the Typhoon would have been the RMAF's Su-30MKM *Flankers* although, despite a request being made, it was not possible to arrange to train with the newer fighter and it also didn't take part in Bersama Shield. This exercise took place from April 8-18 in the South China Sea, Singapore and the Malaysian Peninsula. It is a

On September 15, 2012 a formal parade and flypast took place during the RAF Leuchars Air Show to re-form 1(F) Sqn.
RAF/MOD Crown Copyright 2012 – Sgt Su McGinlay



A Typhoon from 1(F) Sqn shadows a Russian Air Force Tupolev Tu-95 Bear during a QRA mission. RAF/MOD Crown Copyright

Five Power Defence Arrangements (FPDA – made up of Australia, Malaysia, New Zealand, Singapore and the UK) exercise held annually and designed to enhance regional security and foster cooperation among the member countries. The US also took part this year. Wg Cdr Flewin described it as a huge exercise involving a wide range of both air and naval assets, which was very interesting to take part in. More specifically he said: "Some of the COMAOs [composite air operations] which were put together were large force packages that were very beneficial for our training needs. Butterworth is a considerable distance from the exercise operating area, so we would transit about 300 miles [483km] to deliver the task [both air-to-ground and air-to-air roles], including dissimilar air combat training (DACT) with the MiG-29s, and then recover – notably without air-to-air refuelling, as there weren't any AAR assets taking part in the exercise. All the nations were really impressed with the range and endurance of the Typhoon and its ability to undertake a complex and diverse range of mission sets."

The next major event for the squadron was the Combined Qualified Weapons Instructor (CQWI) Course Op Phase at RAF Lossiemouth, Moray, which was held over July 15-26. This is where experienced aircrew return to the operational conversion units (OCUs) of the respective types they fly, to complete a demanding syllabus; a syllabus aimed at graduating them as a Qualified Weapons Instructor (the weapons and tactics expert on a squadron). Their final hurdle is the CQWI Course Op Phase where large formations fly complex scenarios planned by the QWI students, who also fly on these sorties. Every day of the course flying from Lossiemouth, the squadron successfully met its tasked requirement to generate an eight-ship.

ANGLO-FRENCH EXPEDITIONARY AIR WING

The signing of the Defence Co-operation Treaty in 2010 by Prime Minister David Cameron and the then French President Nicolas Sarkozy, opened a new era in military cooperation between the two





Above: The Petronas Twin Towers in Kuala Lumpur provide the backdrop to this 3(F) Sqn marked Typhoon being flown by a 1(F) Sqn pilot. The squadron was in Malaysia to participate in the multi-national Bersama Shield exercise in April last year. Geoffrey Lee/Planefocus

Below: The HAS site in the south-east corner of RAF Leuchars, formerly used by the Tornado F3s of 111(F) Sqn, is 1(F) Sqn's current home. This is the first time in its history that the squadron has operated from a HAS site. RAF/MOD Crown Copyright - SAC Matthew Baker



countries. This led to 1(F) Sqn deploying to RAF Leeming in North Yorkshire for two weeks in October last year to work with the Mirage 2000Ns of the French Air Force's L'Escadron De Chasse 2/4 La Fayette. Called Exercise Capable Eagle, this collaboration took place within the larger Exercise Joint Warrior held from October 7-17. Flying as a British-French Expeditionary Air Wing meant that the unit lived and worked out of tents, with missions flown every day of the exercise, including the middle Saturday and Sunday. The scenario the crews faced involved helping an overseas power cope with rising political and military instability.

Wg Cdr Flewin said: "The important thing was how we integrated with the joint headquarters and expeditionary air wing. The way the French approach their business is very similar to the RAF and I like to think we worked seamlessly with the Mirage 2000s from day one. We flew a wide range of complex missions together, escorting them into target areas and providing defence from enemy air assets, then doing a similar role to them in and around the target sets – from close air support to working with maritime assets."

Also as part of the Defence Co-operation Treaty the squadron currently has a French Air Force pilot on an exchange posting who previously flew the Rafale. "Commandant Marc-Antoine Gérard has integrated seamlessly into the squadron and it's good to have him



A 1(F) Sqn pilot prepares for a sortie from RAF Leuchars. Key-Dino Carrara

here, bringing his lessons from the Rafale and the French defence system," said Wg Cdr Flewin.

In the last few months, 1(F) and 6 Sqn have been working up to participate in the most challenging exercise of all – Red Flag. To help prepare the pilots, both units participated in Exercise Tartan Flag. This ran from December 2-13 and involved packages of around 30 aircraft, mostly from the RAF but also featuring USAF F-15C and Es from the 48th Fighter Wing at Lakenheath in Suffolk. Air-to-air refuelling was provided by RAF tankers and a USAF KC-10A Extender from the 305th Air Mobility Wing at Joint Base McGuire-Dix-Lakehurst, New Jersey, which deployed to Leuchars.

The USAF unit had visited the base a number of times, providing an aircraft for the static park at the airshow and building up a good relationship with the resident Typhoon squadrons. Tartan Flag also gave the squadron a chance to work with its affiliated Royal Navy ship, the Type 45 Daring class air defence destroyer HMS *Duncan*. Wg Cdr Flewin said on this: "We see air maritime integration as a very important element of our training, both now and in the future. We're working very hard with HMS *Duncan*, which has some extremely capable systems and is predominantly an air control asset. Very much like an AWACS, it gives us the recognised air picture and we work with its controllers to achieve the task. We were defending them and they were fully integrated into Exercise Tartan Flag. Our integration with the ship worked very well and we also did a number of liaison visits to the ship ►

so we can understand the intricacies of each other's business."

Wg Cdr Flewin added: "The timing of Tartan Flag as a work-up exercise was perfect, as it meant that from the most junior to the most senior pilots, everyone would be at the top of their game. We also used it to ensure that both OC 6 Sqn and I had the confidence that the combined squadron could deploy to Red Flag and deliver. We certainly got that confidence, which is important as Exercise Red Flag involves flying in a complex environment with up to 100 other aircraft."

Wg Cdr Flewin also explained the rationale for the combined wing detachment: "There are two reasons: (a) it's a huge exercise requiring an increased level of supervision, and (b) it benefits capability growth across the wing. Often on large exercises we would do it as a wing, so that we have a detached joint squadron delivering the exercise whilst a squadron, a joint one, remains at home to continue day-to-day training and deliver quick reaction alert at RAF Leuchars."

The joint deployment of eight Typhoons with 6 Sqn left Leuchars on January 8, with Red Flag 14-1 taking place between January 27 and February 14. Wg Cdr Flewin commented while at Nellis AFB: "Exercise Red Flag has been a phenomenal success thus far and has been an invaluable experience for all those involved. The aircraft has performed extremely well, integrating seamlessly with the other coalition assets, and I am very proud of the way in which every member of the squadron has conducted themselves."

The other major undertaking for the squadron this year is moving to its new home of RAF Lossiemouth. It was announced as part of the Strategic Security and Defence Review in October 2010 that the Leuchars-based Typhoon squadrons would relocate. With regards to the timetable for the move, Wg Cdr Flewin commented: "Work is ongoing but we'll start the transition in the summer and will have left Fife by the end of the autumn. QRA will also move in that period." The



An impressive line-up of Typhoons at RAF Lossiemouth in July last year during the Combined Qualified Weapons Instructor (CQWI) Op Phase. No 1(F) Sqn achieved its tasking of flying an eight-ship every day during the two-week Op Phase. As well as 1(F) Sqn aircraft in this shot there are examples in the markings of 3(F), 29(R) and 41(R) Squadrons. RAF/MOD Crown Copyright 2013 - Sgt Stu Fenwick

squadron will use No.3 hangar at Lossiemouth, which is beside the apron currently used by the Visiting Aircraft Servicing Section (VASS). Indeed, this apron will be taken over by 1(F) Sqn and will be from where it will operate its Typhoons.

However, there is a referendum on Scottish independence on September 18 this year and should the result be a 'yes' this would throw the future plans for the squadron into doubt.

FIGHTING UNIT

The squadron can trace its history back to 1878 when it was formed at Woolwich as No 1 Balloon Company of the Royal Engineers. Along with II(Army Co-operation) and 3(F) squadrons it was one of the founding squadrons when the Royal Flying Corps (the pre-cursor of the RAF) was established on May 13, 1912. Today, the squadron has 18 pilots, including the OC and three executives – the second in command Executive Officer and two flight commanders.

In total the unit has 170 personnel. It usually operates with 11 FGR4s and one T3 two-seater (the standard complement for the Typhoon front-line force), which it has had since standing up. However, this can vary if there is upgrade work taking place and/or aircraft undergoing maintenance. The squadron has predominantly Tranche 2 aircraft, though some are Tranche 1.

Wg Cdr Flewin said: "The jets are going through a continual upgrade. We're constantly evolving the Typhoon to get as much out of it as absolutely possible to ensure it delivers all the capabilities the Royal Air Force want from a multirole combat aircraft. The Tranche 1 and 2 aircraft will actually be very similar to Tranche 3 by the time we get them."

The Tranche 2 aircraft have been using a new software standard, which Wg Cdr Flewin described as a "stepping stone" to future capability. The next software standard will give full multi-role capability including integration of the 500lb (226kg) Raytheon Paveway IV bomb, which has INS/GPS and laser guidance as well as a programmable fuze capable of providing a variety of impact effects.

Currently, the arsenal of the RAF Typhoon force is the Raytheon



Above: One of the squadron's Typhoons lifts off from the runway at RAF Leuchars. Key-Dino Carrara

Below: Although 1(F) Sqn operates from a Cold War HAS site – a former fuel bowser parking area was converted to provide a ramp for up to five Typhoons to operate from so that groundcrew were not dispersed across the complex. Key-Dino Carrara





In October last year 1(F) Sqn deployed to RAF Leeming to work with a French Air Force Mirage 2000N unit in an Anglo-French Expeditionary Air Wing exercise. RAF/MOD Crown Copyright 2013 - Sgt Ralph Merry ABIPP

Advanced Medium Range Air-to-Air Missile (AMRAAM), MBDA Advanced Short Range Air-to-Air Missile (ASRAAM) plus the 1,000lb (454kg) Raytheon Enhanced Paveway II laser-guided bomb with Global Positioning System Aided Inertial Navigation System (GAINS). The aircraft also has the Mauser 27mm cannon. For the future the RAF is planning to add the MBDA Brimstone and Storm Shadow air-to-ground missiles to the Typhoon.

Right: The squadron recently attended Exercise Red Flag at Nellis AFB as part of a combined deployment with 6 Sqn. Geoffrey Lee/PlaneFocus

Below: A 1(F) Sqn Typhoon in formation with a 15(R) Sqn Tornado GR4 with RAF Lossiemouth in the background. Later this year 1(F) Sqn will move from RAF Leuchars take up residence at the Moray base. Geoffrey Lee/PlaneFocus



Asked what impresses him most about the Typhoon, Wg Cdr Flewin said: "Its raw performance. The fantastic thing about the Typhoon is we've got the airframe right this time, and if you've got that right, it means that you can improve and evolve the capability constantly. So we've got extremely solid and robust foundations to build on for many years to come."

He added: "I think the aircraft's matured very well into a very competent multirole platform. I'm very excited about it because it's always going to present new opportunities year in, year out."

Summing up his time so far as boss of the squadron, Wg Cdr Flewin said: "It's a real privilege to get command of a frontline fast-jet squadron, and it was an extremely proud moment for me to stand-up the squadron with the most capable multirole aircraft the RAF has. It's also been great bringing on the capability growth that we've seen with the aircraft, and watching the squadron grow. We've achieved a phenomenal amount, delivering as we have at home and overseas, including sustaining our standing commitment of QRA. I'm very proud of what the officers, men and women, of the squadron have achieved." **AN**



SPARKLING PERFORMER

LOCKHEED'S ELECTRA

Sales of America's first turboprop airliner, the Lockheed Electra, failed to reach the breakeven point, but the type became much sought after in the second-hand market.

Gerry Sweet outlines the history of this propliner.

The genesis of the Lockheed L-188 Electra dates back to 1953, when Capital Airlines began looking at the possibility of replacing its fleet of piston-powered airliners with a larger number of turboprop transports. The British, Vickers Viscount seemed promising and was showing good results in Europe, but Capital approached Lockheed first to determine whether it could supply an American-produced alternative. Lockheed considered the concept, but when it circulated its ideas to other airlines, only Capital showed interest. The consensus was that a Viscount 'look-alike' would be too small in capacity and range for the market's future requirements. Lockheed, therefore, declined to take it further, as development for just one customer made no sense, and Capital bought the Viscount 700 instead.

American Airlines was also considering options for a new medium-range airliner.



The first Electra, L-188A N1881 (c/n 1001) is rolled out at Lockheed's Burbank plant in California in November 1957. Lockheed

Left: Atlantic Airlines L-188B(F) G-LOFB (c/n 1131) demonstrates the design's clean lines during a banked turn. The aircraft was delivered to Northwest Orient Airlines on March 9, 1961 and was eventually retired by Atlantic on February 8, 2000. Key-Tony Dixon

Right: For 17 years Varig Electras were a daily sight on the Ponte Aérea (air bridge) shuttle flights between Rio de Janeiro's Santos Dumont Airport and São Paulo. Pictured is L-188C PP-VLA (c/n 1139) in 1984. Paul Howard

Bottom: Delivered to Australian flag carrier Qantas on October 30, 1959, L-188C VH-ECB (c/n 2004) lands after a pre-delivery test flight. The aircraft went on to be used by several airlines and ended up with TAME Ecuador as HC-AZJ. It was damaged beyond repair during a wheels-up landing at Taura Air Force Base on September 4, 1989. Key Collection



The carrier was planning for the jet age, but the pure turbojet was only efficient on long-haul routes. It would be some years before small, efficient turboprops would be developed for shorter range flights and so the turboprop seemed the obvious solution. In 1955, American issued its own tentative specification to the aircraft manufacturers. The company realised that if it was to interest a manufacturer in building a new airliner, it had to have wider appeal. Thus, it called for a much larger aircraft than the Viscount, with a range of 2,000 miles (3,226km) and capacity for at least 75 passengers. Good economy on shorter routes was also a prerequisite. All the major manufacturers, including Lockheed, offered design proposals.

Lockheed's design, under project number CL-310, described a low-wing monoplane with a circular cross-section fuselage, powered by four turboprops – either Rolls-Royce Darts or Napier Elands. After American examined the other offers, it decided that it preferred Lockheed's approach. However at this juncture, Eastern Air Lines entered the picture. It had come to the same conclusion as other operators – that there was a need to replace the piston-engine airliner, but not with a pure jet. Although interested in Lockheed's CL-310 design, Eastern preferred an even larger aircraft, with a range of up to 2,500 miles (4,032km)

that was able to carry more passengers. American was in agreement, providing its short-range requirement was met. Thus with two major customers ready to buy aircraft, Lockheed decided to go ahead with a development programme.

DEVELOPMENT

Lockheed's design, given the development number L-188, was a scaled-up version of the CL-310, with a fuselage length of 104ft 6½in (30.2m) and able to accommodate 85-90 passengers. Instead of Eland or Dart turboprops, the designers chose the Allison 3,750hp (2,793kW) T.56, then just starting to enter production for Lockheed's C-130 Hercules military transport. Known as the 501 D-14 in civil circles, this powerplant promised a sparkling performance. The L-188 wing had a span of 99ft (30.2m) which appeared rather short when compared with the aircraft of the period. But this was a feature designed purposely to ensure that a full 55ft (16.8m) of propeller wash would have the optimum effect across the aerofoil and the large Fowler flaps. The four 13ft 6in (4.1m) Hamilton Standard, broad chord propeller blades were optimised for fast cruising speeds and also allowed a short take-off run; additionally they acted as superb brakes during landing by reversing pitch. The circular section fuselage made pressurising

easy due to the consistent volume throughout the main cabin.

Lockheed was relieved, when in June 1955, American Airlines placed its first order for 35 L-188s. The manufacturer began an intensive marketing programme to promote the new aircraft, having forecast potential sales of several hundred units. This was expected to follow gradual replacement of the piston-powered Douglas DC-6s, DC-7s and Lockheed Constellations. Eastern Air Lines placed an order for 40 aircraft in September and definite interest was also shown by other operators. Delivery price for the first 75 aircraft was set at \$2,075,000 each and Lockheed estimated the break point to be 190 units.

Production of the first L-188, now named the Electra, began in October 1955 at the company's Burbank, California, plant. At the same time a massive pre-testing programme began to ensure that all aspects of the design had been checked. Still more testing went into the engines, even though extensive experience was accumulating on the USAF Hercules. Allison borrowed a Convair CY-131 from the USAF, fitted it with a set of 501-D13 turboprops and flew it for 84 days on a typical airline schedule with 12 hours per day utilisation; the engines performed perfectly and an average range of nearly 2,800 miles (4,516km) was flown. ▶



As the first prototype was taking shape, further orders started to come in. National Airlines was the first to actually sign a contract; it ordered 12 aircraft in December 1955. American Airlines followed suit a few days later, followed by Eastern in February 1956. The first overseas order came from KLM Royal Dutch Airlines which took 12 Electras to fly on its Middle and Far East routes. The order book continued to fill up with commitments from Western Air Lines (9); Braniff Airways (9), and a further 23 options from National Airlines. The following year was slower, but saw contracts from Garuda, Indonesia (3); Cathay Pacific Airways (2) and Pacific Southwest Airlines (3).

During this period Lockheed was looking for other sales outlets for the L-188 and several development ideas were mooted. Most of these stayed on the drawing board, but one, the L-188C, became quite popular. This variant offered more fuel capacity for a longer range of up to 3,500 miles (5,645km) by having enlarged inboard fuel tanks. It was powered by 4,050hp (3,017kW) Allison 501-D15 turboprops. When this first flew in July 1959, the original L-188 was given a retrospective A suffix.

FIRST FLIGHT

The prototype L-188, N1881, first flew on December 6, 1957 from Burbank; with Chief Test pilot 'Flash' Salmon at the controls. The type's excellent performance was demonstrated immediately when it left the runway sooner than expected and flew over the heads of the press photographers, waiting to record the moment of 'un-stick'. After an uneventful flight, the aircraft landed at Lockheed's Palmdale facility, where further testing would take place. The second prototype, N1882, flew on February 13 the next year and the fourth on April 10 – the third prototype remaining grounded, to be used for static tests.

With aircraft now available for demonstrations further contracts were concluded in 1957, including Qantas (4); Trans Australia (3); Tasman Empire (3); Northwest Orient (10) and Ansett of Australia (2). Demonstrations were impressive; such was the reserve power of the Allison turboprops. Typical displays would see the aircraft



National Airlines was the first to sign a contract for the Electra when it ordered 12 aircraft in December 1955. It took delivery of this example, L-188A N5005K (c/n 1079), on August 17, 1959, which wore many different liveries with various carriers before ending its years as a freighter with Lynden Air Cargo. It was bought by Renown Aviation in February 1999, but was put straight into storage at Anchorage, Alaska. AirTeamImages.com/Bob O'Brien Collection



The penultimate Electra, L-188C PK-GLB (c/n 2021) poses for an air-to-air publicity shot. It was delivered to Garuda Indonesia Airways on January 4, 1961, but had a relatively short life of six years as it crashed on landing at Manado, Indonesia on February 16, 1967. Lockheed



Above: Eastern Air Lines introduced the Electra to service in January 1959, although this aircraft, L-188A N5528 (c/n 1045) was not delivered until April 27 that year. AirTeamImages.com Collection

Below: The last UK carrier to use the Electra was Atlantic Airlines which operated the type up until 2013. This night shot shows L-188A(F) G-LOFC (c/n 1100) at Katowice, Poland, on September 4, 2012, while flying a daily link to the DHL hub in Leipzig, Germany. It was the airline's final example and departed to Canada on April 27 last year to join Buffalo Airways as C-GXFC. AirTeamImages.com/Jan Ostrowski





The analogue cockpit of the Electra is a far cry from those found in today's airliners. Of note in this view are the two sets of throttles for pilot and co-pilot. AirTeamImages.com/Daniel Alaerts

holding cruising altitude on just one engine, or aborting a landing at the instant of touch-down, followed by immediate take-off.

Certification for the L-188A was received in August 1958 and with this in hand, the fourth prototype was sent on a round-the-world tour, registered N7144C for the event. Only two letters of intent were received after this, but Lockheed had demonstrated that its new airliner could circumnavigate the globe without a single mechanical fault.

The first production delivery was to

Eastern Air Lines on October 8, 1958, followed by six more before the end of the year. American received its first Electra on December 10. Both carriers had hoped to have the aircraft in service for the Christmas holiday period, but a pilots strike thwarted the plans and they had to wait until January 1959. The Electra entered service first with Eastern on the 12th, with American Airlines following suit on the 22nd. National Airlines, the next largest operator, received its first example in April.

On February 3, 1959, American's second aircraft, N6101A, inbound to New York, flew into the East River on its approach to La Guardia Airport. Only eight of the 73 passengers on board survived. The crash was attributed to pilot error.

The new aircraft quickly became popular with the airlines and travelling public. The reduction in sector times, thanks to its 350mph (565km/h) cruise speed, was particularly welcome. The cabin was roomy and comfortable, and noise levels were



Colourful SAHSA L-188A HR-SAW (c/n 1018) takes on passengers at Teniente Coronel Hernán Acosta Mejía Airport (also known as Toncontín) in Tegucigalpa City, Honduras in April 1976. AirTeamImages.com/Bob O'Brien Collection



Air Bridge Carriers L-188A(F) G-FIJV (c/n 1129) at East Midlands Airport on August 22, 1991. Delivered to Western Air Lines in May 1961, it was converted to a freighter in 1969 and arrived at Air Bridge in 1991. It ended its days with Atlantic Airlines at Coventry Airport before being parted out due to corrosion. AirTeamImages.com/Carl Ford

lower than the piston-engine airliners it replaced. However, service experience did show up an annoying resonance effect, set up between the propeller tips of the inboard engines and the fuselage. This was eliminated by a modification, which changed the angle of incidence of the engine mountings.

During 1959, orders continued to come in, albeit at a slower rate. An option for 18 examples was received from Northwest Orient; Ansett Australia placed a firm order for just one and Western Air Lines took a further three. Rising costs caused Lockheed to raise the breakeven point to 215 units, but with this rate of sales, reaching the target might prove difficult. One ray of hope was a potential navy contract for an L-188 variant, to be used as a submarine detection aircraft – the P-3 Orion.

Disaster struck again on September 19, 1959, when Braniff Airlines N9705C bound for New York, crashed just outside Buffalo, Texas. Its wreckage was scattered for two miles along its flight line, indicating a

structural break-up in mid air. All 34 persons aboard were killed. Several months of investigation by the Civil Aeronautics Board (CAB) could find no cause for the crash. Then on March 17, 1960, Northwest Orient's N121US – the first L-188C to be delivered – crashed near Louisville, Indiana, killing all 65 on board. A wing was found two miles from the impact point and with the similarity to the Buffalo crash, it was suspected the two incidents were linked to some structural defect.

There were calls to ground the whole fleet by government and industry officials and investigations were launched by Congress, the Federal Aviation Administration (FAA), CAB and Lockheed; in the meantime, all Electra flights were restricted to 260mph (419km/h) to reduce aerodynamic stresses. The manufacturer introduced the Lockheed Electra Action Program (LEAP) to get to the bottom of the issues and produce a fix. After some further wind tunnel tests, the cause of the problem became clear. When one of the outboard engines was disturbed in its plane

of rotation by turbulence, a 'whirl mode' effect was observed. This allowed the engine to jump in its mounts and vibrate, setting up resonance, which caused the whole wing to flex violently – and in less than a minute the wing snapped off at its root. Lockheed immediately set up a modification schedule to strengthen the wing and engine mounts. This was applied retrospectively to all aircraft. It took 20 days to complete the refit on each aircraft.

The situation had caused a loss of public confidence in the Electra. Passenger loadings fell. Eastern claimed it was losing \$350,000 per day because of the speed restriction.

Two more accidents occurred in September and October 1960, although these were not attributed to mechanical failure of any kind.

RESTORING CONFIDENCE

The next problem was how to restore confidence to potential passengers. With the cooperation of the major airlines, a strategy was developed to promote the Electra as a reliable aircraft. Teams of pilots and engineers were sent out to talk on TV chat shows, at civic meetings and any other venues where they could get a hearing. They explained what had gone wrong and showed how the manufacturer was putting it right. The aircraft was given other designations in advertisements, such as 'Prop-Jet', Electra II and just L-188 to counter sensitive publicity. Gradually, the furore died down and by the time another accident occurred in September 1961, caused by a maintenance problem, only passing reference was made to the earlier issues. The speed restriction was lifted for the retrofitted aircraft, and by early 1962 all Electra wings and mounts had been strengthened. The aircraft settled down to become a regular performer, with the same passenger and operator satisfaction that it had received at its inception.

In the meantime, an interesting twist to the Capital Airlines' story emerged. In spite of its large fleet of Viscounts, the company's route network was losing money. After obtaining a long-haul link from Miami to Chicago, Capital ordered five L-188Cs for delivery in early 1960. However, by the time the aircraft were ready, the company was about to be taken over by United Airlines and could not afford them. Single examples were sold to PSA and Braniff and the other three to charter company Sports Aloft, which later filed for bankruptcy. The three aircraft were then acquired by a finance firm.

By 1960 Electra sales were restricted to 12 major carriers, and only one order was taken that year, from PSA. Total sales at this time had reached 170 units, 54 of which were L-188Cs. No other orders were in prospect, as by this time pure jet airliners were becoming more economical. Boeing and Douglas announced they were working on short-haul jets and the airlines preferred to wait, rather than be saddled with a fleet of

THE P-3 ORION

The US Navy issued specification 146 in 1957 calling for a new long-range patrol/early warning aircraft to replace its ageing Lockheed P-2 Neptunes. The performance of the Electra seemed ideally suited for this role, and Lockheed quickly worked up a design based on the L-188, which was approved by the navy. A development contract was awarded in April 1958 and a prototype constructed using the third L-188 development aircraft. Designated P3V-1, this aircraft, which was 7ft (2.13m) shorter than the Electra forward of the wings, first flew in November 1959. A weapons bay was also added in the belly of the forward fuselage. The same Allison 501-D15 turboprop engines were used as on the L-188C, but on later P-3 variants the larger, 4,910hp (3,658kW) T-56-A14 was introduced. A production contract for 55 Orion P-3As was signed in October 1960. With additional orders for variants P-3B, 'E' and 'F', plus requirements for at least 17 overseas air arms, the total production amounted to 734; Japan manufactured the type under licence.

The US Navy is now replacing the P-3 with the Boeing P-8 Poseidon.



A US Navy P-3C Orion assigned to patrol squadron VP-30 shows off its weapon bay, which can carry a range of anti-submarine munitions, including torpedoes. US Navy/Photographer's Mate 2nd Class Damon J Moritz

turboprops that would be difficult to dispose of later.

The need for modifications had pushed Lockheed's breakeven number up to 300 units. With the final delivery to Garuda Indonesia scheduled for early 1961, the company decided to end production in late 1960. Losses on the Electra project were estimated at \$25m, although it was hoped that this would be partly offset by a contract with the navy, signed in October 1960, for the P-3 Orion, maritime patrol aircraft.

A SECOND CAREER

Brazilian carrier Varig acquired second-hand Electras with the first of 15 arriving in 1962. It flew the Electra for 30 years and for many of these the type was used on the shuttle between Rio de Janeiro's Santos Dumont Airport, where jets were not permitted to land at the time, and São Paulo.

Most of the major carriers that bought the Electra new disposed of their fleets within ten years of taking delivery, replacing them with Boeing 727s and Douglas DC-9s. The surge in secondary sales began in 1968, and 30 smaller airlines around the world, eagerly acquired the type. The electra was particularly useful for travel companies, which found it economical and able to fly longer distances where required. Some aircraft were modified to serve with six South and Central American air forces.

The largest stimulus for second-hand sales, however, came from the cargo sector after Lockheed Aircraft Services Company (LAS) developed a freighter conversion programme. The Electra turned out to be ideal for this purpose because of its roomy, circular fuselage. The floor was strengthened and fitted with a pallet restraining system, and a large cargo door was installed forward of the wing. Structural stiffening increased the empty weight by 4,000lb (1,814kg). Available in either, passenger/freight (L-188PF) with up to 93 seats, or all freight (L-188AF), the first contract was for the



A multitude of small cargo airlines, especially in South America, made extensive use of the Electra freighter. Among them was TAN Carga – one of its aircraft, L-188C(F) HR-TNL (c/n 1134), taxis for departure at Miami International Airport on July 8, 1980. AirTeamImages.com/Carl Ford

SPECIFICATIONS

	L-188A	L-188C
Powerplant	4 x 3,750hp (2,794kW) Allison 501-D13	4 x 4,050hp (3,017kW) Allison 501-D15
Length	104ft 6.5in (31.87m)	104ft 6.5in (31.87m)
Wing span	99ft (30.18m)	99ft (30.18m)
Height	33ft (10.06m)	33ft (10.06m)
Wing area	1,300 sq ft (120.9m ²)	1,300 sq ft (120.9m ²)
Empty weight	57,400lb (26,031kg)	57,800lb (26,213kg)
Max TOW	113,000lb (51,247kg)	116,000lb (52,607kg)
Cruise speed @ 22,000 ft (6,707m)	405mph (653km/h)	405mph (653km/h)
Max speed @ 12,000ft (3,658m)	448mph (722km/h)	448mph (722km/h)
Rate of climb with max payload	1,970ft/min (601m/min)	1,900 ft/min (579m/min)
Fuel capacity	4,541 Imp gal (20,634 lit)	5,408 Imp gal (24,574 lit)
Range, max payload	2,270 miles (3,661km)	3,500 miles (5,645km)
Service ceiling	28,400ft (8,658m)	28,400ft (8,658m)
Max passengers	96	92
Flight deck crew	2 pilots & 1 navigator	2 pilots & 1 navigator

conversion of six ex-Northwest Orient aircraft. This was followed by Western Air Lines which had eight converted for its own use. Forty conversions were undertaken by LAS by 1976, including three for the Argentine Navy. Other aerospace companies produced a further 16 conversions.

By March this year only a few freighters and firefighting examples remain in service. Suitably modified, the Electra can carry 3,000

Imp gal (13,632 lit) of fire-retardant. The aircraft still in service are with Buffalo Airways (6); Air Spray (2) and Conair Group (2).

The only Electras preserved and on display are in Brazil and Argentina. Three ex-naval conversions are at the Museo de la Aviación Naval, Bahía Blanca, Argentina and L-188A, PP-VJM, ex American Airlines and Varig, is displayed at the Museu Aeroespacial, Rio de Janeiro, Brazil. **AN**

Among the remaining airworthy Electras is L-188A(F) C-GLBA (c/n 1145) which arrived with Buffalo Airways in 2007 having previously served with Amerer Air as OE-ILA. The large forward cargo door is well illustrated in this view. Wikimedia Commons/CambridgeBayWeather



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AIR EVENTS 2014 PREVIEW



Paul Fiddian provides a look ahead to the 2014 airshow season.

Aviation commemorations are numerous in 2014, ranging in scope from the 100th anniversary of the beginning of World War One to the 40th anniversary of the first flight of the General Dynamics F-16 Fighting Falcon.

Among the most hotly anticipated events are the Swiss Air Force's two Air 14 Payerne shows, each presenting a different international line-up alongside a core of types old and new to mark a century of Swiss air power. The Swiss Air Force's aerobatic teams also reach significant anniversaries: 50 years of the Patrouille Suisse and 25 years of the PC-7 Team. Both will display at Payerne and, joined by the Super Puma and the reinstated McDonnell Douglas F/A-18C Hornet solo display, will take the anniversary celebrations to other European nations.

It is also a special year for the Royal Air Force Aerobatic Team, The Red Arrows, whose 50-year run will be celebrated at RAF Waddington's International Air Show and the Royal International Air Tattoo, the latter featuring a bonus 'Red Arrows Pit Day' event on July 11. Modern military aircraft from Europe and beyond will converge on RAF Fairford for the Tattoo, and themes will include the 40th birthdays of the F-16 and Hawker Siddeley/BAe/BAE Systems Hawk.

RAF Leuchars held its final airshow in 2013, so this year Waddington and Cosford are the only remaining RAF display venues. Royal Navy showcase events will again be held at RNAS Culdrose and RNAS Yeovilton, with 'Carrier Aviation' the latter's theme.

Seventy years after the Normandy landings of 1944, several events focus on D-Day. They include IWM Duxford's D-Day Anniversary Air Show, the Falaise-Monts-d'Eraines Meeting Aérien and Dakotas Over Normandy at Cherbourg-Maupertus.

The RAF's Battle of Britain Memorial Flight always delights the crowds at airshows. A Spitfire and Hurricane perform a flypast alongside the Lancaster at last year's RAF Waddington International Airshow.

Key-Gary Parsons

Dakotas Over Normandy promises to be especially memorable, potentially attracting Douglas DC-3 and C-47 variants in large numbers.

Duxford's display calendar also has Flying Legends and The Duxford Air Show, although the traditional Autumn Air Show will not take place this year. Old Warden's typically busy schedule includes a one-off WWI Commemoration Airshow. The biennial Sywell Airshow also adopts a Great War theme, while among the year's other fly-ins, the event at Stow Maries, in a genuine World War One setting, stands out.

As ever in the UK, civilian-organised events abound, including the very highly attended seaside shows at Dawlish and Eastbourne, and the open days at Bruntingthorpe and Elvington, the latter two offering enthusiasts the chance to see thunderous classic jet taxi runs. Finally, for the UK, the latest advances in military and civil aviation will be showcased at the Farnborough International Airshow.

Alongside commemoration, reintroduction is a key aspect of events in 2014 events. After 2013's sequestration-hit US airshow season, it is heartening to see so many military events reactivated and to welcome back the USAF Thunderbirds and F-22 Raptor Demo Team, the US Navy Blue Angels and other US military assets.

Richly populated, the US fly-in scene is as strong as ever and, as usual, is dominated by EAA AirVenture at Oshkosh and Sun

'n Fun. Longstanding favourites, including the Commemorative Air Force Airshow and National Championship Air Races and Air Show at Reno, remain on the calendar. Besides Reno, Texas and Las Vegas motor speedways also host competitive speed events, thanks to the return of the Red Bull Air Races. The high-octane racing action series will be seen in seven countries in all.

WORLDWIDE EVENTS

Payerne aside, other significant European events include Ronneby's F17 anniversary event, Karup's Danish Air Show and the Royal Netherlands Air Force's always impressive Luchtmachtdagen, this time at Gilze-Rijen. Among Europe's most important trade and public airshows, ILA once again promises to attract a spectacular variety of civilian, military and warbird exhibits to the Berlin ExpoCenter Airport.

Schleswig-Jagel is 2014's Tiger Meet venue and, with the Sanicole Airshow taking a break, it falls to Kleine Brogel to host Belgium's biggest show of the year.

Outside the EU, New Zealand's Warbirds over Wanaka is one of the highlights in the Southern Hemisphere, while Chile's FIDAE and South Africa's Africa Aerospace and Defence are among the major global trade events. Airshow China is set to offer a unique military/civilian blend.

Keep an eye on our monthly airshow listing for updates, newly announced events and cancellations. Before travelling to any event we advise you check it is still taking place on the date specified and to see if advanced ticket purchases are required. Please note that not all events listed have aircraft flying displays, please check the details of the event you are interested in for more information.

AVIATION EVENTS CALENDAR

UNITED KINGDOM

MARCH

- 22 Old Buckenham, Norfolk:** Light Aircraft Association and Homebuilt Fly In (www.oldbuck.com/en/home/ / 01953 860806)
- 23 Fenland, Lincs:** Full English and Spot Landing Fly-in (www.fenlandairfield.co.uk/ / 01406 540330)
- 23 Turweston, Northants:** Vintage Aircraft Club Spring Rally (www.vintageaircraftclub.org.uk/vac10-calendar.html)
- 29 Bruntingthorpe Aerodrome, Lutterworth, Leics:** 20 More Years of the Mighty Buccaneer (www.thebuccaneeraviationgroup.com)
- 29 East Kirkby, Lincs:** Nuremberg Raid Commemoration (www.lincsaviation.co.uk/ / 01790 763207)
- 29 Shoreham, West Sussex:** Shoreham Aerojumble (www.aerojumble.tumblr.com/ / 01424 753356)

APRIL

- 05-06 Clench Common, Wilts:** Show & Tell South Microlight Competition (www.microlightcomps.org/index.php/events)
- 05-06 Dunstable, Beds:** British Gliding Association Dan Smith Memorial Trophy (www.gliding.co.uk/ / 0116 2892956)
- 05-06 Sherburn-in-Elmet, Yorks:** Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
- 05-06 St Michaels, Lancs:** Show & Tell North Microlight Competition (www.microlightcomps.org/index.php/events)
- 06 Old Sarum, Wilts:** Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/ / 01722 322525)
- 06 Yorkshire Air Museum, Elvington, North Yorks:** Thunder Day (www.yorkshireairmuseum.org/ / 01904 608595)
- 12 Fenland, Lincs:** Vintage Aircraft Club Daffodil Rally (www.vintageaircraftclub.org.uk/vac10-calendar.html / 01406 540330)
- 12 Sandtoft, Lincs:** British Aerobatic Association Ice and Newbold Trophies (www.aerobatics.org.uk/events-info.htm)
- 13 Brighton, Yorks:** 'Early Bird' Fly-in (www.realaero.com/events.htm / 01757 289065)
- 13 Popham, Hants:** Jodel Club Fly-in (www.popham-airfield.co.uk/Events.htm/Events.htm / 01256 397733)
- 19 Henstridge, Somerset:** Light Aircraft Association Wessex Strut Fly In (www.wessexstrut.org.uk)
- 19 Sywell, Northants:** Sywell Aviation Museum Grand Re-opening (www.sywellaerodrome.co.uk/events.php / 07968 061708)
- 20-21 Wolverhampton Halfpenny Green Airport, Staffs:** Wings, Wheels and Rotors (www.wingswheelsandrotors.oneuk.com/ / 01902 455669)
- 26 Lakeside Lodge, Pnole, Cambs:** British Balloon Museum and Library Vintage Balloon Inflation Day (www.bbml.org.uk)
- 26-27 Brighton, Yorks:** British Aerobatic Association John McLean Trophy (www.aerobatics.org.uk/events-info.htm)
- 26-27 Leicester Airport, Leics:** Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
- 26-27 The Helicopter Museum, Weston-super-Mare, Somerset:** 'Behind the Scenes' Spotters Weekend (www.helicoptertermuseum.co.uk/events.htm / 01934 635227)
- 27 K2 Centre, West Sussex:** 25th Gatwick International Aircraft Enthusiasts Fair (www.gatwickaviationsociety.org.uk)
- 27 London Southend Airport, Essex:** Visit The Vulcan Day (www.avro Vulcan.com)
- 27 Old Buckenham, Norfolk:** Wings and Wheels (www.oldbuck.com/en/home/ / 01953 860806)
- 27 Beccles, Suffolk:** British Precision Pilots Association Precision Flying Competition (www.precisionflying.co.uk)
- 03 Cotswold Airport, Kemble, Wilts:** Bronco Fan Day UK (www.broncodemoteam.com/index.php?page=events)
- 03-04 Bodmin Airfield, Cornwall:** Bonjour Bodmin (www.cornwallflyingclub.com/ / 01208 821419)
- 03-04 Popham, Hants:** Microlight Trade Fair (www.popham-airfield.co.uk/Events.htm / 01256 397733)
- 04 Abingdon, Oxon:** Abingdon Air and Country Show (www.abingdonairandcountry.co.uk/ / 07769 689823)
- 04 Old Sarum, Wilts:** Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site/ / 01722 322525)
- 04 Brighton, Yorks:** 'May-hem' Fly-in (www.realaero.com/events.htm / 01757 289065)
- 05 Popham, Hants:** Aero/Autojumble, Classic Vehicle Rally and Fly-in (www.popham-airfield.co.uk/Events.htm / 01256 397733)
- 08 The Helicopter Museum, Weston-super-Mare, Somerset:** The Helicopter Club of Great Britain Fly In (www.helicoptertermuseum.co.uk/events/ / 01934 635227)
- 10-11 North Coates, Lincs:** Spring Flying Meeting (www.northcoatesflyingclub.co.uk/ / 01472 388850)
- 10-11 Stow Maries, Essex:** Great War Centenary Vintage Fly-in (www.fosma.co.uk/events.html / 01245 808744)
- 10-11 Yorkshire Air Museum, Elvington, North Yorks:** Battlegroup North (www.yorkshireairmuseum.org/ / 01904 608595)
- 11 Old Warden, Beds:** Shuttleworth Collection Season Premiere Airshow (www.shuttleworth.org/ / 01767 627927)
- 11 Popham, Hants:** Vintage Piper Fly-in (www.popham-airfield.co.uk/Events.htm / 01256 397733)
- 11 The Helicopter Museum, Weston-super-Mare, Somerset:** Open Cockpit Day (www.helicoptertermuseum.co.uk/cockpitdays/ / 01934 635227)
- 17 Fenland, Lincs:** Events Day (www.fenlandairfield.co.uk/ / 01406 540330)
- 17 Popham, Hants:** Aeronca Fly-in and Air Cooled Classics Rally (www.popham-airfield.co.uk/Events.htm / 01256 397733)
- 17-18 Newark Air Museum, Winthorpe, Notts:** V-Force Tribute Event (www.newarkairmuseum.org/ / 01636 707170)
- 17-18 Sleaford, Shropshire:** British Aerobatic Association Golding-Barrett Trophy (www.aerobatics.org.uk/events-info.htm)
- 17-18 Venue TBC:** Microlight Competition (www.microlightcomps.org)
- 18 Compton Abbas, Dorset:** Italian Day (www.comptonabbasairfield.co.uk/ / 01747 811767)
- 18 Kempton Park Racecourse, Surrey:** Heathrow Aircraft Enthusiasts Fair (www.aircraftenthusiastfair.co.uk/ / 01423 862256)
- 18 The Helicopter Museum, Weston-super-Mare, Somerset:** Open Cockpit Day (www.helicoptertermuseum.co.uk/cockpitdays/ / 01934 635227)
- 24 East Kirkby, Lincs:** Lincolnshire Lancaster Association Day (www.lincsaviation.co.uk/ / 01790 763207)
- 24 Llandudno seafront, Conwy:** Llandudno Air Show (www.llandudno-air-show.org.uk)
- 24 Old Warden, Beds:** Shuttleworth Collection Classic Evening Airshow (www.shuttleworth.org/ / 01767 627927)
- 24-25 Goodwood, West Sussex:** Light Aircraft Association Fly-in (www.goodwood.co.uk/aviation/aviation.aspx)
- 24-25 IWM Duxford, Cambs:** D-Day Anniversary Air Show (www.iwm.org.uk/exhibitions/iwm-duxford/air-shows/ / 01223 835000)
- 24-25 Wolverhampton Halfpenny Green Airport, Staffs:** '40s Weekend (www.wolverhamptonairport.co.uk/ / 01384 221350)
- 24-01 Lasham, Hants:** British Gliding Association Regionals and Standard/Open Class Nationals (www.gliding.co.uk)
- 25 Bruntingthorpe, Leics:** Cold War Jets Open Day (www.bruntingthorpeaviation.com/open-days/ / 0116 279 9300)

- 25 Old Buckenham, Norfolk:** The Vintage Festival (www.oldbuck.com/en/home/ / 01953 860806)
- 25 Popham, Hants:** Light Aircraft Association Andover Strut Fly-in (www.popham-airfield.co.uk/Events.htm / 01256 397733)
- 26 East Kirkby, Lincs:** American Air Day (www.lincsaviation.co.uk/ / 01790 763207)
- 29-01 Saltby, Leics:** British Gliding Association Glider Aerobatic Nationals (www.gliding.co.uk)
- 30-01 Sywell, Northants:** AeroExpo UK (www.aerexpo.co.uk/ / 0208 2554000)
- 31 Little Gransden, Beds:** British Aerobatic Association 'OPEN' Beginners Event (www.aerobatics.org.uk/events-info.htm)

JUNE

- 01 Brighton, Yorks:** Biplane and Open Cockpit Fly-in (www.realaero.com/events.htm / 01757 289065)
- 01 Compton Abbas, Dorset:** Microlight Fly In (www.comptonabbasairfield.co.uk/ / 01747 811767)
- 01 Goodwood, West Sussex:** DH Moth Fly-in (www.goodwood.co.uk/aviation/aviation.aspx)
- 01 Old Buckenham, Norfolk:** British Precision Pilots Association Precision Flying Competition (www.precisionflying.co.uk)
- 01 Old Sarum, Wilts:** Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site/ / 01722 322525)
- 01 Yorkshire Air Museum, Elvington, North Yorks:** Thunder Day (www.yorkshireairmuseum.org/ / 01904 608595)
- 03-04 Sywell, Northants:** Heli UK Expo (www.heliukexpo.com/ / 0208 5493917)
- 07 Throckmorton, Worcs:** Throckmorton Air Show (www.throckmortonairshow.com)
- 07-08 Folkestone seafront, Kent:** Folkestone Airshow (www.folkestoneairshow.com)
- 07-08 St Michaels, Lancs:** Lancs Landings Microlight Competition (www.microlightcomps.org)
- 08 Popham, Hants:** Fly-in (theme TBC) (www.popham-airfield.co.uk/Events.htm / 01256 397733)
- 08 RAF Cosford, Shropshire:** RAF Cosford Air Show (www.cosfordairshow.co.uk/ / 01902 377922)
- 08 Sutton Meadows, Cambs:** Cambridgeshire Microlight Club Charity Fly In (www.cambsmicrolightclub.co.uk/ / 01353 778446)
- 08 The Helicopter Museum, Weston-super-Mare, Somerset:** Open Cockpit Day (www.helicoptertermuseum.co.uk/cockpitdays/ / 01934 635227)
- 08 Welshpool, Powys:** Welshpool Air Show and Festival of Transport (www.welshpoolairshow.co.uk)
- 12-15 Sywell, Northants:** British Aerobatic Association British Advanced and Unlimited Nationals (www.aerobatics.org.uk/events-info.htm)
- 13-15 Cholmondeley Castle, Cheshire:** Cholmondeley Pageant of Power (www.cpop.co.uk/ / 01829 772432)
- 13-15 Guernsey Airport, Guernsey:** Guernsey Air Rally (www.guernseyaeroclub.com/air-rally/ / 01481 265267)
- 13-15 Weston Park, Staffs:** International Model Air Show (including full-sized aircraft displays) (www.westonparkmodelairshow.co.uk)
- 14 Biggin Hill Airport, Kent:** Biggin Hill Festival of Flight (www.bhfof.com)
- 14: RAF Northolt, Greater London:** Northolt Open Day (www.raf.mod.uk/rafnortholt/events) To gain entry you must buy a wristband in advance and those bringing a car will need to get a car pass before the event
- 14-15 Newark Air Museum, Winthorpe, Notts:** Cockpit Fest & Aeroboot/Aerojumble (www.newarkairmuseum.org/ / 01636 707170)
- 14-15 North Weald, Essex:** Air-Britain Vintage & Classic Aircraft Fly-In (www.air-britain.com/flyin-about)
- 14-15 Sandown Airport, Isle of Wight:** Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
- 15 London Southend Airport, Essex:** Visit The Vulcan Day (www.avro Vulcan.com)
- 15 Old Warden, Beds:** Shuttleworth Collection Airshow featuring Light Aircraft Association 'Party in the Park' (www.shuttleworth.org/ / 01767 627927)

15 Priory Farm, Tibenham, Norfolk: Annual Fathers' Day Fly-in and BBQ (www.flypfa.co.uk/news--events.html / 01379 608110)

15 Wellesbourne Mountford, Warks: Wellesbourne Wings and Wheels (www.xm655.com/events.php / 07595 191576)

20-21 Compton Abbas, Dorset: British Aerobatic Association Don Henry and Air Squadron Trophies (www.aerobatics.org.uk/events-info.htm)

20-21 The Helicopter Museum, Weston-super-Mare, Somerset: Mini HeliDays @ Weston Air Day (www.helicopter-museum.co.uk/events / 01934 635227)

20-28 Camphill, Derbyshire: 19th Camphill Vintage Glider Rally and 4th Capstan Reunion (www.dlge.org.uk / 01298 871270)

21-22 Barleylands Farm, Billericay, Essex: South Essex Armed Forces Day (www.essexmilitarysupport.com)

21-22 Eshott, Northumberland: Great North Fly-in (www.greatnorthflyin.co.uk/index.html)

21-22 Uppottery, Devon: D-Day + 70 (www.southwestairfields.co.uk/?page_id=1497)

21-22 Weston-super-Mare Seafront, Somerset: Weston Air Festival (www.n-somerset.gov.uk/News/Pages/Flying-high-in-Weston-in-2014.aspx / 01934 427225)

21-29 Sherington, Oxfordshire: British Gliding Association Sherington Regionals (www.gliding.co.uk)

23-29 Ebbesbourne Wake, Wilts: Chalke Valley History Festival (www.cvhf.org.uk)

26-29 Goodwood, West Sussex: Goodwood Festival of Speed (www.goodwood.co.uk/festival-of-speed/welcome.aspx)

28 Stirling: Armed Forces Day National Event (www.armedforcesday.org.uk)

28-29 Sandown, Isle of Wight: Spamfield – The Sport Aircraft Fly-in (www.sites.google.com/site/spamfield14)

29 Fenland, Lincs: Fenland Aero Club Vintage Wings & Wheels Day (www.fenlandairfield.co.uk / 01406 540330)

29 Old Warden, Beds: Shuttleworth Collection Military Pageant Airshow (www.shuttleworth.org / 01767 627927)

29-06 Nympsfield, Glos: British Gliding Association Competition Enterprise (www.gliding.co.uk)

JULY

05-06 Dunkeswell, Devon: Light Aircraft Association Roadshow and Devon Strut Fly-in (www.devonstrut.co.uk)

05-06 Popham, Hants: Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)

05-06 RAF Waddington, Lincs: RAF Waddington International Air Show (www.waddingtonairshow.co.uk / 01522 726102)

05-06 Sleep, Shropshire: British Aerobatic Association Pitts Special Open Event (www.aerobatics.org.uk/events-info.htm)

05-13 Husbands Bosworth, Leics: British Gliding Association 18 Metre Class Nationals (www.gliding.co.uk)

05-13 Pocklington, Yorks: British Gliding Association Wolds Regional Gliding Competitions (www.wolds-gliding.org/comps/regional_frame.htm)

06 Compton Abbas, Dorset: Pooley's Day (www.comptonabbasairfield.co.uk / 01747 811767)

06 East Kirkby, Lincs: Nos 57 and 630 Squadrons

Reunion Day (www.lincsaviation.co.uk / 01790 763207)

06 Old Sarum, Wilts: Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site / 01722 322525)

10-13 Goodwood, West Sussex: ChipFest Chipmunk Fly-In (www.chipfest.co.uk)

11-13 RAF Fairford, Glos: The Royal International Air Tattoo (www.airtattoo.com/airshow) To gain entry tickets must be acquired in advance

11-13 Tiverton, Devon: Tiverton Balloons and Musical Festival (www.tivertonballoonfestival.co.uk / 01404 823735)

12 Airfield TBC, Essex: British Precision Pilots Association Precision Flying Competition (www.precisionflying.co.uk)

12-13 IWM Duxford, Cambs: Flying Legends Air Show (www.fighter-collection.com / 01223 835000)

12-13 North Coates, Lincs: Wings and Wheels (www.northcoatesflyingclub.co.uk / 01472 388850)

12-13 Plaistow Farm, St Albans, Herts: Capital Challenge Microlight Competition (www.microlightcomps.org)

12-13 Popham, Hants: Europa Fly-in (www.popham-airfield.co.uk/Events.htm / tel 01256 397733)

12-13 Shobdon, Herefords: US Classics Fly-in (www.aeronca.co.uk / 01568 708369)

13 Old Warden, Beds: Shuttleworth Collection Close Up and Personal Airshow (www.shuttleworth.org / 01767 627927)

13 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)

13-19 Long Mynd, Shropshire: Wenlock Olympian Gliding (www.olympiangliding.com / 01588 650206)

14-20 Farnborough Airport, Hants: Farnborough International Airshow (www.farnborough.com)

16-20 Folkestone racecourse, Kent: War and Peace Revival (www.thewarandpeacefestival.co.uk / 01304 813945)

18-20 Fenland, Lincs: British Aerobatic Association Fenland and McAully Trophies (www.aerobatics.org.uk/events-info.htm)

19-20 Brighton, Yorks: Real Aeroplane Company 25th Anniversary Event, Fly-in and Vintage Air Race (www.realaero.com/events.htm / 01757 289065)

20 Compton Abbas, Dorset: Lady Pilot Fly In (www.comptonabbasairfield.co.uk / 01747 811767)

25-27 Sunderland seafront, Tyne & Wear: Sunderland International Airshow (www.sunderlandlive.co.uk/sunderlandinternational-airshow)

26 IWM Duxford, Cambs: Spitfires, Merlins and Motors (www.iwm.org.uk/events/iwm-duxford/spitfires-merlins-and-motors-0 / 01223 835000)

26 National Museum of Flight, East Fortune, East Lothian: National Airshow (www.nms.ac.uk/our-museums/museum_of_flight.aspx / 0300 123 6789)

26 RNAS Yeovilton, Somerset: RNAS Yeovilton Air Day (www.royalnavy.mod.uk/yeovilton-airday / 08445 780780)

26 Venue TBC: Vintage Aircraft Club 50th Anniversary Fly-in (www.vintageaircraftclub.org.uk/vac10-calendar.html)

26-27 Cleethorpes, Lincs: Cleethorpes Airshow (www.cleethorpesairshow.co.uk)

26-27 Old Buckenham, Norfolk: Old Buckenham Airshow (www.oldbuckenhamairshow.co.uk / 01953 860806)

26-03 Dunstable Downs, Beds: British Gliding Association Club Class National Gliding Competition (www.gliding.co.uk)

26-03 Husbands Bosworth, Leics: British Gliding Association Midland Regional Gliding Competition (www.gliding.co.uk)

26-03 Sutton Bank, Yorks: British Gliding Association Northern Regional Gliding Competition (www.gliding.co.uk)

27 Old Warden, Beds: Shuttleworth Collection Wings & Wheels Airshow (www.shuttleworth.org / 01767 627927)

31-02 Conington, Cambs: British Aerobatic Association British Standard and Intermediate Nationals (www.aerobatics.org.uk/events-info.htm)

31 RNAS Culdrose, Cornwall: RNAS Culdrose Air Day (www.royalnavy.mod.uk/The-Fleet/Air-Stations/RNAS-Culdrose/Air-Day-2014 / 01326 575122)

AUGUST

01-03 Damyns Hall, Upminster, Essex: Military & Flying Machines (www.militaryandflyingmachines.org.uk / 01245 476249)

02 East Kirkby, Lincs: East Kirkby Airshow (www.lincsaviation.co.uk / 01790 763207)

02-03 Lundy Island, Devon: Anglo-Welsh Fly-in (www.devonstrut.co.uk)

03 Brooklands Museum, Surrey: Great War Commemoration Event (www.brooklandsmuseum.com / 01932 857381)

03 Fenland, Lincs: British Precision Pilots Association Precision Flying Competition (www.precisionflying.co.uk)

03 Old Sarum, Wilts: Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site / 01722 322525)

03 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)

03 Tibenham, Norfolk: Heritage Wings and Wheels (www.airshow2014.norfolkglidingclub.com / 01379 677207)

03 Yorkshire Air Museum, Elvington, North Yorks: Thunder Day (www.yorkshireairmuseum.org / 01904 608595)

06 Fenland, Lincs: Fenland Aero Club Midweek Fly-in (www.fenlandairfield.co.uk / 01406 540330)

06 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)

07-10 Ashton Court, Bristol: 36th Bristol International Balloon Fiesta (www.bristolballoonfiesta.co.uk)

09 Dundrum Bay, Newcastle, County Down: Newcastle Festival of Flight (www.discovernorthernireland.com/Festival-of-Flight-Newcastle-P39441)

09-17 Bicester, Oxon: British Gliding Association Bicester Regional Gliding Competition (www.gliding.co.uk)

09-17 RAF Cosford, Shropshire: British Gliding Association Inter-Services Regionals (www.gliding.co.uk)

10 Old Warden, Beds: Shuttleworth Collection WWI Commemoration Airshow (www.shuttleworth.org / 01767 627927)

10 Popham, Hants: Fly-in (theme TBC) (www.popham-airfield.co.uk/Events.htm / 01256 397733)

10 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)

10-11 Tower Festival Headland, Blackpool seafront, Lancs: Blackpool Airshow (www.visitblackpool.com/whats-on/blackpool-airshow-675160 / 01253 478222)

13 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)

14-17 Eastbourne seafront, East Sussex: Airbourne - Eastbourne International Airshow (www.visiteastbourne.com/airbourne / 0871 6630031)

15-17 Billing Aquadrome, Northants: Northampton Balloon Festival (www.thenorthamptonballoonfestival.co.uk)

16 Goodwood, West Sussex: Vintage Piper Cub and US Classics Fly-in (www.goodwood.co.uk/aviation/aviation.aspx)

16 Old Warden, Beds: Shuttleworth Collection Flying Proms Concert (www.shuttleworth.org / 01767 627927)

16-17 Ascot racecourse, Berks: Red Bull Air Race (www.redbullairrace.com/en_US/event/ascot)

16-17 Headcorn, Kent: Combined Ops (www.combinedops.co.uk)

16-17 Leicester Airport, Leics: British Aerobatic Association Gunpowder Trophy (www.aerobatics.org.uk/events-info.htm)



A popular aircraft at airshows is the Classic Aircraft Trust's Meteor T.7 WA591. It is shown displaying at last year's Royal International Air Tattoo. Key-Dino Carrara



Major players in the global aerospace industry will be attending the Farnborough International Airshow bringing with them a wide variety of aircraft types. The Airbus Military A400M Atlas attended the last event in 2012. Key-Dino Carrara

16-17 Popham, Hants: Motorcycle Mega Meet and Vintage Aircraft Fly-in (www.popham-airfield.co.uk/Events.htm / 01256 397733)
16-17 Shobdon, Herefords: Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
16-17 Woburn Abbey, Beds: de Havilland Moth Club International Moth Rally (www.mothsatwoburn.co.uk)
16-24 Cambridge International Airport, Cambs: British Gliding Association Gransden Regional Gliding Competition (www.gliding.co.uk)
16-24 Dunstable Downs, Beds: British Gliding Association Dunstable Regional Gliding Competition (www.gliding.co.uk)
16-24 Lasham, Hants: British Gliding Association Junior Championships (www.gliding.co.uk)
16-24 Tibenham, Norfolk: British Gliding Association 15 Metre Class and Eastern Regional Gliding Competitions (www.gliding.co.uk)
17 Sywell, Northants: Sywell Great War Airshow (www.sywellairshow.co.uk)
17 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
17-24 Pocklington, Yorks: British Gliding Association Two-Seater Competition (www.gliding.co.uk)
20 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
21-22 Clacton seafont, Essex: Clacton Airshow (www.clactonairshow.com / 01255 686633)
23 Dawlish seafont, Devon: Dawlish Air Show (www.dawlishairshow.co.uk/newindex)
23-24 Dunsfold Park, Surrey: Dunsfold Wings & Wheels (www.wingsandwheels.net / 01483 542226)
23-24 Fenland, Lincs: Fenland Aero Club Microlight Fly-in (www.fenlandairfield.co.uk / 01406 540330)
23-31 Bidford, Warks: British Gliding Association Bidford Regionals (www.gliding.co.uk)
23-25 Kent Showground, Detling, Kent: Military Odyssey (www.military-odyssey.com)
23-31 Sutton Bank, Yorks: Slingsby Rally and Vintage Glider Meet (www.ygc.co.uk / 01845 597237)
24 Bruntingthorpe, Leics: Cold War Jets Open Day (www.bruntingthorpeaviation.com/open-days / 0116 2799300)
24 Little Gransden, Cambs: Little Gransden Air & Car Show (www.littlegransdenshow.co.uk / 07730 091132)
24 London Southend Airport, Essex: Visit The Vulcan Day (www.avro Vulcan.com)
24 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
25 East Kirkby, Lincs: Props and Pistons (www.lincsaviation.co.uk / 01790 763207)
25 Yorkshire Air Museum, Elvington, North Yorks: Rolling Thunder (www.yorkshireairmuseum.org / 01904 608595)

27 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
28-31 Bournemouth seafont, Dorset: Bournemouth Air Festival (www.bournemouthair.co.uk)
29-31 Sywell, Northants: Light Aircraft Association Rally (www.lightaircraftassociation.co.uk / 01280 846786)
30 Old Warden, Beds: Shuttleworth Collection Edwardian Picnic & Evening Airshow (www.shuttleworth.org / 01767 627927)
30-31 Shoreham, West Sussex: RAFA Shoreham Airshow (www.shorehamairshow.co.uk)
31 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
31-06 Aboyne, Aberdeenshire: British Gliding Association UK Mountain Soaring Championship (www.gliding.co.uk)

SEPTEMBER

06-07 Foxlands Farm, Cosby, Leics: The Victory Show (www.thevictoryshow.co.uk / 07711 430472)
06-07 North Coates, Lincs: Autumn Flying Meeting (www.northcoatesflyingclub.co.uk / 01472 388850)
06-07 Perth Airfield, Perthshire: Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
06-07 Portrush seafont, County Antrim: Northern Ireland International Air Show (www.niinternationalairshow.co.uk)
06-07 Southend seafont, Essex: Southend Airshow and Military Festival (www.southendairshow.com)
07 Bodmin, Cornwall: Wings and Wheels (www.cornwallflyingclub.co.uk / 01752 406660)
07 Old Sarum, Wilts: Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site / 01722 322525)
07 Old Warden, Beds: Shuttleworth Collection Pageant (www.shuttleworth.org / 01767 627927)
07 Popham, Hants: Auster club Fly-In (www.popham-airfield.co.uk/Events.htm / 01256 397733)
07 Rochester, Kent: British Precision Pilots Association Precision Flying Competition (www.precisionflying.co.uk)
07 Seething, Norfolk: Seething Airfield Charity Airday (www.seethingcharityairday.com)
07 Sutton Meadows, Cambs: Cambridge Microlight Club Fly-in (www.cambsmicrolightclub.co.uk)
07 Yorkshire Air Museum, Elvington, North Yorks: Allied Forces Memorial Day (www.yorkshireairmuseum.org / 01904 608595)
11 St Aubin's Bay, St Helier, Jersey: Jersey International Air Display (www.jerseyairdisplay.org.uk)
11 St Peter Port, Guernsey: Guernsey Air Display (www.guernseyairdisplay.co.uk)
12-14 Goodwood, West Sussex: Goodwood Revival (www.goodwood.co.uk/revival/revival-live/revival-live.aspx)
13 Fenland, Lincs: Fenland Aero Club Light Aircraft Association Fly-in (www.fenlandairfield.co.uk / 01406 540330)

13-14 IWM Duxford, Cambs: The Duxford Air Show (www.iwm.org.uk/exhibitions/iwm-duxford/air-shows / 01223 835000)
13-14 Sherburn-in-Elmet, Yorks: British Aerobatic Association Tiger Trophy (www.aerobatics.org.uk/events-info.htm)
14 Popham, Hants: Solent Aviation Society Fly-In (www.popham-airfield.co.uk/Events.htm / 01256 397733)
14 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
18-21 Wickenby, Lincs: ChipFest DHC-1 Chipmunk Gathering (www.chipfest.co.uk)
19-21 Saltby, Leics: British Gliding Association Saltby Open (www.gliding.co.uk)
20 Old Warden, Beds: Shuttleworth Collection Classic Evening Airshow (www.shuttleworth.org / 01767 627927)
20-21 Southport seafont, Merseyside: Southport Air Show (www.visitsouthport.com/whats-on/southport-air-show-p139433 / 01704 533333)
21 Brighton, Yorks: Helicopter Fly-in (www.realaero.com/events.htm / 01757 289065)
21 Brooklands Museum, Surrey: Aviation Day (www.brooklandsmuseum.com / 01932 857381)
23 Cambridge International Airport, Cambs: BGAD - UK Business & General Aviation Day (www.bgad.aero / 01279 714509)
27-28 Alderney, Channel Islands: Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
27-28 Elvington, North Yorks: British Aerobatic Association Nathaniel Alony and Roy Legg Trophies (www.aerobatics.org.uk/events-info.htm)
27-28 Old Buckenham, Norfolk: Old Buckenham Balloon Festival (www.oldbuck.com/en/home / 01953 860806)
27-28 Sywell, Northants: Sywell Classic Pistons & Props (www.sywellclassic.co.uk)
27-28 Windermere, Cumbria: Windermere Air Festival

OCTOBER

04-05 Old Buckenham, Norfolk: Military Revival (www.militaryrevival.com / 01953 860806)
05 Old Sarum, Wilts: Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site / 01722 322525)
05 Old Warden, Beds: Shuttleworth Collection Season Finale: The Race Day Airshow (www.shuttleworth.org / 01767 627927)
05 Yorkshire Air Museum, Elvington, North Yorks: Anti-Det Running Day (www.yorkshireairmuseum.org / 01904 608595)
12 Popham, Hants: End of Season Fly-in (www.popham-airfield.co.uk/Events.htm / 01256 397733)
12 The Helicopter Museum, Weston-super-Mare, Somerset: Open Cockpit Day (www.helicopter-museum.co.uk/cockpitdays / 01934 635227)
19 Fenland, Lincs: Fenland Aero Club Fly-in (www.fenlandairfield.co.uk / 01406 540330)
23 RNAS Yeovilton, Somerset: FAA Museum Cobham Hall Reserve Open Day (www.fleetairarm.com/events-exhibitions-family-activities.aspx)
26 Venue TBC: Vintage Aircraft Club All-Hallows Fly-in (www.vintageaircraftclub.org.uk/vac10-calendar.html)

NOVEMBER

01 East Kirkby, Lincs: Fireworks Display and Lancaster Night Run (www.lincsaviation.co.uk / 01790 763207)
02 Old Sarum, Wilts: Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site / 01722 322525)
23 Museum of Army Flying, Middle Wallop, Hants: Middle Wallop Aircraft Enthusiast Fair and Model Show (01264 334779 / mark@roberts15863.fsnet.co.uk)

DECEMBER

07 Old Sarum, Wilts: Vintage Sunday Fly-In (www.oldsarumairfield.co.uk/site / 01722 322525)
14 Old Buckenham, Norfolk: Christmas Fly-in (www.oldbuck.com/en/home / 01953 860806)
27-28 Old Warden, Beds: Shuttleworth Collection Engineering Open Weekend (www.shuttleworth.org / 01767 627927)

EUROPE

MARCH

28-30 Hotel Party Center Savenije, Lonneker, Netherlands: Military Aviation Convention (www.lvtwenthe.nl)

APRIL

09-12 Friedrichshafen, Germany: Aero Friedrichshafen 2014 (www.aero-expo.com / +49 7541 708 367)
10 BA118 Mont-de-Marsan, France: Recce Meet Spotter Day (www.miragef1legend.fr/recce-meet-2014.html) To gain entry tickets must be acquired in advance
12-13 Rovinj, Croatia: Red Bull Air Race (www.redbullairrace.com/en_GB/event/rovinj)
26-27 Plasy, Czech Republic: Air Show (www.denvezduchu.cz)

MAY

02-04 Etampes, France: British Precision Pilots Association Precision and Rally Flying Competitions (www.precisionflying.co.uk)
03-04 Chemnitz-Jahnsdorf, Germany: Chemnitz-Jahnsdorf Flight Days 2014 (www.grossflugtage.de/index.html / +49 34343 90810)
09-16 Sisteron International Aeroclub, France: Sailplane Grand Prix (www.aeroclubsisteron.fr)
11 Kjeller, Norway: Kjeller Flight Day 2014 (www.flydagen.no/2014)
14-16 ROMAERO, Bucharest, Romania: Black Sea Defense & Aerospace (www.bsda.ro / +40 21 327 6651)
17-18 Abbeville, France: Royal Aero Club Handicap Air Races (www.britishairracing.com/2014-season)
17-18 Ostrów Wielkopolski, Poland: Ostrów Air Festival (www.festynostrow.pl)
18 Lens-Bénifontaine, France: Franco-Belgian Airshow (www.meeting-air-lens.com / +33 6 22 47 56 95)
18-20 Goch-Asperden, Germany: Open Days (lsv-goch.de.fc-host32.de/tag_der_offenen_tuer.php?pk_campaign=lsvhp / +49 2823 4962)
20-22 Palexpo, Geneva International Airport, Switzerland: EBACE 2014 (www.ebace.aero / +32 2 766 0070)
20-25 Berlin ExpoCenter Airport, Germany: ILA Berlin Air Show (Public days 23-25 May) (www.ila-berlin.de/ila2014/home/index.cfm)
20-25 Locarno Airport, Switzerland: Swiss Glider Aerobatic Championships (www.cieloperto.ch)
22-24 Crocus Expo, Moscow, Russia: HeliRussia 2014 (www.helirusia.ru / +7 495 926 38 83)
23-25 Friedrichshafen Airport, Germany: Bodensee Classic World (www.klassikwelt-bodensee.de / +49 7541 708 405)
25 Volkel, The Netherlands: Volkel in the Clouds Airshow (www.volkellindewolken.nl)
26-28 Locarno, Switzerland: Swiss Helicopter Championships (www.cieloperto.ch)
29 Abbeville, France: BullChipMeet — Bulldog and DHC-1 Chipmunk Gathering (www.bullchipmeet.eu)
29 Hoogetveen, The Netherlands: Wings and Wheels (www.vliegveldhoogetveen.nl / +31 528 266640)
30-01 Großenhain, Germany: 100 Years of Großenhain Airfield (www.grossflugtage.de/home.php?veranstaltungsort=grossenhain / +49 34343 90810)
31 Muret-Lherm Airport, France: Airexpo 2013 (www.airexpo.org)
31-01 Locarno Airport, Switzerland: Anniversary Air Show (www.cieloperto.ch)
31-01 Pardubice, Czech Republic: Aviation Fair (www.aviatickapout.cz / +420 466 310 170)

JUNE

01 Lleida-Alguaire Airport, Spain: Air Race F1 event (www.airracef1.com)
01 Ronneby AB, Sweden: F17 70 Years Swedish Air Force Air Show (www.f17-flygdag2014.se)
04-08 Cherbourg-Maupertus, France: Dakotas Over Normandy (www.daksovernordmandy.com)
07-08 Aérodrome de Cerny, La Ferté Alais, France: Meeting Aérien (www.ajbs.fr / +33 1 64 57 55 85)
07-08 Belevitsy Aerodrom, Krasnodar, Russia: Kuban Airshow 2014 (www.kubanairshow.ru/index-eng.html / +7 861 222 22 00)

12-14 Cannes-Mandelieu Airport, France: Cannes AirShow 8ème Salon International de l'Aviation Générale (www.cannesairshow.com / +33 4 93 08 01 77)
13 BA118 Mont-de-Marsan, France: Mirage F1 Farewell Event (www.miragef1legend.fr/13-juin-2014.html) To gain entry tickets must be acquired in advance
13-15 Meaux-Esbly, France: Fête Aérienne du Centenaire Marne 14-18 (www.ailesdupaysdemeaux.over-blog.com)
14-15 Compiègne-Margny, France: Meeting Aérien - Compiègne Aéro-Classic (www.cercledesmachinesvolantes.com/compiègne-aero-classic-2014)
14-15 Haugesund, Norway: Haugesund Historic Airshow (airshows.no)
14-15 Phalsbourg AB, France: Phalsbourg Airshow (www.facebook.com/Phalsbourg.HeliAirshow)
14-15 Saint-Yan, France: Air France Fly In (flyin.lfbk.free.fr)
14-16 Babice, Poland: Warsaw Airshow 'Bemowo on Air' (www.bemowo-on-air.com.pl / +48 22 834 93 35)
19 Schleswig-Jagel AB, Germany: NATO Tiger Meet Spotters Day (www.natotigers.org)
19-21 Hradec Králové, Czech Republic: AviationExpo Europe (www.aviationexpoeu.com / +44 20 8549 3917)
19-22 Kehl-Sundheim, Germany: Kehler Flight Days (Airshow 21-22 June) (www.kehler-flugtage.de / +49 7851 899568)

The ILA Berlin Air Show always attracts a large number of military aircraft. Pictured at the 2012 show is USAF Boeing C-17A Globemaster III. AirTeamImages.com/Mario_Aurich



20-21 Gilze-Rijen AB, Netherlands: Royal Netherlands Air Force Days (www.defensie.nl/luchtmachtdagen)
21-22 BA120 Cazaux, France: Meeting de l'Air
21-22 Kavala, Greece: Kavala AirSea Show (www.kavala-airshow.com / +30 251 029 1428)
21-22 Plock, Poland: Air Picnic (www.facebook.com/lotniczy.plock / +48 24 366 35 34)
21-22 Trondheim-Værnes, Norway: Værnes Airshow (www.varnesairshow.no)
22 Karup AB, Denmark: Danish Air Show (www.danishairshow.dk / +45 4195 0676)
22 Motril, Spain: Motril Air Festival (www.aaaa.es)
22-06 Räyskälä, Finland: 33rd FAI World Gliding Championships (www.wgc2014.fi / +358 40 733 1381)
23 Schleswig-Jagel AB, Germany: NATO Tiger Meet Spotters Day (www.natotigers.org)
27-29 Lunde, Norway: Wings and Wheels (Airshow 28-29 Jun) (www.wingsandwheels.no)
27-29 Rendsburg, Germany: Piper Meeting 2014 (www.pipertreffen2014.de)
28 Katwijk seafont, The Netherlands: SAR Katwijk (www.sarkatwijk.nl / +31 6 15459147)
28-29 Ambri, Switzerland: Ambri Fly-in (www.ambri-airport.ch/Fly-In%202013)
28-29 Dax AB, France: Fête de l'hélicoptère (www.fetehelicodax.over-blog.com)
28-29 Lungomare di Ostia seafont, Rome, Italy: Roma International Airshow (www.romairshow.net / +39 06 9498676)
28-29 Ursel, Belgium: Open Days and Fly-in (www.ebul.be)
29 Le Luc-Le Cannet Airport, France: Meeting Aérien 60 ans EALAT (www.meeting-leluc.fr/en)

JULY

03-05 Wolfgangsee, St Wolfgang, Austria: Scaloria AirChallenge (www.airchallenge.com / +43 6138 8000)
05 Beromünster, Switzerland: Fliegerchilbi (www.mfgb.ch/www/index.php/termine-2014)
05 Salzburg, Austria: International DC-3 Fly-in (www.dc-3flyin.com/wp)
05-06 BA133 Nancy, France: Meeting de l'Air
14 Paris, France: Bastille Day Flypast
14 Valenciennes-Prouvy, France: Meeting Aérien
16 Vlissingen seafont, The Netherlands: Rescue Vlissingen (www.rescuevlissingen.nl / +31 6 44696590)
18-19 Falkenberg, Sweden: Wheels & Wings (www.wheelsnwns.se / +46 733 761663)
19-20 Jämsilä, Finland: Jämi Fly-in and Airshow (www.jamifylin.com / +358 40 557 2129)
20 Bray seafont, Republic of Ireland: Bray Air Display 2014 (www.brayairdisplay.com)
20 Riazor Beach, La Coruña, Spain: International La Coruña Airshow (www.festivalaerocoruna.com / +34 6088 83552)
23-30 Härjedalen, Sweden: Classic Aircraft Meeting (www.vemdaleninfo.se/hedlanda)
26-27 Gdynia, Poland: Red Bull Air Race (www.redbullairrace.com/en_GB/event/gdynia)
27 San Lorenzo Beach, Gijón, Spain: Gijón Airshow (www.festivalaereogijon.com / +34 6088 83552)

AUGUST

01 Stans-Buochs, Switzerland: 75 Years of Pilatus
7-10 Stauning, Denmark: 49th International KZ Rally & Stauning Airshow (Airshow 09 August) (www.veteranflyklubben.dk / +45 5099 7007)
08-10 Bautzen, Germany: Bautzen Flight Days (www.flugtage-bautzen.de / +49 1805 552766)
09-10 Oulu, Finland: Tour de Sky International Airshow (www.tourdesky.fi)
09-10 Ursel, Belgium: Wings and Wheels (www.wingsandwheels.be / +32 476 530 557)
14-16 Vostochniy Airport, Ulyanovsk, Russia: International Air Transport Forum (Airshow 16 August) (www.en.ul-avia.com / +7 495 651 96 71)
16 Geiteryggen, Norway: Airshow (www.flyoppvisning.no)
16-17 Falaise-Monts-d'Eraines, France: Meeting Aérien-70th Anniversary of D-Day
16-17 Nowy Targ, Poland: Air Picnic (www.aeroklub.nowytarg.pl/piknik / +48 604 06 88 16)
16-17 Schaffen-Diest, Belgium: International Old-Timer Fly-in (flyin.dac.be)
22-23 Villeneuve, Switzerland: Sonchaux Acro Show (www.acroshow.ch)
23 Laage AB, Germany: Open Day (www.airshow-laage.de)
23 St Stephan, Switzerland: Hunterfest 2014 (www.hunterverein.ch)
23-24 Plzeň-Líně, Czech Republic: International Air Show (www.plzenskeleteckedny.cz/en / +420 723 127 022)

23-24 Zwickau, Germany: Airport Festival (www.acz.de)
30-31 Cheb, Czech Republic: Air Show (www.letistecheb.cz)
30-31 Payerne AB, Switzerland: Air 14 Payerne (first show) (www.air14.ch)
30-31 Sliač AB, Slovakia: Slovak International Air Fest (www.siaf.sk/en/)

SEPTEMBER

04-06 Vnukovo Airport, Moscow, Russia: Jet Expo (www.2014.jetexpo.ru/en)
04-07 Gelendzhik, Russia: Hidroaviasalon – 10th International Exhibition and Scientific Conference on Hydroaviation (www.gidroaviasalon.com/ +7 8634 315 415)
06 Roanne, France: Meeting Aérien International de Roanne (www.meeting-roanne.net)
06-07 Anspach-Wehrheim, Germany: Taunus Flight Festival (www.lsc-badhomburg.de)
06-07 Hradec Králové, Czech Republic: Czech International Air Fest 2013 (www.airshow.cz/ +420 2 660 346 83)
06-07 Payerne AB, Switzerland: Air 14 Payerne (second show) (www.air14.ch)
06-07 Pirmasens, Germany: Flight Day (www.flugtag-pirmasens.de)
06-07 St-Junien, France: Légend'Air en Limousin (www.legendairenlimousin.blogspot.fr)
06-07 Wershofen, Germany: Airport Festival (www.flugtag-wershofen.de/ +49 2694 424)
07 Victoria Beach, Cadiz, Spain: Cadiz Airshow (www.festivalaerodecadiz.com/ +34 6088 83552)
12-14 Amiens-Glisys, France: Meeting Aérien Somme 14-18 (www.centenaire-aerien-somme14-18.fr)
13-14 Kleine Brogel AB, Belgium: Belgian Air Force Days (www.belgianairforcedays.be)
13-14 Leverkusen, Germany: Airshow LSC Bayer Leverkusen (www.airshowonline.de)
13-14 Schaffhausen, Switzerland: Flüggerfäscht (www.schmerlat.ch/fliegerfest)
13-14 Sinsheim, Germany: Sinsheim Flight Day (www.flugtag-sinsheim.de/ +49 7261 30 05)
20-21 Ostrava-Mosnov, Czech Republic: NATO Days and Czech Air Force Days (www.natodays.cz/ +420 597 479 208)
20-21 Aéroport Joseph Lebrun, Rennes, France: Rennes Airshow (www.acriv.org)
20-21 Toulouse-Francazal, France: Meeting Aérien 'Stars and Wings' (www.desetoilesetdesailes.com/meeting)
22-28 Athens, Greece: Athens Flying Week (including Tatoi AB airshow on 26-28) (www.athensflyingweek.gr/ +30 210 603 6111)
25-28 Poitiers-Biard, France: Aérotop (Airshow 28 September) (www.aerotopt.fr)
27-28 Luqa International Airport, Malta: Malta International Airshow (www.maltairshow.com/ +356 9947 1429)

OCTOBER

10-11 Getafe AFB, Spain: AIRE 75 - 75th Anniversary of the Spanish Air Force (www.ejercitodelaire.mde.es/ea/pag?idDoc=EC74C41DB77A04BAC1257C5F002C5C84)
14-16 RAI, Amsterdam, The Netherlands: Helitech International 2014 (www.helitechevents.com/en/ +44 20 8271 2155)

NORTH AMERICA

MARCH

21-22 William J Fox Airport, Lancaster, CA: Los Angeles County Air Show (www.lacountyairshow.com)
22 Plant City Airport, Plant City, FL: Planes, Trains & Automobiles (www.plantcity.org/ +1 813 754 3707)
22-23 MacDill AFB, FL: AirFest 2014 (www.macdill.af.mil/airfest)
28-30 Municipal Airport, New Smyrna Beach, FL: New Smyrna Beach Balloon and Sky Fest (www.balloonandskyfest.com/ +1 386 957 3378)
29-30 NAS Kingsville, TX: Wings over South Texas Airshow (www.wingsoversouthtexas.com)
29-30 Punta Gorda Airport, FL: Florida International Air Show (www.floridaairshow.com/ +1 941 575 9007)
29-30 Valkaria Airport, FL: Valkaria Air Fest (www.valkariaairfest.org)

APRIL

01-06 Lakeland Linder Regional Airport, FL: Sun 'n Fun International Fly-In & Expo (www.sun-n-fun.org/FlyIn.aspx +1 863 644 2431)
03 Lake Agnes, Polk City, FL: Sun 'n Fun Splash-in (www.fantasyofflight.com/events/splash-in/ +1 863 984 3500)
05 Riverside Airport, CA: Riverside Airshow (www.riversideairshow.com/ +1 951 826 5311)
05-06 Columbus AFB, MS: Wings over Columbus (www.columbus.af.mil/library/airshow.asp)
12 Durant Regional Airport, Eaker Field, OK: Take to the Skies Airfest (www.taketotheskiesairfest.com)
12 Ohio River, Louisville, KY: Thunder over Louisville (www.thunderoverlouisville.org/ +1 502 584 3378)
12 Lowcountry Regional Airport, Walterboro, SC: Walterboro Wings-n-Wheels (www.wings-n-wheels.com/ +1 843 549 2549)
12 Military Aviation Museum, Virginia Beach, VA: Aerodrome Wine Classic Fundraiser (www.vbairshow.com)
12-13 Davis-Monthan AFB, AZ: Thunder and Lightning over Arizona – Open House (www.dm.af.mil/library/d-mthunderandlightning.asp +1 520 228 3406)
26 Regional Airport, Vidalia, GA: Vidalia Onion Festival Air Show (www.vidaliaonionfestival.com/ +1 912 538 8687)
26-27 Daniel Field, Augusta, GA: Boshears SkyFest & Fly-In (www.boshears.com/ +1 706 733 8970)
26-27 Camp Mabry, Austin, TX: American Heroes Air Show (www.heroes-airshow.com/austin/ +1 818 631 8132)
26-27 Barksdale AFB, LA: Defenders of Liberty Open House and Air Show (www.barksdaleafbairshow.com/ +1 318 456 3066)
26-27 NAS JRB Fort Worth, TX: Air Power Expo (www.airpowerexpo.com)
27 Half Moon Bay Airport, CA: Pacific Coast Dream Machines (www.miramarevents.com/dreammachines)

MAY

02-04 Draughon-Miller Central Texas Regional Airport, Temple, TX: Central Texas Airshow (www.centraltexasairshow.com)
03 Regional Airport, Manassas, VA: Manassas Airshow (www.marbainc.com/2014airshow.html)
03-04 Spirit of St Louis Airport, Chesterfield, MO: Spirit of St Louis Air Show (www.spirit-airshow.com/ +1 314 529 1963)
03-04 Chino Airport, CA: Planes of Fame Airshow (www.planesoffame.org/index.php?page=general-info/ +1 909 597 3722)
03-04 Travis AFB, CA: Travis AFB Open House (www.facebook.com/TravisOpenHouse)
09-11 Valdez Airport, AK: Valdez May Day Fly In and Air Show (www.valdezalaska.org/events/valdez-fly-in-and-air-show)
10 Holloman AFB, NM: Open House (www.holloman.af.mil)
10-11 JB McGuire-Dix-Lakehurst, NJ: Open House and Air Show (www.jointbasemdl.af.mil)
10-11 Municipal Airport, Vero Beach, FL: Vero Beach Air Show (www.veroairshow.com)
16-18 Military Aviation Museum, Virginia Beach, VA: Warbirds Over The Beach (www.vbairshow.com)
17-18 Quonset State Airport, North Kingstown, RI: Rhode Island National Guard Open House and Air Show (www.riairshow.org)
17-18 Youngstown-Warren Air Reserve Station, OH: Thunder over the Valley Air Show (www.youngstown.afrc.af.mil/thunderoverthevalley.asp)
21 US Naval Academy, Annapolis, MD: US Naval Academy Air Show
24-25 Cannon AFB, NM: Cannon AFB Open House
24-25 Regional Airport, Columbia, MO: Salute to Veterans Air Show (www.salute.org/Airshow.html)
24-25 Jones Beach State Park, Wantagh, NY: Bethpage Air Show at Jones Beach (www.bethpageairshow.com/ +1 631 321 3510)
30-01 Virginia Beach, VA: Virginia Beach Oceanfront Air Show (www.patrioticfestival.com/oceanfront-air-show)
31-01 Fairchild AFB, WA: Skyfest (www.fairchild.af.mil/skyfest/index.asp)
31-01 Fort McMurray Airport, AB: Fort McMurray International Air Show (www.fortmccairshow.ca/ +1 587 674 0144)

31-01 Municipal Airport, La Crosse, WI: Deke Slayton Airfest (www.airfest.com)
31-01 Executive Airport, Suffolk, VA: Virginia Regional Festival of Flight (www.virginiaflyin.org)

JUNE

06-08 Yuba County Airport, Olivehurst, CA: Golden West Regional Fly-in and Airshow (www.goldenwestflyin.org/ +1 530 852 0321)
06-08 Mid-Atlantic Air Museum, Reading Regional Airport, PA: World War Two Weekend – A Gathering of Warbirds (www.maam.org/maamwwii.html +1 610 372 7333)
07 Indianapolis Executive Airport, Zionsville, IN: Warbird Expo 2014 (www.indianawingcafe.org)
07 Military Aviation Museum, Virginia Beach, VA: Flying Proms (www.vbairshow.com)
07-08 CFB Borden, ON: Armed Forces Day and Air Show
07-08 Gillespie Field, El Cajon, CA: AirShow San Diego (www.ag1caf.org/airshow-sandiego/ +1 619 259 5541)
07-08 Arnold Palmer Regional Airport, Latrobe, PA: Westmoreland County Airshow (www.palmerairport.com)
07-08 International Airport, Rockford, IL: Rockford AirFest (www.rockfordairfest.com)
14 Enterprise Airport, Denton, TX: Denton Airshow (www.denton.schultzairshows.com)
14 Legacy Flight Museum, Municipal Airport, Rexburg, ID: Legacy Air Show (www.legacyflightmuseum.com/airshow.aspx +1 208 359 5905)
14-15 Regional Airport, Gaylord, MI: Wings over Gaylord (www.wingsovergaylord.org)
14-15 John C Munro International Airport, Hamilton, ON: Hamilton Airshow (www.warplane.com/ +1 905 679 4183)
14-15 Hollister Airport, CA: Hollister Airshow (www.hollisterairshow.com/ +1 831 636 4365)
14-15 Ocean City seafont, MD: OC Air Show (www.ocairshow.com/ +1 717 583 0800)
14-15 Old Rhinebeck Aerodrome, Rhinebeck, NY: 2014 Airshow Season Opening Weekend & Fathers' Day Special (www.ldrhrinebeck.org)
14-15 Smyrna Airport, TN: The Great Tennessee Air Show (www.greattennesseearshow.com/ +1 615 459 2651)
20-22 Magic Valley Regional Airport, Twin Falls, ID: Air Magic Valley (www.airmagicvalley.org)
21 Hansen Dam Recreation Area, Los Angeles, CA: American Heroes Air Show (www.heroes-airshow.com/losangeles/ +1 818 631 8132)
21-22 Milwaukee lakefront, WI: Milwaukee Air and Water Show (www.milwaukeeairshow.com/ +1 414 482 2069)
21-22 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)
21-22 Tinker AFB, OK: Tinker AFB Open House
28-29 International Airport, Dayton, OH: Vectren Dayton Air Show (www.daytonairshow.com/ +1 937 898 5901)
28-29 Hill AFB, UT: Warriors over the Wasatch Open House and Airshow (www.hill.af.mil/warriorsoverthewasatch)
28-29 Municipal Airport, Iowa City, IA: Fly Iowa 2014 (www.flyiowa.org/fly_iowa.html +1 641 628 9393)
28-29 Montréal St-Hubert Airport, QC: Montréal Air Show (www.montrealairshow.com/ +1 514 573 2325)
28-29 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)
28-29 Region of Waterloo International Airport, Breslau, ON: Waterloo Air Show (www.waterlooairshow.ca/ +1 519 341 4742)

JULY

02-06 W K Kellogg Airport, Battle Creek, MI: Battle Creek Field of Flight Air Show and Balloon Festival (www.bcballoons.com/ +1 269 962 0592)
04-05 Greater Binghamton Airport, Binghamton, NY: Greater Binghamton Airshow
05-06 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

05-06 West Grand Traverse Bay, Traverse City, MI: National Cherry Festival Air Show (www.cherryfestival.org / +1 231 947 4230)

11-12 Pensacola Beach, FL: Pensacola Beach Air Show (www.visitpensacolabeach.com/events/pensacola-beach-air-show.php)

12 Truckee Tahoe Airport, Truckee, CA: AirFair & Family Festival (www.truckeetahoeairfair.com / +1 530 386 3100)

12-13 Fair Oaks Farms, IN: South Shore Air Show (www.southshorecva.com/airshow / +1 219 554 2229)

12-13 Geneseo Airport, NY: Geneseo Airshow (www.1941hag.org/Geneseo-Airshow / +1 585 243 2100)

12-13 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

19-20 CFB Cold Lake, AB: Cold Lake Airshow

19-20 Flying Cloud Airport, Eden Prairie, MN: AirExpo 2014 (www.airexpo-mn.org / +1 952 746 6100)

19-20 Offutt AFB, NE: Defenders of Freedom Open House and Air Show (www.offuttairshow.com / +1 402 232 8787)

19-20 Lost Nation Airport, Willoughby, OH: Gathering of Eagles XVIII Air Show (www.usam.us/Air%20Show.htm / +1 440 759 4148)

23 Frontier Days Park, Cheyenne, WY: Cheyenne Frontier Days Airshow (www.cfdrodeo.com/rodeo/event/90 / +1 307 778 7200)

25-26 Kinsman Beach, Red Lake, ON: Norseman Festival (www.norsemanfestival.on.ca / +1 807 727 9996)

26-27 JB Elmendorf-Richardson, AK: Arctic Thunder Open House and Airshow (www.jber.af.mil/arcticthunder)

26-27 Delta County Airport, Escanaba, MI: Northern Flights Air Show (www.upairshow.com)

26-27 Municipal Airport, St George, UT: Thunder over Utah Air Show (www.thunderoverutah.com)

26-27 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

26-27 Whitecourt Airport, AB: Hometown Heroes Airshow (www.whitecourtairshow.com)

28-03 Wittman Regional Airport, Oshkosh, WI: EAA AirVenture Oshkosh 2014 (www.airventure.org / +1 920 426 4800)



The effects of US Government budget cuts last year had a big impact on the airshow scene, leading to some events being cancelled and the absence of American military aircraft. This year marks a return to normal so US display teams such as the US Navy's Blue Angels will once again delight crowds across America. US Navy/Mass communication Specialist1st class Terrence Siren

AUGUST

01-03 Genesee Park/Lake Washington, Seattle, WA: Boeing Air Show at Seafair Weekend (www.seafair.com / +1 206 728 0123)

02-03 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

08-09 Municipal Airport, Wiscasset, ME: Wings over Wiscasset (www.wingsoverwiscasset.org)

08-10 International Airport, Abbotsford, BC: Abbotsford International Airshow (www.abbotsfordairshow.com / +1 604 852 8511)

09-10 Municipal Airport, Davenport, IA: Quad City Air Show (www.quadcityairshow.com)

09-10 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

09-10 Willow Run Airport, Ypsilanti, MI: Thunder over Michigan Air Show (www.yankeearmuseum.org/airshow)

13 Atlantic City seafont, NJ: Thunder over the Boardwalk

15-17 Greenwood Lake Airport, West Milford, NJ: Greenwood Lake Air Show (www.greenwoodlakeairshow.com)

15-17 Aéroport Roland-Désourdy, Bromont, QC: Eastern Townships Airshow (www.spectacleAériencantons.com)

16-17 Greater Rochester International Airport, Rochester, NY: Rochester International Air Show (www.rochesterairshow.com)

16-17 North Avenue Beach, Chicago, IL: Chicago Air and Water Show (www.cityofchicago.org/city/en/depts/dca/supp_info/chicago_air_and_watershow.html)

16-17 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

22-23 Madras Airport, OR: The Airshow of the Cascades (www.cascadeairshow.com / +1 541 475 6947)

22-23 Venue TBC, CO: Rocky Mountain Airshow (www.cosportaviation.org/seasonofaviation.html)

23-24 International Airport, Duluth, MN: Duluth Airshow (www.duluthairshow.com)

23-24 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

23-24 Regional Airport, Waterloo, IA: Thunder in the Valley Air Show (www.cedarvalleyairshow.com)

23-24 Waukesha County Airport, Waukesha, WI: Wings over Waukesha Airshow (www.wingsoverwaukesha.com / +1 262 424 6747)

24 Oakland County International Airport, Waterford Township, MI: Oakland County International Airport Open House and Airshow (www.ociaopenhouse.org / +1 248 666 3900)

30 Municipal Airport, Marion, IN: Fly-in/Cruise-in (www.flyincruisein.com / +1 765 664 2588)

30-31 Glacier Park International Airport, Kalispell, MT: Mountain Madness Air Show (www.kalispellchamber.chambermaster.com/events/details/mountain-madness-air-show-featuring-the-usaf-thunderbirds-8490 / +1 406 758 2800)

30-31 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

30-31 Steamboat Springs Airport, CO: Wild West Air Fest (www.steamboat-chamber.com/signature-events/labor-day-weekend/wild-west-air-fest)

30-01 Burke Lakefront Airport, Cleveland, OH: Cleveland National Air Show (www.clevelandairshow.com / +1 216 781 0747)

30-01 Lake Ontario, Toronto, ON: Canadian International Air Show (www.cias.org / +1 416 263 3650)

SEPTEMBER

05-07 Vail Valley Jet Center, Gypsum, CO: Vail Wheels and Wings Show (www.vailautoshow.com)

05-07 South Jersey Regional Airport, Lumberton, NJ: SkyRaid over South Jersey Air Show (www.skyraidoversouthjersey.com)

06 Regional Airport, Waukegan, IL: Wings over Waukegan (www.waukeganairshow.com / +1 847 244 0055)

06-07 Mather Airport, Sacramento, CA: California Capital Airshow (www.californiacapitalairshow.com / +1 916 876 7568)

06-07 Old Rhinebeck Aerodrome, Rhinebeck, NY: Model Meet Weekend (www.ldrhrinebeck.org)

06-07 Selfridge ANGB, MI: Selfridge Open House and Air Show (www.selfridgeopenhouse.com)

06-07 Texas Motor Speedway, Fort Worth, TX: Red Bull Air Race (www.redbullairrace.com/en_INT/event/fort-worth)

10-14 Reno-Stead Airport, Reno, NV: National Championship Air Races and Air Show (www.airrace.org / +1 775 972 6663)

13 Lycoming County Fairgrounds, Hughesville, PA: Balloonfest, Air Show and So Much More (www.lcotary.com / +1 570 279 6192)

13-14 Altus AFB, OK: Altus AFB Open House

13-14 Gatineau-Ottawa Executive Airport, Gatineau, QC: Wings over Gatineau (www.envol.vintagewings.ca / +1 819 669 9603)

13-14 Martin State Airport, Baltimore, MD: Star-Spangled Spectacular Aircraft Display (www.starspangled200.com)

13-14 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

13-14 Smith Reynolds Airport, Winston-Salem, NC: Winston-Salem Air Show (www.wsairshow.com / +1 336 767 2832)

19-21 Hillsboro Airport, OR: Oregon International Air Show (www.oregonairshow.com / +1 503 629 0706)

20 Memorial Airport, Camden, NJ: Lake of the Ozarks Air Show (www.lakeoftheozarksairshow.com / +1 573 346 2227)

20 Sedona Airport, AZ: Family Fun Day (www.sedonaairport.org/events / +1 928 862 0210)

20-21 Mountain Home AFB, ID: Gunfighter Skies (www.silverwingsofidaho.org / +1 208 587 2173)

20-21 NAS Oceana, VA: NAS Oceana Air Show (www.oceanaairshow.com)

20-21 Old Rhinebeck Aerodrome, Rhinebeck, NY: WW1 Weekend (www.ldrhrinebeck.org)

20-21 Sonoma County Airport, Santa Rosa, CA: Wings over Wine Country – Pacific Coast Air Museum Air Show (www.wingsoverwinecountry.org / +1 707 566 8380)

26-28 National Museum of the US Air Force, Wright-Patterson AFB, OH: World War One Dawn Patrol Rendezvous (www.nationalmuseum.af.mil/wwi.asp / +1 937 255 3286)

27 TSTC Campus Airport, Waco, TX: Heart of Texas Airshow (www.heartoftexasairshow.com)

27-28 JB Pearl Harbor-Hickam, HI: Open House and Air Show

27-28 Municipal Airport, Redding, CA: Redding Air Show (www.reddingairshow.org)

27-28 Municipal Airport, Salinas, CA: California International Airshow Salinas (www.salinasairshow.com / +1 831 754 9833)

27-28 Old Rhinebeck Aerodrome, Rhinebeck, NY: History of Flight Air Show and World War 1 Air Show (www.ldrhrinebeck.org)

OCTOBER

04 Sussex County Airport, Georgetown, DE: Wings & Wheels (www.wings-wheels.com)

04-05 Chennault International Airport, Lake Charles, LA: Chennault International Airshow (www.chennaultairshow.com)

04-05 Paradise Beach, Melbourne, FL: Air and Space Show (www.airandspaceshow.com)

04-05 MCAS Miramar, CA: MCAS Miramar AirShow (www.miramaraairshow.com)

04-05 Pounds Regional Airport, Tyler, TX: Wings over Tyler Air Show (www.wingsovertylerairshow.com)

04-05 Old Rhinebeck Aerodrome, Rhinebeck, NY: Fall Festival/Pumpkin Bombing Weekend (www.ldrhrinebeck.org)

04-12 Balloon Fiesta Park, Albuquerque, NM: Albuquerque International Balloon Fiesta (www.balloonfiesta.com / +1 505 821 1000)

10-13 San Francisco, CA: San Francisco Fleet Week (www.fleetweek.us)

11 Regional Airport, Culpeper, VA: Culpeper Airfest (www.culpeperairfest.com)

11-12 Daytona Beach, FL: Embry-Riddle Wings and Waves Air Show (www.wingsandwaves.com / +1 386 256 0451)

11-12 Las Vegas Motor Speedway, NV: Red Bull Air Race (www.redbullairrace.com/en_INT/event/las-vegas)

11-12 International Airport, Midland, TX: Commemorative Air Force Airshow (www.airshow.org / +1 432 563 1000)

11-12 Old Rhinebeck Aerodrome, Rhinebeck, NY: Fall Festival/Pumpkin Bombing Weekend & Final Weekend of 2014 Airshow Season (www.ldrhonebeck.org)

17-18 Vicksburg-Tallulah Regional Airport, Tallulah, LA: Southern Heritage Airshow (www.southernheritageair.org/Southern_Heritage_Air_Foundation/Air_Shows/Air_Shows.html / +1 601 415 1902)

18-19 Millington Regional Jetport, Memphis, TN: Memphis Airshow (www.memphisairshow.org)

18-19 Richard B Russell Airport, Rome, GA: Wings over North Georgia Airshow (www.wingsovernorthgeorgia.com / +1 706 291 0030)

21-23 Orange County Convention Center and Orlando Executive Airport, Orlando, FL: NBAA 2014 – Business Aviation Convention and Exhibition (www.nbaa.org/events/bace/2014 / +1 202 783 9000)

25-26 Alliance Airport, Fort Worth, TX: Fort Worth Alliance Air Show (www.allianceairshow.com)

25-26 NAS Jacksonville, FL: Jacksonville Air Show (www.airshow.jacksonville.com)

26 JFTB Los Alamitos, CA: Wings, Wheels and Rotors Expo (www.wrexpo.net)

NOVEMBER

01 Municipal Airport, Paso Robles, CA: Warbirds over Paso (www.ewarbirds.org / +1 805 227 0440)

01-02 Ellington Airport, Houston, TX: Wings over Houston Airshow (www.wingsoverhouston.com / +1 713 266 4492)

01-02 Doña Ana County Airport, Santa Teresa, NM: Amigo Airshow (www.amigoairshow.org / +1 915 562 6446)

01-02 Witham Field, Stuart, FL: Stuart Air Show (www.stuartairshow.com)

07-08 NAS Pensacola, FL: Blue Angels Homecoming Air Show (www.naspairshow.com)

08-09 Nellis AFB, NV: Aviation Nation (www.nellis.af.mil/aviationnation)

AROUND THE WORLD

MARCH

21-23 North Beach, Durban, South Africa: Durban Sky Grand Prix of Aerobatics (www.landseairfestival.co.za)

25-30 Santiago International Airport, Santiago, Chile: FIDAE 2014 (Public days 29-30 March) (www.fidae.cl/es/web/show-aereo/fidae / +56-2 2976 9502)

28-30 Temora Airport, Temora, NSW, Australia: AAAA National Fly-in (www.antique-aeroplane.com.au)

APRIL

15-17 Hawker Pacific Business Aviation Service Centre, Hongqiao Airport, Shanghai, China: ABACE 2014 – Asian Business Aviation Conference and Exhibition (www.abace.aero/2014 / +1 202 783 9000)

16-19 NAF Kaduna, Nigeria: Nigeria Air Expo (Airshow 16-18 April) www.nigeriaairexpo.net / +234809 893 3022)

18-20 Wanaka Airport, New Zealand: Warbirds over Wanaka International Airshow (www.warbirdsverwanaka.com / +64 3 443 8619)

23-26 Royal Moroccan Air Force Base, Marrakech International Airport, Morocco: Marrakech Air Show (www.marrakechairshow.com / +212 522 47 06 00)

MAY

04 Illawarra Regional Airport, Albion Park Rail, Australia: Wings over Illawarra (www.woi.org.au)

05-08 King Abdullah I AB, Amman, Jordan: SOFEX 2014 – Special Operations Forces Exhibition & Conference (www.sofexjordan.com / +962 6 562 7301)

17-18 Cozumel Airport, Mexico: Aeroshow Cozumel (www.fly2cozumel.com.mx/aeroshow.html)

18 Putrajaya Lake, Malaysia: Red Bull Air Race (www.redbullairrace.com/en_INT/event/putrajaya)

22-25 Astana International Airport, Kazakhstan: KADEX 2014 – Kazakhstan Defence Expo (www.kadex.kz/en / +7 7172 52 42 33)

SEPTEMBER

17-21 AFB Waterkloof, South Africa: AAD 2014 – Africa Aerospace and Defence (Airshow 20-21 September) (www.aadexpo.co.za / +27 84 840 3214)

OCTOBER

09-11 Kotoka International Airport, Accra, Ghana: African Air Expo (www.africanairexpo.com)

NOVEMBER

02 Venue TBC, China: Red Bull Air Race (www.redbullairrace.com/en_INT/event/china)

04-06 Meydan Racecourse, Dubai, UAE: Dubai Helishow (www.dubaihelishow.com / +64 021 1664 822)

11-16 Zhuhai Airport, Guangdong, China: Airshow China (www.airshow.com.cn / +86 756 336 9235)

DECEMBER

08-10 Dubai World Central, Jebel Ali, Dubai, UAE: MEBA 2014 – Middle East Business Aviation (www.meba.aero / +44 20 8846 2700)

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are keyed, so the model can be easily put together. The undercarriage components fit securely and should survive several changes of configuration, while the wheels spin freely – as do both rotors.



which lies a collector card certifying it as one of a limited edition of 1,100. A second card has instructions for removing the model from the box, requiring a screwdriver and considerable care not to damage the finely moulded antenna masts off the left hand side of the fuselage.

A two-part stand is included, as well as optional, interchangeable parts for retracted or extended undercarriage and separate plastic main rotor blades. There are no assembly instructions, but all the parts

The cabin doors slide open to reveal a crewman crouching inside, while two pilot figures occupy the cockpit. The model represents XW224/DH flying at the 1990 Upper Heyford Tiger Meet with the RAF's 230 Sqn. It therefore features

the spectacular tiger artwork and overall black airframe, with a tiger face below the windscreen. The scheme is detailed and nicely reproduced, making for a handsome model of a popular helicopter in a well-known special scheme.

Manufactured by Hornby Hobbies Limited; AA27003 and is available from www.corgi.co.uk

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EDINBURGH AIRPORT THROUGH TIME

Book

Written by: Peter C Brown

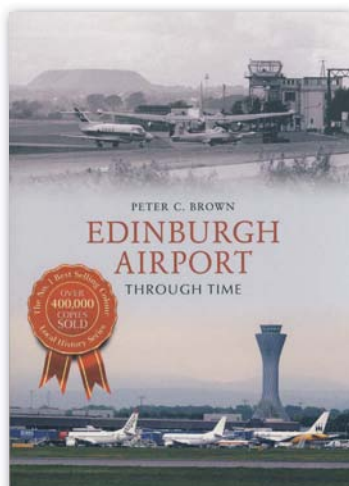
Price: £14.99

Edinburgh Airport is the latest aviation subject to receive Amberley's *Through Time* treatment and the result is one of the better airport titles in the series. An excellent selection of colour and black and white illustrations has been chosen to complement the thorough text, and the picture captions are far more accurate than some we've seen in the past from this publisher.

Known in its military guise as RAF Turnhouse, what became Edinburgh Airport was involved in countering the first bomber raid against Britain during World War Two and remained active throughout the war. The RAF maintained a continuous presence until 1960, although airline operations had begun in 1946.

The book captures not only the airport and its aircraft, but also various support vehicles, and sets it into its local environment. As such it does a good job not only of providing a competent history, but also of placing the airport in the wider context of local employer, landmark and defender.

Published by Amberley Publishing; ISBN9781445615370 and is available from www.amberleybooks.com



FOCKE-WULF FW 190 VOLUME THREE 1944-1945

Book

Written by: J Richard Smith and Eddie J Creek

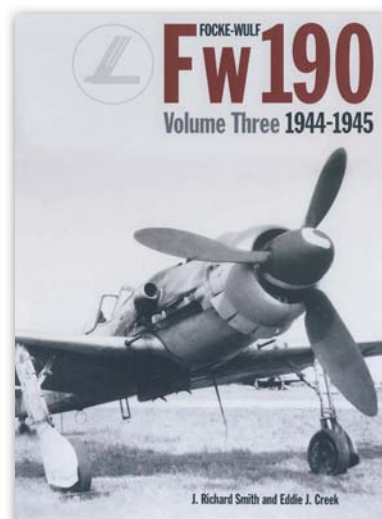
Price: £55.00

This is the third volume in what the dust jacket synopsis describes as a trilogy on the Fw 190, although the authors suggest that a fourth volume, containing scale drawings, may yet emerge. As it stands, this book completes the story of Focke-Wulf's fighter, detailing the type's development and combat action through 1944 and 1945.

Brilliantly researched and beautifully illustrated with colour and black and white photographs, diagrams, and superlative colour profiles, the book is rounded off with

a comprehensive index and eight very detailed appendices. Classic has chosen to continue pagination from one volume to the next and this 336-page hardback takes the total of pages in the series to 1,008; together, these books represent an impressive review of the iconic Fw 190.

Published by Classic; ISBN9781906537319 and is available from www.ianallanpublishing.com



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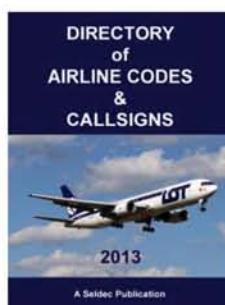
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UTair Helicopters Russia's Heavy Lifters

Craig West travelled to Siberia to find out how UTair operates and maintains one of the world's largest rotary-wing fleets.



Left: Slovakian subsidiary UTair Europe uses the Mil Mi-171 to undertake a range of roles including the construction of ski lifts at resorts across Eastern Europe. All photos UTair Aviation

Above: Though best known for its Russian-built helicopters, UTair has acquired several European types in recent years, including the Eurocopter (now Airbus Helicopters) AS350B3.

The image of white Russian-built Mil helicopters flying United Nations (UN) missions over war-torn or famine-ravaged African nations is one that frequently appears on news bulletins around the world. This rotary wing armada is not actually operated by the organisation but rather by a host of international companies, the largest of which is UTair Aviation. However, though high-profile, this work is just one of the many strings to the Russian firm's bow.

UTair can trace its origins back to 1967 and Aeroflot's decision to establish a Directorate in Tyumen to serve Western Siberia's rapidly expanding oil and gas industry. The city, which lies 1,100 miles (1,700km) east of Moscow on the Tura River, was relatively isolated and had poor road and rail connections, so the national carrier's local division and its fleet of helicopters played a key role in its economic development.

The collapse of the Soviet Union led to the break-up of the national



Above: The Mil Mi-10K was developed specifically as a 'flying crane' and can carry under-slung loads weighing up to 17,637lb (8,000kg).

Top: UTair has one of the largest commercial helicopter fleets in the world and uses a variety of types to undertake a host of different roles. The coaxial-rotors and high power-to-weight ratio of the Kamov Ka-32A11VS make it well suited for heavy lifting and firefighting operations.

carrier and the division was transferred in its entirety to a newly established private company, Tyumenaviatrans Aviation, in 1991 – 11 years later this firm was renamed UTair.

Today, the oil and gas extraction market is still one of the most important for the operator (along with electricity and forestry enterprises) and undertaking this work in one of the harshest environments in the world means that the helicopter continues to be a critical tool. In fact, with 355 airframes, UTair has one of the largest civilian rotary-wing fleets in the world.

During 2013, the company's helicopters accumulated 165,519 flying hours with the vast majority of these (123,121 hours) being flown in Russia's remote regions supporting major customers, such as Gazprom, the world's largest natural gas producer; state-owned oil and gas exploration company Rosneft; and multinational oil firm Shell. As such, much of its work revolves around the heavy-lift role, though it also undertakes tasks including aerial surveys, VIP, passenger and cargo ►



The ubiquitous, multi-role Mil Mi-8 family forms the backbone of the UTair fleet with more than 280 examples in service.

transportation and tourism. To perform these tasks, UTair's fleet ranges from the four-seat Robinson R44 to the heavy-lift Mil Mi-26, the largest and most powerful helicopter to enter serial production.

According to UTair CEO Andrey Martirosov, the latter is playing "a crucial role in the development of Siberia." However, the aircraft is expensive to both operate and maintain: "It is actually cheaper to have a ton of cargo flown into space by rocket than to transport it inside the Mi-26!"

The backbone of UTair's helicopter fleet is the venerable Mi-8 family though the ageing type is less fuel efficient than the new generation of Eurocopters the carrier is introducing into service – the AS350 uses around 200 lit of fuel per hour compared to 850 lit per hour for the Mi-8. However, the helicopter is extremely versatile and has excellent reliability, leading UTair Helicopters' Director of Quality, Dmitriy Litvinenko to compare the type to the Kalashnikov AK-47 assault rifle. "The Mi-8 is more expensive to operate than its Western counterparts but it's better suited to operations in harsh environments and extreme weather. In fact, we can fly the Mil in the snow and in the desert in temperatures that would leave the Eurocopters grounded – it's very reliable."

The Airbus Helicopters Bo105 is one of the smallest aircraft operated by UTair Helicopters but the type has been used to good effect supporting Arctic research missions, most recently aboard the icebreaker *Capitan Dranizyn*.

UTair Helicopters – United Nations Deployments

YEAR	COUNTRY	TYPE/S DEPLOYED
1991 – 1992	Angola	Mil-8T
1992 – 1994	Cambodia	Mil-26T, Mil-8MTV-1
1992 – 1995	Mozambique	Mil-8
1995 – 1996	Somalia	Mil-8MTV-1
1996 – 2003	Western Sahara	Mil-8T
2000 – 2004	East Timor	Mil-26, Mil-8MTV-1
2000 – 2013	Sierra Leone	Mil-26, Mil-8MTV-1, Mil-8T
2000 – 2005	Eritrea	Mil-8MTV-1
2002 – 2003	Iraq	Mil-8MTV-1
2003 – present	Liberia	Mil-26, Mil-8MTV-1/AMT
2003 – present	DR Congo	Mil-26, Mil-8MTV-1/AMT, Mil-8T
2004 – present	Ivory Coast	Mil-8MTV-1/AMT
2004 – present	Sudan	Mil-26, Mil-8MTV-1/AMT, Mil-8T
2006 – 2011	Lebanon	Mil-8T, Mil-8AMT
2006 – 2007	Haiti	Mil-8T
2008 – 2011	Chad	Mil-26, Mil-8MTV-1/AMT
2008 – 2010	Nepal	Mil-8AMT
2009 – present	Afghanistan	Mil-8MTV-1/AMT
2011 – present	South Sudan	Mil-8MTV-1/AMT, Mil-26, Mil-8T
2012 – present	Somalia	Mil-8MTV-1

KEEPING THEM FLYING

Supporting UTair's large rotary wing fleet is the Tyumen/Plekhanova-based Aviation Technical Division (ATK), which is responsible for the engineering and maintenance of both the Russian and non-Russian types. However, while this varied fleet provides the flexibility craved by UTair's customers, it poses significant logistical issues. ATK must maintain a separate spares cache for each of the helicopter types operated by the company, while UTair must also meet the certification of a host of domestic and international bodies.

With such a vast fleet, it is little surprise that the Russian firm is an expert in rotary wing maintenance, particularly with the Mi-8 family for which UTair has its own Mil-approved overhaul facility in Tyumen. This houses several specialist workshops covering all major components including airframes, rotor blades, engines and gearboxes. After accumulating 2,000 flying hours, Mi-8s are stripped right down to a





UTair Helicopter Fleet

TYPE	NUMBER
Airbus Helicopters AS350B3	17
Airbus Helicopters AS355N	7
Airbus Helicopters Bo105	4
Kamov Ka-32	4
Mil Mi-10K	5
Mil Mi-171/Mi-8AMT	53
Mil Mi-26T	26
Mil Mi-8 MTV	60
Mil Mi-8T	169
Robinson R-44	11

**information correct as of February 15, 2014.*

Left: Since 1990, UTair has undertaken numerous deployments to countries such as Sierra Leone, Sudan and the Democratic Republic of Congo in support of United Nations peacekeeping missions.

bare metal cab and are then 'zero-timed' – refurbished and reworked to an as-new condition. The aircraft are re-assembled and then tested before being redeployed in Russia or to UTair's international outstations. This complete overhaul process is repeated every 2,000 flying hours up to a maximum of 26,000, giving the Mi-8s an operational life of around 35 years.

OVERSEAS OPERATIONS

Backed by its large fleet, UTair's move into the international market has been particularly successful. The company's 100-strong Helicopter Services team – based in Surgut, Western Siberia – is employed to seek out new contracts for the rotary wing fleet. These consist of both short- and long-term deployments, though both pose their own specific problems, particularly with regards to engineering support. At the time of writing, the Russian firm has 12 line maintenance outstations overseas though, with most of these lacking hangars, almost all repair and overhaul work undertaken down-route is done so with minimal infrastructure.

As such, helicopters destined for international contract work will initially head for UTair's overhaul facility at Tyumen/Plekhanova where they undergo pre-deployment maintenance with ATK. The aircraft are then ferried down-route to begin the next contract.

To supplement its overseas expansion, the Russian firm has launched local subsidiaries in Slovakia (marketed as UTair Europe), India, Peru and South Africa. The workhorse of these divisions is the

The heavy-lift Mil Mi-26 is expensive to operate but can carry a payload of up to 20 tonnes making it a key element of the UTair fleet. Its huge size is put into perspective when seen here in the company of a Bell 206 JetRanger.

Mi-8/Mi-171, which is used to undertake a range of services including firefighting, forestry support and heavy-lift, along with passenger and cargo transport.

It is this experience of international deployments, along with its large and versatile fleet that has led UTair to become the largest supplier of contracted air services to the UN, a role it has fulfilled since 1990. At the time of writing, the company has more than 50 aircraft (including three fixed-wing aircraft) deployed overseas in support of UN peacekeeping missions in countries, such as the Ivory Coast, Liberia, Sierra Leone, Sudan and Democratic Republic of Congo.

FUTURE EXPANSION

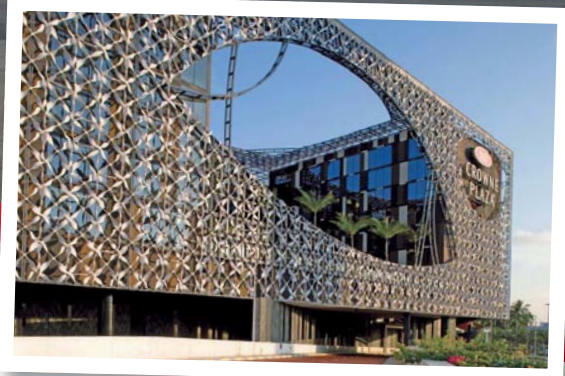
UTair Helicopter has grown significantly over the past five years with the addition of several Western-built types: the AgustaWestland AW139, Eurocopter (now Airbus Helicopters) AS350 and AS355 and the Robinson R-44. These, along with 16-seat EC175s ordered in 2011, have been acquired specifically with the onshore and offshore oil and gas extraction market in mind, Martirosov noting that "Russia has a very bright future in this industry." In fact, it's an area where the CEO hopes UTair will soon be able to offer a full-service solution: "We can fly passengers from Moscow or anywhere else on our network to one of our hubs, transfer them to a helicopter and then move them to the rig. When you add this to our ability to perform survey, heavy lift and VIP/VVIP transport, we really can meet all of the industry's requirements." However, despite its strong performance, Martirosov is realistic about what the future holds for UTair Helicopters. "I think it's unlikely that the price of oil will continue to rise over the next five years but we're in a good position – as the price increases, so too does the demand for our helicopter fleet." **AN**



ROOM WITH A VIEW...

SINGAPORE

AIRPORT: **CHANGI INTERNATIONAL AIRPORT**
HOTEL: **CROWNE PLAZA CHANGI AIRPORT**



Roy Choo reports from the Crowne Plaza Changi Airport, which provides excellent photographic opportunities at one of Asia's biggest hubs.

Singapore's Changi airport is the sixth busiest international hub in the world. It is the home base of Singapore Airlines, though it also serves 66 other international carriers, flying to 250 cities in 60 countries. The airport handles about 6,500 flights every week.

The airport has two parallel runways,

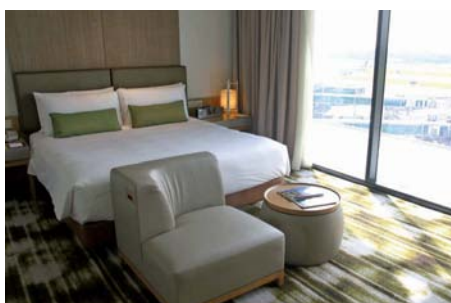
02L/20R and 02C/20C, each 13,123ft-long (4,000m). There is a high volume of traffic throughout the day, with peak hours in the mornings and evenings.

EXCELLENT VIEW

A good location to view the action at this major hub is the Crowne Plaza Changi Airport hotel, which opened in

Top: **A typical busy scene during the morning peak hours at Changi International Airport.** This photo was taken from a room on the ninth floor of the hotel at 70mm. All photos Roy Choo unless stated

Right: **Some of the hotel rooms provide an excellent view of the action on Changi's runway 02L/20R, its parallel taxiways and Terminal 3 apron.**



Above: **A Deluxe King room at the hotel. The rooms were designed around the themes of calmness and nature to aid rest and relaxation.**

Right: **Photos of narrow-bodied aircraft rotating off Runway 02L can be taken, with 300mm used in this case.**





A wide variety of low-cost carriers frequent the airport, such as Jetstar Asia - illustrated here with one of its A320s.



A Singapore Airlines Airbus A380 deploys its thrust reversers as it arrives on Runway 02L. This photo was shot at 165mm.

May 2008. The nine-storey, 320-room hotel is connected to Terminal 3 by an air-conditioned bridge, with Terminals 1 and 2 accessible by the SkyTrain from its station in Terminal 3. The rooms have been designed on the themes of calmness and nature to help rest and relaxation. West-facing rooms from the seventh to ninth floor offer an excellent view of Runway 02L/20R, two parallel taxiways and part of the apron of Terminal 3. While action on Runway 02C/20C can be seen from the hotel corridor, photography is not possible due to terminal buildings obstructing the view and the distance of the aircraft. When Runway 02L is in use good photos are possible of narrowbodied aircraft lifting off, while larger types rotate further down the

runway but are still within view. Wide and narrowbodies can be photographed climbing out when departing Runway 20R. Aircraft touching down on 02L/20R can be seen, though may be a little too far to photograph. A focal length of 200mm would be sufficient to capture widebody airliners on Runway 02L/20R, while 300mm is required for narrowbody types. A focal length of 200mm would easily capture airliners on the two taxiways. The boarding gates of Terminal 3 are immediately in front of the hotel and aircraft can be photographed at between 70-200mm depending on the closeness of the stand and size of the aircraft in shot.

Rooms also provide distant views of Republic of Singapore Air Force (RSAF) Fokker 50s and KC-135R Stratotankers as they taxi out of Changi Airbase (West), though much of this facility is shrouded by trees. Directly in front of the hotel on the

other side of the runway is an RSAF fighter dispersal, which is rarely used and again vegetation prevents clear sight of the area.

The best time for photography is in the morning from 07:30 with the sun rising behind the photographer. As the aircraft become increasingly backlit from 12:00, the viewing deck in Terminal 1 provides an alternative for good shots. There are viewing decks in Terminals 2 and 3, but they are not good for photography due to two layers of glass that are metres apart, plus sun louvres further obstruct the view in the latter.

As well as being an excellent option for the aviation enthusiast, the hotel also has facilities including a swimming pool, spa treatment rooms, gym, two restaurants and a sports bar. Indeed, the Crowne Plaza Changi Airport was judged the fifth best airport hotel at the SKYTRAX World Airport Awards 2013. **AN**

Left: **The facade of the Crowne Plaza Changi Airport.** Crowne Plaza Changi Airport

HOTEL DETAILS

Floors: 9

Rooms: 320

Rating: 4.5 star

Connection with airport: within airport grounds and connected with Terminal 3

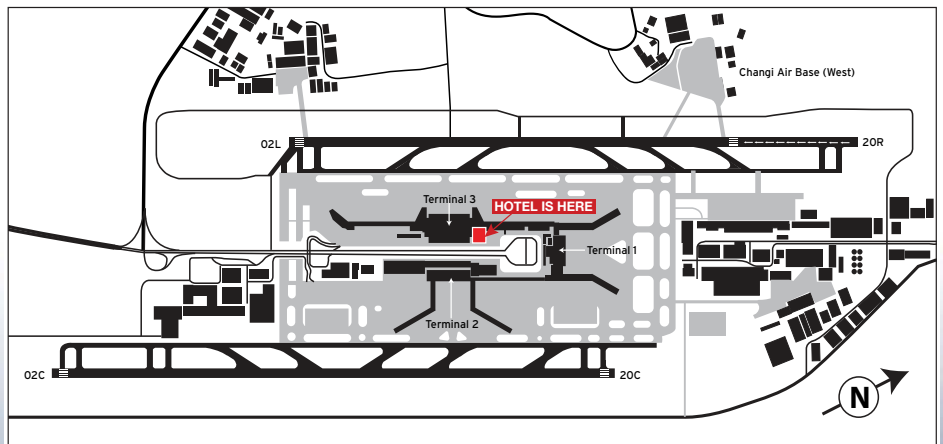
Car parking: shared paid parking with the airport

Internet access: standard internet access is free, high-speed internet is S\$18 for 24 hours

Website: www.crowneplaza.com

Telephone: +65 6823 5300

Right: **A map of the airport showing the location of the hotel.** © Pete West 2014



AIR MAIL

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or E-mail dino.carrara@keypublishing.com, giving your full name and address.

The Editor reserves the right to edit all letters.

Herald Memories

Reading the excellent Herald article in the February issue reminded me of seeing the type in service with British Island Airways (BIA) at close quarters during the 1970s at Leeds Bradford Airport. The airport was very much dominated by Dart-powered turboprops – Heralds, HS748s, Viscounts and Friendships – and the viewing area was a matter of feet from the aircraft.

The Herald always seemed remarkably quirky; it sat low on the tarmac and seemed to have a particularly steep downward angle when on approach. Parked alongside the Friendship and its relatively smooth lines, the Herald looked all the more unconventional. Its heavily corrugated tail appeared to belong to an earlier era and this, along with BIA's curious habit of painting black and white stripes on the propellers gave the aircraft a distinct austerity-era personality.

On another note I am enjoying the magazine format and am now a subscriber. I think the spread of articles is excellent and the spotting experience especially has long been overlooked in the publishing field. I've not written down an aircraft number for over 30 years but I enjoy the 'Tales from the Logbook' articles in particular. Makes a change from articles written by/for engineers!

C Ryder
Leeds

From the Editor: Thank you for your kind words about the magazine and comments about the 'Tales from the Logbook' articles as that was exactly our intention, to provide something different from other types of features. Rest assured we will be publishing more 'Tales from the Logbook' in the future.



A British Islands Airways Herald in a nose-down angle on approach, as described in the above letter. [AirTeamImages.com/Carl Ford](http://AirTeamImages.com/CarlFord)

Godalming Herald

The article about the HP Herald bought back childhood memories. I was brought up in Godalming in Surrey which offered a grandstand view of the aircraft flying at Farnborough airshows as it was underneath the airfield's circuit. As Farnborough was not far away I also got the chance to visit the show on the public days.

The news that a Herald had crashed [August 30, 1958] got around very quickly, so we jumped on our bikes and rode to the other

side of town to see the wreckage lying in a field. If my memory serves me well it was fairly intact and covered in foam. (Ed: fortunately everyone on board escaped unhurt.)

Farnborough continued to play a part in my life, as my first job was with the British Aircraft Corporation Film Unit which involved filming at the Farnborough Airshow on the trade days, a great step up from the public days.

Bruce Leonard
Munich, Germany



CORGI® LETTER OF THE MONTH

Welcome to the Aviation News incorporating Classic Aircraft letters page. We're delighted to offer a fantastic prize, courtesy of Corgi, to the writer of the Letter of the Month. Mr Ryder will soon receive two 1:72 models of the USAAF Boeing B-17F Flying Fortress *Ye Olde Pub* of the 379th Bomber Group, 8th Air Force and Luftwaffe Messerschmitt Bf 109G-6 flown by Franz Stigler of Jg 27. The total value of the models is £169.99.

Rolls-Royce and the TriStar

I just wanted to write and say how enjoyable I found the article on the Lockheed TriStar in your March edition. As your writer stated, this well built aircraft has had a very long service life in both military and commercial usage. It is worth highlighting, as mentioned in the article, that the Rolls-Royce three-shaft turbine was designed for this aircraft which has been the foundation for all the famous Trent engines right up to today. Rolls-Royce is the only large jet engine builder that still uses the three-shaft design.

Here in Jersey our airport has but a 6,000ft runway, but in past years when the TriStar was in service with BEA the aircraft was used to help clear backlogs of passengers to great effect when fog affected flights.

We all know that British Airways sold most of its TriStars to the RAF and they have given fantastic service all over the world both as transport and tanker aircraft. Truly a great aircraft and a credit to its manufacturer Lockheed.

Peter H Bewers
Jersey

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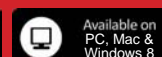
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MILITARY CONSTELLATIONS

PART 1 UNITED STATES AIR FORCE



In the first of two articles on military Constellations, **Bob Archer** tells the story of the classic Lockheed design in US Air Force service.

Lockheed's Constellation emerged from a Transcontinental and Western Air (TWA, or Trans World Airlines from May 1950) requirement for a deluxe airliner capable of flying non-stop across the USA at an altitude above the worst of any air turbulence to ensure a comfortable passenger experience. It would therefore be pressurised and boast high performance.

After the Japanese attack on Pearl Harbor on December 7, 1941, the US military entered into World War Two. As the country moved onto a war footing, civil aircraft production lines were requisitioned and the L-049 Constellations under construction for the type's

initial airline customers became US Army Air Force (USAAF) property, with the Lockheed designation 49-46-10. Consequently, the Constellation's maiden flight was made by a military C-69, albeit wearing the civil registration NX26500, on January 9, 1943.

The USAAF initially placed orders for 260 C-69s, but problems with the engines, combined with other technical issues, considerably delayed its entry into service. The first operational C-69, 43-10310, was delivered on April 17, 1944, although an extensive joint manufacturer/military test programme continued under USAAF guidance, creating further hold-ups.

Left: **C-121A 48-0615 of the 7101st Air Base Wing, based at Wiesbaden AB, Germany, landing at Tempelhof Airport, Berlin, in April 1965. It was one of three C-121As flown by the unit from 1962 until 1966/67.** Ralf Manteufel

Right: **The distinctive windows in the cockpit roof of the C-69 had been deleted from the Constellation design by the time the USAF began ordering the C-121.** Lockheed Martin

The huge C-69 order book was significantly reduced as the end of World War Two came into sight and the requirement for new transport aircraft diminished. In the event, only 15 C-69s were accepted into military service, as the USAAF decided to standardise on the Douglas C-54 Skymaster as its four-engined transport of choice. During their limited military career, the C-69s served Air Transport Command, 14 for troop transport and a sole C-69C outfitted for the VIP role.

Many other versions were proposed, but abandoned. Most of the C-69s were declared surplus during 1945 and 1946, and sold on to their originally intended civilian customers. Production of the basic design was turned over to the private sector, which belatedly led to the famous Constellation series of airliners.

ENTER THE C-121

Lockheed continued Constellation development via a process of gradual evolution, the resulting aircraft offering sufficient performance to once again attract military interest. The first Constellations ordered by the US Air Force (USAF, which formed out of the USAAF in 1947) were ten C-121As based on the L-749 Constellation. These were delivered from November 1948, the majority serving Headquarters Command and assigned to the 1254th Air Transport Squadron (ATS) at Washington National Airport, DC.

Their primary duty was transporting senior politicians and high-ranking officers on official business. This included accompanying the

Below: **SCAP was an abbreviation of Supreme Commander (Allied) Forces Pacific, painted over a map of Japan. Applied to C-121A 48-613, it identified the aircraft as General MacArthur's personal transport for use between Japan and the US, as well as to and within Korea, from September 1950. The aircraft remained in-theatre after the general returned to the US in April 1951.** USAF via Bob Archer collection



president on long-distance and overseas visits, carrying security and support personnel, and the press. Some were outfitted with a luxurious VIP interior and redesignated as VC-121A and B aircraft, the latter equipped specifically as a presidential transport. They flew in a highly polished natural metal finish, with a white fuselage upper surface.

The squadron relocated to Andrews AFB, Maryland on July 10, 1961, coinciding with the C-121's withdrawal, the type having been replaced by more capable aircraft. The C-121As were reassigned to other commands, including Military Air Transport Service (MATS), Pacific Air Forces, and Tactical Air Command, while two served the Supreme Allied Commander Headquarters Allied Powers Europe (SHAPE). All had been retired from military service by 1968.

The sole VC-121E, 53-7885, was modified on the production line to VIP standard, and delivered to the 1254th Air Transport Group at Washington National on September 10, 1954. Used by Presidents Eisenhower and Kennedy, the aircraft had the call sign Air Force One on presidential flights. Named *Columbine III* after the state flower of Colorado, 53-7885 was retired to the (now) National Museum of the US Air Force in April 1966.

AIR DEFENSE COMMAND

Despite the Constellation being designed primarily for transportation duties, the bulk of the USAF's orders were for the specialised airborne early warning role. The Cold War had induced paranoia within political circles, creating a need for the USAF to maintain an airborne surveillance capability many



Above: **The 1254th ATS flew VC-121A 48-0609 from Andrews AFB after its transfer from Washington National Airport. As a C-121A this aircraft had participated in the Berlin Airlift in 1949.** Bob Archer Collection





Above: **The last USAF Constellation to visit the UK was EC-121T 54-2307 of the 79th AEWs, seen taxiing at RAF Mildenhall on August 25, 1978; the Connie was the star of that year's Mildenhall Air Fete. It returned to the USA shortly afterwards and was retired on September 19, 1978.** Bob Archer

Below: **The first C-121C, 54-0151, was flown by the 1608th ATW at Charleston AFB, within the MATS Atlantic Division.** Lockheed Martin



hundreds of miles from America's Atlantic and Pacific coasts. A study recommended the creation of an airborne early warning resource, affording Air Defense Command (ADC) the ability to respond to a threat while it was over international waters.

Air Defense Command formed the 4701st Airborne Early Warning & Control Squadron (AEW&CS) at McClellan AFB, California on October 1, 1953 to operate ten RC-121Cs. Derived from the commercial L-1049 Super Constellation, the RC-121C's surveillance radar equipment was housed in huge ventral and dorsal radomes. The need for additional resources led to the formation of the 4712th AEW&CS, also at McClellan AFB, on May 25, 1954, with aircraft deployed to Otis AFB, Massachusetts for operations in the eastern USA.

Their primary mission was to provide early warning of enemy aircraft attempting to penetrate the US coastal Air Defense Identification Zone (ADIZ). As a secondary mission they were responsible for controlling the interception of enemy aircraft. Equipment included APS-95 search radar, APS-45 height finder, IFF/SIF (Identification Friend or Foe/Selective Identification Feature) and interrogation apparatus, as well as navigation and communications gear.

Introduction of the improved RC-121D with greater range and improved equipment led to the formation of the 551st and 552nd Airborne Early Warning & Control Wings (AEW&CWs), activated at Otis AFB and McClellan AFB in December 1954 and July 1955, respectively. The limited-capability RC-121Cs were soon withdrawn and following removal of their

surveillance equipment, the nine surviving aircraft were redesignated as TC-121Cs for aircrew training.

Seventy-seven RC-121Ds were ordered between fiscal years 1953 and 1955. The majority saw a modification of role prefix from 'R' (reconnaissance) to 'E' (electronic) to become EC-121D aircraft during 1962, a change underlining the simplistic and almost naive approach the USAF initially applied to the AEW&C task. To ensure compatibility with the Semi-Automatic Ground Environment (SAGE) detection system used to monitor US airspace, 35 RC/EC-121Ds were modified to EC-121H standard in 1962. Continued improvements to the detection and communications equipment ensured that the RC/EC-121s were routinely upgraded.

The EC-121's primary operating area was over the oceans adjacent to the US east and west coasts, but after two Republic F-105 Thunderchiefs were lost to MiG interceptors over North Vietnam early in 1965, the USAF was compelled to provide an early warning capability in the theatre. Five 552nd AEW&CW EC-121s were deployed to Tainan, Taiwan on April 4, 1965, with forward basing at Tan Son Nhut, South Vietnam and Thailand (Ubon, Udorn, and finally Korat).

Known as the College Eye Task Force (CETF), the EC-121s flew missions in conjunction with strike packages heading over North Vietnam, helping ensure that any MiG threat was detected and intercepted prior to the enemy engaging the fighter-bombers. The EC-121 crews performed other diverse roles, however, coordinating the rescue of downed airmen, relaying communications and directing fighter escorts to strike packages, mostly while orbiting over the Gulf of Tonkin or Laos. The mission ended on August 15, 1973. During eight years of operations, radar control by CETF EC-121s was credited with assisting in 25 MiG kills.

The EC-121 was also employed above the Caribbean Sea in support of reconnaissance missions, primarily over Cuba. In particular, USAF Lockheed U-2 missions required the assistance of the EC-121 to monitor Cuban air defences. To perform this mission effectively, the 551st AEW&CW relocated its 966th

Below: **Wyoming ANG's C-121G 54-4074, named City of Sheridan, was at Minneapolis St Paul Airport, Minnesota in December 1970. All Wyoming ANG Connies were named after state cities.** Bob Archer Collection



AEW&CS from Otis AFB to McCoy AFB, Florida in 1962. Operating in pairs, the EC-121s would be airborne in the vicinity of Cuba while a U-2 was active. One of them typically performed its sortie at extremely low level, using the ocean waves to 'bounce' its radar beam for high-altitude coverage.

The 966th AEW&CS was transferred to the 552nd AEW&CW in May 1963 and also used its aircraft as airborne radar pickets, monitoring Cuban airspace to prevent a surprise attack. Additionally, an EC-121 was airborne during visits by President Richard Nixon to his Florida holiday residence.

Aside from the modification to EC-121H standard, there were two specialised versions of the RC-121D, one of which was adapted for a specific task, while the second was a natural progression to incorporate additional equipment. At least six 552nd AEW&CW aircraft were upgraded to EC-121Q standard beginning in 1965. Project Brass Knob involved the EC-121Qs evaluating various pulse Doppler radars designed to eliminate ground clutter during overland detection of low-flying aircraft. Meanwhile, the EC-121T incorporated computerised radar systems and automation into the EC-121H. The 551st AEW&CW was deactivated on December 31, 1969, with its squadrons, personnel and assets being absorbed into the 552nd AEW&CW.

Introduction of the Boeing E-3 Sentry for the airborne early warning role was assigned to the 4552nd Airborne Warning and Control Squadron at Tinker AFB, Oklahoma. The squadron was formed on October 1, 1974 as an interim unit, bridging the gap between the gradual phase out of the EC-121 and the availability of sufficient operational E-3s.

The 552nd AEW&CW remained at McClellan AFB as its faithful EC-121s departed for storage at Davis-Monthan AFB, Arizona. The final EC-121T in service was 55-0133, which departed McClellan on March 28, 1975, although the last 'Connie' to leave the base was TC-121G 54-4051, which was withdrawn on June 30, 1975 (four C-121Gs had gained the 'T' prefix for aircrew training). The wing officially remained at McClellan until April 30, 1976 and re-formed at Tinker AFB with the E-3 on July 1.

Below: EC-121T 52-3414 was at MASDC in 79th AEWS markings during November 1978. Some EC-121Ts retained the upper radome, while others, including 52-3414, had it removed. Bob Archer Collection



Above: Marked for the 79th AES&CS, EC-121D 55-0139 was in store at McClellan AFB in October 1973. It was only with AFRes for a matter of months before being retired in June 1974. Bob Archer

Below: DC-121C 54-0160 with the 4950th Test Wing at Wright-Patterson AFB in around 1970. The gondola mounted on its underside just aft of the wing root housed equipment and an observer. Bob Archer Collection



However, withdrawal of the active duty airborne early warning Connies did not signal the type's complete removal from the task. The Air Force Reserve (AFRes) had formed the 79th Military Airlift Squadron at Homestead AFB, Florida on March 14, 1966, equipped with the Douglas C-124C Globemaster II. It began to re-equip with the EC-121D in the summer of 1971, its final Globemaster departing in October. The 79th was redesignated as an AEW&CS on July 30, 1971, operating the EC-121D before the first of 15 EC-121Ts began arriving in September 1974.

Assigning the EC-121 to AFRes allowed the 552nd AEW&CW to achieve an almost seamless transition from the Connie to the E-3, without affecting mission fulfilment. The active duty squadrons had detached EC-121s to NAS

Keflavik, Iceland for many years and with the phase-out of the active-duty Connie, AFRes took on the commitment. It became an AFRes task in 1976 and continued until October 1, 1978, when the 79th AEW&CS relinquished the C-121, except for one aircraft that remained at Keflavik for the formal handover to the E-3 Sentry. This final Connie was EC-121T 53-0548, which was officially retired on October 16, 1978.

C-121C AND C-121G

The USAF was anxious for its air transport service to benefit from the efficiencies of the latest airliners, and following its experience with the C-121A, ordered 33 C-121C aircraft also based on the civilian L-1049 Super Constellation. These began entering MATS ►



service in June 1955 and all 33 were assigned to the 1607th Air Transport Wing at Charleston AFB, South Carolina, flying a mix of worldwide scheduled services, sorties in response to special requirements, and humanitarian and ad hoc missions.

The Connies ranged far and wide, carrying passengers and all manner of light cargoes. The C-121C was considerably faster than the C-124 and significantly quieter, thanks to its airline insulation, and could fly non-stop from the USA to bases in Britain and Germany. Introduction of the Lockheed C-130E Hercules from mid-1962 saw the 1607th relinquish the C-121C.

This somewhat premature withdrawal left the C-121C with a great deal of airframe life remaining and since the type still offered considerable capability, it was transferred to the Air National Guard. Three ANG units re-equipped with the version: the 150th ATS of the New Jersey ANG, Newark Airport, from October 1962-spring 1973; 156th ATS from the North Carolina ANG, Charlotte Airport, June 1962-winter 1965 and the 183rd ATS Mississippi ANG, Jackson MAP (Military Air Port), July 1962-February 1967. All three squadrons transitioned in 1962, performing



Above: **TC-121G 54-4051** was with the 552nd AEW&CW at McClellan AFB in October 1973. The wing flew a few TC-121s for crew training. Bob Archer

Transport Wing Atlantic flew Douglas C-118s. The consolidation of navy airlift squadrons under MATS in 1958 resulted in all of these aircraft being absorbed into the air force. The C-121Gs were retained in frontline service until 1963, when they were reassigned to the ANG and the following units: the 187th ATS at the Wyoming ANG, Cheyenne Airport, from April 1963 to spring 1972; 147th ATS of the Pennsylvania ANG, Greater Pittsburgh Airport, February 1964-October 1972 and the 167th ATS of the West Virginia ANG, Martinsburg Airport, July 1963-spring 1972.

The Pennsylvania ANG had a second squadron equipped with the Connie, the 140th

with support from a number of C-121Cs.

The EC-121S airframes were painted with pale grey undersides, white upper surfaces and a thick blue cheatline; they carried their serial numbers in tiny digits on the port side of their rear fuselages. Two EC-121S aircraft were sent to Korat RTAFB (Royal Thai Air Force Base), Thailand between July and December 1970 for operations related to the war in South East Asia. The majority of the squadron's sorties were flown in support of exercises at home and overseas, however and its Constellations were the last in USAF service, with EC-121S 54-0164 finally retired on May 14, 1979.

C-69 PRODUCTION

Model	Serials and notes	Number built
C-69	42-94549, later designated XC-69, XC-69E	1
	42-94551 to 42-94553	3
	42-94558	1
	43-10309 to 43-10317	9
C-69C	42-94550	1
Total		15

“Despite the Constellation being designed primarily for transportation duties, the bulk of the USAF’s orders were for the specialised airborne early warning role.”

routine airlift sorties and replacing active-duty units that were increasingly called upon to satisfy the transportation needs of the conflict in South East Asia. The C-121C also served the National Guard Bureau headquarters at Andrews AFB, supporting senior ANG personnel.

As the USAF acquired its C-121Cs, so the US Navy obtained a similar number of equivalent transports, initially designated R7V-1, but becoming C-121G aircraft in 1962. They were assigned to Naval Transport Squadrons 7 and 8 (VR-7 and 8), at Naval Air Station Moffett Field, California. Collectively these units formed the Naval Air Transport Wing Pacific (NATWP), with a similar arrangement on the Atlantic seaboard, where Naval Air

Aeromedical Transport Squadron at Olmstead Airport, Harrisburg, which began receiving a mix of C-121C and G models in October 1962. The unit became a conventional air transport squadron in February 1964 and flew traditional airlift sorties until September 16, 1967, when it was redesignated as the 193rd Tactical Electronic Warfare Squadron.

Several of the squadron's C-121Cs had earlier departed to Lockheed Aircraft Services at Ontario, California for conversion as airborne television and radio broadcasting stations. Four C-121Cs were modified to EC-121S standard with antennas housed in a large fairing mounted atop the fuselage, as well as a series of detachable aerials. They operated under the code name Coronet Solo,

RECONNAISSANCE OVER VIETNAM

The incessant infiltration of personnel, weapons, equipment and supplies from North Vietnam into the south was predominantly along jungle routes comprising the Ho Chi Minh Trail. The US developed small, sophisticated seismic sensors to detect this traffic flow, air dropped onto the trail in a programme known as Igloo White.

It created an 'electronic fence' that automatically detected enemy ground activity, and an airborne relay capability with long loiter time was required to forward data in real time to the Infiltration Surveillance Center at Nakhon Phanom RTAFB, Thailand. The C-121 was selected as the basis for the relay platform, with 30 ex-navy EC-121K/EC-121P aircraft withdrawn from storage, and modified by Lockheed Aircraft Services at Ontario, California from 1966. These were assigned to the 553rd Reconnaissance Wing (RW), formed at Otis AFB on February 9, 1967.

Twenty of these EC-121R aircraft were produced with only passive radar homing and warning and electronic countermeasures equipment, while the remaining ten also featured an active jamming capability. The 553rd RW relocated to Korat RTAFB on October 31, 1967. The 553rd and 554th



Above: **C-121C 54-0157** of the 193rd TEWS Pennsylvania ANG visiting Davis-Monthan AFB, Arizona in February 1977. Bob Archer Collection

Reconnaissance Squadrons (RS) were its flying components, the former transferring to the resident 388th Tactical Fighter Wing on December 15, 1970 when the 553rd RW deactivated. The 554th had transitioned to the Beech QU-22 drone at Nakhon Phanom RTAFB, its aircraft collecting Igloo White data for onward transmission to the EC-121R, but the mission was largely complete for the 553rd RS by December 31, 1971, when it was deactivated. Three EC-121R aircraft were damaged or destroyed during operations, the surviving 27 all being retired to Davis-Monthan AFB.

TESTING

Keen to evaluate the potential of the new turboprop engines, the USAF established the 1700th Test Squadron at Kelly AFB, Texas on December 1, 1954. The unit operated two YC-121F aircraft, each powered by four Pratt & Whitney T34 turboprops. The squadron deactivated on June 1, 1957, its Connies relocating to McClellan AFB until August 1961, when they were retired.

Air Force Systems Command employed Constellations on various test programmes. Former navy EC-121K 143226, redesignated as a GRC-121D (later NC-121D) and with USAF serial 56-6956, was modified by



Above: The broadcasting antennas on EC-121S 54-0159 are clearly visible on its upper fuselage, as is the white device lower down just aft of its wing root. Released in flight, the latter stabilised a retractable cable antenna. The aircraft was with the 193rd TEWS, Pennsylvania ANG, at Pope AFB in April 1974. Bob Archer Collection

Below: EC-121R 67-21490 of the 553rd RW was among 30 ex-navy aircraft converted for a reconnaissance and relay mission over South East Asia. Bob Archer Collection



USAF C-121 PRODUCTION

Model	Serials and notes	Number built
C-121A	48-0608 to 48-0617 conversions to VC-121A, VC-121B	10
C-121C	54-0151 to 54-0183	33
RC-121C	51-3836 to 51-3845 conversions to TC-121C	10
RC-121D	52-3411 to 53-3425 conversions to EC-121H, EC-121T	15
	53-0533 to 53-0556 conversions to EC-121H, EC-121Q, EC-121T	24
	53-3398 to 53-3403 conversions to EC-121H	6
	54-2304 to 54-2308 conversions to EC-121H, EC-121T	5
	55-0118 to 55-0139 conversions to EC-121H, EC-121Q, EC-121T	20
GRC-121D	55-5262 to 55-5268 conversions to EC-121H	7
	56-6956*	1
VC-121E	53-7885	1
YC-121F	53-8157 to 53-8158	2
C-121G	54-4048 to 54-4079 conversions to TC-121G	32
EC-121R	67-21471* to 67-21500*	30
Total		196

* indicates ex-US Navy aircraft

Lockheed for TRAP III (Terminal Radiation Airborne Program III) work, the optical tracking of re-entry vehicles. The 4950th Test Wing (TW) at Wright-Patterson AFB, Ohio operated it from August 1962 until it was retired in November 1969.

The 4950th TW also modified two JC-121C aircraft, themselves converted from C-121C standard, for tests associated with

new and improved radar systems. Equipment was installed within their radomes, with evaluation taking place at Wright-Patterson AFB, as well as on the operational wings.

A unique 4950th TW programme involved much-modified C-121C 54-0160, equipped as a DC-121C with an underside gondola to house test equipment and a scientist. The programme was designed to compare the observation of airborne targets by radar and infrared systems with those of the observer's naked eye. The Air Proving Ground Center at Eglin AFB, Florida, flew the tests between May 1969 and July 1971, when the aircraft was retired.

EC-121S 54-0164 of the Pennsylvania Air National Guard was the final USAF Constellation in service. It arrived for storage at Davis-Monthan AFB on May 14, 1979 and was sold on July 7, 1988 to DMI Aviation in Tucson. Its retirement ended the 35-year USAF career of an iconic piston aircraft. **AN**

Part 2 will look at US Navy Constellations and the other air arms that operated this charismatic aircraft.

Bomber Command Centre Planned for Lincoln

A visitor centre dedicated to Bomber Command will be built in a design echoing that of one of its most famous aircraft, the Avro Lancaster. Built in Lincoln and to be named after the Lancaster's designer, Roy Chadwick, it will tell the story of more than 55,000 Bomber Command personnel killed during World War Two.

Nicky Barr of Lincolnshire Bomber Command Memorial Trust (LBCMT) says: "The centre will help provide an understanding of the effect the campaign had on the civilian population in continental Europe and at home," adding that its design, "echoes the crouching beauty of the Lancaster's form." The LBCMT felt that Roy Chadwick's connection with Bomber Command was of such great note that there could be no better name for its facility.

The Chadwick Centre will explain the story of Bomber Command and include details of the 55,573 personnel who lost their lives in raids over Europe between 1939 and 1945, suffering the highest loss rate of any major branch of the British armed forces. The trust's plans for the site include the construction of a 50m (164ft) steel spire engraved with the names of the 25,611 airmen who died flying from bases in Lincolnshire. The spire will face Lincoln Cathedral, a landmark used by pilots and navigators as they returned home.

An anonymous donor has contributed more than £750,000 to the Trust, securing the construction of the Spire of Names. The donor is said to have strong Lincolnshire connections and believes that Bomber Command's achievements are important for the whole county. The creation of a database of all 125,000 wartime Bomber Command airmen, ground crew and support staff has also been schemed.

Around £3m needs to be raised for the visitor centre and a memorial garden. Barr reports that several fundraising events are planned for 2014 and that the Trust has approached various international organisations for assistance. The project is being supported by the Imperial War Museum, the University of Lincoln and a number of squadron associations.

North Wales Anson Memorial



Separate plaques were prepared for St Michael's Church, shown here before installation, and for outdoor display at the Llandudno Junction Community Centre. Both David Smith



A memorial service was held in Llandudno Junction, North Wales, on the morning of February 15 for five airmen of 8 (Observer) Advanced Flying Unit who died when their Avro Anson Mk I, N5130, crashed near Marl Farm exactly 70 years earlier. The airmen, three from Britain and one each from Poland and New Zealand, were on a navigational exercise to North Yorkshire from RAF Mona, Anglesey, when the aircraft got into difficulty over Llandudno. It is believed that an aileron

broke away, causing loss of control and a spiral dive into the ground.

A plaque was dedicated in St Michael's Church with another in the grounds of Llandudno Junction Community Centre, where a memorial garden has been created with a silver birch tree planted for each of the airmen. Credit goes to Gwyn Hughes of the Deganwy History Group for researching the circumstances of the crash and instigating the memorial.

Blister Hangar Relocated

The Airfield Research Group reports that an extra over metal-framed blister hangar, believed to have been declared surplus to requirements at Duxford shortly after World War Two, was recently scheduled for demolition at a farm near Balsham, Cambridgeshire. Members of the local military vehicle trust alerted Tim Taylor, who is restoring the watch

office at the former RAF Metheringham, Lincolnshire, to the pending action.

Tim contacted the owners, who gifted the structure and allowed him to dismantle and transport it to Metheringham. His long-term aim is to re-erect the hangar adjacent to the watch office, with a view to developing the site as a tourist facility dedicated to Bomber Command

and complementing the existing Metheringham Airfield Visitor Centre. The Friends of Metheringham Airfield support the centre, which is dedicated to the men and women who flew and supported 106 Squadron's Avro Lancaster operations at the station from 1943 until the war's end. Full details can be found at www.metheringhamairfield.com

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HELLDIVER

The Curtiss SB2C Helldiver was a controversial replacement for the Douglas Dauntless dive bomber. But as **Robert F Dorr** reveals, many of its crews appreciated its redeeming features.

Over the nose of his Curtiss SB2C-4 Helldiver, Lieutenant Michael Corman saw Japanese sailors scrambling on the deck of the light carrier *Zuiho*. There were muzzle flashes from anti-aircraft guns. It was October 25, 1944 during the Battle of Leyte Gulf, off the Philippines. "I opened the bomb bay doors, rolled in at 10,000ft, and put my nose on [the] ship's centreline, hoping to plant my 1,000lb bomb straight down on the middle of his flight deck."

Corman logged hundreds of hours in the Helldiver, but remained mildly disappointed in the aircraft that was designed to be faster and more robust than the Douglas SBD Dauntless of Battle of Midway fame. "The Helldiver was bigger and carried more, but it lacked the aileron authority and stability of the Dauntless, and it tended to accelerate at the wrong time, even with the dive brakes extended. Aboard our carrier we didn't badmouth the Helldiver, but out there in the western Pacific we often felt the aircraft didn't live up to its full potential."

Falling somewhere between being one of the greats of the World War Two era and merely a member of the second string, the Helldiver elicited an unusually broad range of comments from its pilots, radioman-gunners and maintainers. Many loved it – many didn't.

To some, the SB2C was a less than satisfactory design. To others, the Helldiver signalled a triumphant conclusion to a long history of warplanes manufactured for the US Navy and Marine Corps by the Curtiss-Wright Corporation of Buffalo, New York. Formed



Above: Radioman-gunner Jim Samar sits in the back seat of his SB2C Helldiver with two .30-cal. (7.62mm) flexible machine guns. The rear seat could be rotated to face forward or to the rear. Robert F Dorr Collection

Left: Today, only one Helldiver in the world remains in airworthy condition and has appeared at air shows for decades. On June 1, 2013, SB2C-5 Helldiver BuNo 83589 (N92879) of the Commemorative Air Force's West Texas Wing goes into the 'break' on approach to Manassas, Virginia. Pilot Ed Vesely is at the controls and author Robert F Dorr is in the back.

John Lackey/Fly By Photography

Right: Leonard Plog was in flight school when the SB2C Helldiver had its baptism of fire at Rabaul. Plog liked the Helldiver better than some pilots and flew it on low-level missions during the Battle for Okinawa in 1945. He later racked up the US Navy's first jet aerial victory when flying a Grumman F9F-3 Panther against a North Korean Yakovlev Yak-9 in 1950.

Robert F Dorr Collection

in battle and still felt today, opinions simply differ as to how successfully the Helldiver overcame its teething troubles to emerge from the shadow of its legendary predecessor, the fabled Dauntless.

The Navy's Bureau of Aeronautics ordered the SB2C on May 15, 1939 at a time when the earlier, mostly-fabric SBC Helldiver biplane was still the standard in carrier air groups. The new SB2C was a tailwheel-equipped, low-wing monoplane similar in appearance to the Brewster SB2A Buccaneer, against which it successfully competed.

Apart from having an internal bomb bay not found on the Dauntless, the SB2C was unremarkable in appearance. It had a 49ft 9in (15.17m) wingspan, with each wing folding for carrier stowage, another feature not found on the Dauntless. With pilot and radioman-gunner in tandem, the

latter with a seat that could rotate to face in any direction, the Helldiver was built around the 1,900-horsepower Wright R-2600-20 Double Cyclone 14-cylinder two-row radial piston engine, driving a 12ft (3.7m) four-blade Curtiss Electric propeller. The powerplant experienced some early developmental problems, but these were resolved more quickly than were the aerodynamic and structural issues.

The head of the Helldiver engineering team was not Curtiss's well-known Don R Berlin (who gave us the P-40 Warhawk), but the company's Raymond C Blaylock. The prototype XSB2C-1 (bureau no 1758) made its maiden flight on December 18, 1940, but was destroyed in a crash only days later. Curtiss rebuilt the aircraft and it flew again in October 1941, but crashed for a second time on December 21 when test pilot Barton T 'Red' Hulse had to bale out during a high-

speed dive. The flight of the first production SB2C-1 on June 30, 1942 was less of a milestone than it might have seemed.

A decision to shift production from Buffalo to a new plant in Columbus, Ohio, led to quality control issues on the assembly shop floor and criticism from the Senate committee on national defence headed by Senator Harry S Truman. At least one naval aviator who picked up a Helldiver at Columbus said it was "common knowledge" that the work practices at the plant were shoddy. Public criticism from the Truman-led committee helped improve things.

TEETHING TROUBLES

Mostly for aerodynamic reasons, the Helldiver initially gained a reputation for poor stability, structural flaws and poor handling. Britain rejected the Helldiver after receiving 26 examples, and the US Army curtailed plans to put its A-25 Shrike version into combat and



the army's 900 Helldivers ended up doing utility and hack work. Some were transferred to the US Marine Corps to become trainers and were re-designated SB2C-1As.

Lengthening the fuselage by one foot and redesigning the fin, fixed the greatest aerodynamic problems and, in retrospect, it appears stability and structural issues were exaggerated. Curtiss built 978 SB2C-1 models and a single XSB2C-2 seaplane version before turning out 1,112 SB2C-3s with numerous minor changes to the engine and propeller. The principal version was the SB2C-4, of which 2,045 were built, with redesigned flaps for improved dive performance, a propeller spinner and eight under-wing stations for 5in high velocity rockets. A further 970 SB2C-5 models were subsequently produced; these had increased fuel capacity, but arrived too late to see combat. Fairchild produced the SBF-1



Left: A SB2C-4E Helldiver of VB-85 photographed on August 11, 1945, near the end of the war. This is apparently not a combat mission because the radioman-gunner in the rear seat is aiming a camera rather than guns. US Navy via Robert F Dorr



A Helldiver gets the signal to go off the wooden deck of a US carrier in the Pacific. US Navy via Robert F Dorr

through to the SBF-4 and the Canadian Car & Foundry the SBW-1 to '5. These companies produced identical aircraft to the Curtiss equivalents. Total production of Helldivers reached 7,141.

INTO ACTION

The first Helldiver combat mission was a carrier-launched strike on the Japanese fortress at Rabaul, New Britain, on November 11, 1943. A youngster from Oregon, Leonard Plog, was in naval flight training when he read about it. As Helldivers participated in more and more actions in the South Pacific, Plog followed with interest, pinned on his aviator's wings in June 1944, and was in the front seat of an SB2C-4 flying from the USS *Essex* (CV 9) in time for the battle of Okinawa. "I wanted to shoot down enemy aircraft," Plog said. "I wasn't thinking about dropping bombs and firing rockets. He continued: "I flew the Dauntless in training. The SB2C was significantly faster with a bigger powerplant and a four-blade prop that was quite efficient." In fact, while the navy wanted the SB2C to be 60mph (96km/h) faster than the SBD, it actually ended up being just 35mph (56km/h) faster with a top speed of 295mph (475km/h).

Plog added: "On a dive-bombing mission to a ball bearing plant in the Japanese home islands, I had a cowl flap come open and threw me into an asymmetrical condition. The SB2C responded well to the touch so it was easy to get straightened out. When we flew strikes on Japan, as an ensign I didn't have much voice in planning or execution. I did as everyone else did. I was told what we were going after. I knew the altitudes we would use for approach and attack. 'They,' meaning the squadron commander and my flight leaders,

would decide things like our dive angle, as to whether it would be steep or shallow. The old SB2C did vertical pretty good. It had speed brakes that were very effective." Summing the Helldiver design in one word, Plog said it was "sensible"

Plog flew 66 combat missions in the SB2C-4 by the end of the war and finally got his wish one war later: On July 2, 1950 at the controls of a Grumman F9F-3 Panther, he shot down a North Korean Yakovlev Yak-9P to rack up the navy's first jet kill and first kill of the Korean War.

ON BOARD ARSENAL

The forward-firing armament of the Helldiver went through several iterations during the dive-bomber's production run. Eventually the navy settled on two wing-mounted 20mm Mark IV cannons. When properly maintained, they became a lethal strafing tool, but crews in the Pacific did not always keep them in good order. Some were replaced aboard ship without proper removal of the Cosmoline

(wax-like material) used to protect them during shipment. Well-maintained cannons had a rate of fire of 800 rounds per minute and literally tore up Japanese airfields in the final months of the war.

The enlisted radioman-gunner in the back seat was the eyes, ears and often the voice of an SB2C Helldiver. Jim Samar began training for this position on the Helldiver at Wildwood, New Jersey, in November 1943 and flew strikes from USS *Ticonderoga* (CV 14) and USS *Hancock* (CV 19) over the Philippines, Formosa and Japan. From his first day, he heard criticism of his aircraft. "They told us SB2C was an abbreviation for 'son of a bitch second class'. They called it the 'Beast', but that was exaggerated. She was never as nimble as the Dauntless I flew in training, but she was a solid, stable platform and a good dive-bomber."

The radioman-gunner could deploy his flexible twin .30-caliber (7.62mm) hand-held guns only by lowering the rear deck of the fuselage immediately ahead of the vertical



The Helldiver was a chunky aircraft and unlike its Douglas Dauntless predecessor it had an internal bomb bay. US Navy via Robert F Dorr

SPECIFICATION – SB2C-4 HELLDIVER

Type:	Two-seat dive bomber
Powerplant:	One 1,900hp Wright R-2600-20
Performance:	Maximum speed, 295mph (475km/h) Cruising speed, 158mph (254km/h) Ceiling 29,100ft (8,870m) Range 1,165 miles (1,875km)
Weights:	Empty 10,547lb (4,784kg) Maximum take-off weight 16,616lb (7,537kg)
Dimensions:	Span 49ft 9in (15.16m) Length 36ft 8in (11.80m) Height 13ft 2in (4.01 m) Wing area 422sq ft (39.20m ²)
Armament:	Two fixed, forward-firing Mark IV 20mm cannons Four, forward-firing .50-caliber machine guns (US Army A-25) Two flexible .30-caliber Browning M1919 rear-facing machine guns

Right: **Michael Corman flew every version of the Helldiver from SB2C-1 to the SB2C-5, with the exception of the one-off SB2C-2. He said the difference between early and later models was “night and day – we had a batch of SB2C-3s with wiring installed incorrectly and the whole system would just stop operating in mid-air. The SB2C-4 had no such problems.”**
Robert F Dorr collection



stabiliser. Early plans for a power turret on the SB2C did not materialise.

On his first mission in the Helldiver, pilot James Newquist and gunner Samar came under attack by a Nakajima Ki-44 Hayabusa fighter, known to the Allies as an Oscar, near Manila Bay on November 5, 1944. Samar lined up the fighter and fired. “I saw hits sparkle against his fuselage and smoke erupt from his engine”, Samar said. The Oscar broke off its attack and plummeted away. No one saw it impact the ground, so Samar did not receive credit for an aerial victory – but Helldiver back-seaters totted up about 200 during the course of Pacific fighting.

BOMBING IN BATTLE

Michael Corman flew the Dauntless in combat and piloted every version of the Helldiver from SB2C-1 to SB2C-5, with the exception of the one-off SB2C-2 model. With about 700 hours in his logbook, he is one of the most experienced American

dive-bomber pilots of the war. “I had a sentimental attachment to the Dauntless, but the Helldiver was muscular and it did the job,” said Corman. “The difference between early versions and later models was night and day. It was very clear to us that they cleaned up their act [at Curtiss] and smoothed out some of the initial problems with the design.”

Some dive-bomber pilots strafed and fired rockets at Iwo Jima, Okinawa and Japan, and never had a chance to roll in on a Japanese warship. Corman had the experience of dive-bombing surface ships at least four times, among them the carrier *Zuiho* and the light cruiser *Kiso*. “The only aircraft in the world that could attack in a true vertical dive was the German Junkers Ju 87 Stuka,” said Corman, “but the Helldiver came very close. That was the key in attacking a ship. A warship is a very narrow target and you don’t have a lot of leeway as to when and how you drop your bomb. The geometry is a little different each time, but we knew we could rely on the Helldiver to get us near-

vertical and to assure us of dive-bombing accuracy.”

Near the war’s end, the US fast carrier force was busily putting Helldivers ashore and replacing them in carrier air groups with aircraft from Grumman and Vought – partly because of an increased emphasis on fighters within the air groups. Still, Pentagon number-crunchers say Helldivers flew 18,808 combat sorties in the Pacific, sank or helped to sink 120,000 US tons of Japanese shipping, and shot down 41 Japanese aircraft. Some 271 Helldivers were lost to anti-aircraft fire and 18 to Japanese fighters.

Some Helldivers participated in the massive flyover of the surrender ceremony on the battleship USS *Missouri* (BB 63) in Tokyo Bay, September 2, 1945. “We felt we deserved to be there,” said Corman. Whatever crewmembers thought about the Curtiss SB2C Helldiver as an aeronautical creation, none doubted that the Helldiver had earned its place by the time victory was celebrated. **AN**

The prototype XSB2C-1 Helldiver (BuNo 1758) during an early test flight near Buffalo, New York. US Navy via Robert F Dorr



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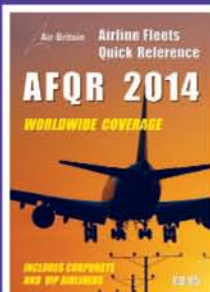
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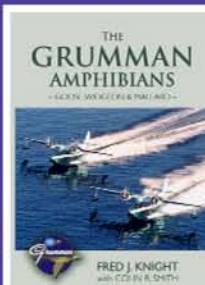


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HK - HL - HP - HS - HZ - I - JA - JU - JV - LN - LV - LZ - M
N - OE - OH - OK - OM - OO - OV - PH - PJ - PK - PL - PM - PN
PU - PZ - R - RA - RB - RC - RD - RE - RF - RG - RH - RI - RJ - RK
TL - TR - TS - TT - TV - TX - TY - UA - UB - UC - UD - UE - UF - UG
VH - VJ - VK - VL - VM - VN - VO - VP - VQ - VR - VS - VT - VU - VV - VY
W - X - Y - Z - ZA - ZB - ZC - ZE - ZF - ZG - ZH - ZI - ZJ - ZK - ZL - ZM
ZN - ZO - ZP - ZQ - ZR - ZS - ZT - ZU - ZV - ZW - ZX - ZY - ZZ

AIR-BRITAIN - Founded 1948

REGISTER REVIEW

The latest changes on the UK, Irish, Isle of Man and Guernsey registers.



The latest Airbus A320 to join British Airways is G-EUYS, shown about to depart Manchester. Karl Nixon

One new type appears on the registers this month, Aeros Fox 16T/RIP 1 G-CIED. It is listed under the UK's SSDR (Single-Seat Deregulated) category.

Airline additions for the UK register include three new aircraft for British Airways – an Airbus A320 and A380, and a Boeing 777-300ER – along with a new A320 for easyJet.

The sole bizjet change concerns former Nigerian-registered Cessna Citation Bravo G-SPRE.

Westland Scout AH1 G-KAXW has been re-registered following its acquisition by Kennet Aviation at North Weald. The latest Voyager for the RAF/AirTanker, G-VYGH, also appears and should be taking up a military serial shortly.

Irish additions begin with a former British

Luscombe, taking up previously unallocated 'period' marks. There is also a pair of former RAK Airways A320s currently stored at Dublin and a Rans S.6 imported from the UK.

Manx additions are an Embraer Legacy 650, a re-registered CitationJet CJ3, JCB's Gulfstream G650 and Sikorsky S-76, and a re-registered Bombardier Learjet 60.

There are no new additions to the Guernsey register.

RESTORATIONS

REG'N	MODE(S)	TYPE	C/N	OWNER
G-BIIF	406B0F	Fournier RF-4D (built by Sportavia-Putzer GmbH)	4047	A Hoskins and KM Fresson, Lee-on-Solent, Hampshire
G-BUKJ	400C1D	British Aerospace ATP	2052	PTB (Emerald) Pty Ltd, Stored at Bucharest-Baneasa, Romania
G-CHXB	405E89	Grob G102 Astir CS77	1819	TS Miller, (Southport, Merseyside)
G-CLIN	405674	Comco Ikarus C42 FB100 (assembled by Aerosport Ltd)	0712-6943	J O'Halloran, Ravensdale Park, Dundalk, Co. Louth, Northern Ireland
G-DEWE	405F92	Flight Design CTSW (assembled by P and M Aviation Ltd)	8435	AR Hughes, Elm Tree Park, Manton, Wiltshire
G-MYLW	4037E6	Rans S.6-ESD Coyote II (built by JR Worswick)	PFA 204-12560	AD Dias, (Dudley, West Midlands)
G-PLAD	404D5D	Kolb Twinstar Mk.III Xtra (Built by PJ Ladd)	PFA 205-14350	A Young, (Bircotes, Nottinghamshire)
EI-ERX	4CA953	Airbus A320-214	3907	Whitney Ireland Leasing Ltd, Stored at Dublin

NEW REGISTRATIONS

REG'N	MODE(S)	TYPE	C/N	OWNER
G-CICJ	406A7A	Sikorsky S-92A	920212	Bristow Helicopters Ltd, Aberdeen
G-CIDF	406ACB	AutoGyro MTOSport (Assembled by Rotorsport UK Ltd)	RSUK/MTOS/051	KJ Whitehead, Perth, Perth & Kinross

G-CIDO	406B10	Glaser-Dirks DG-600/18M	6-54M8	SSM Turner, Sleaf, Shropshire
G-CIDP	406B11	Sonex Aircraft Sonex	LAA 337-15106	CC Miller, (Shoreham-by-Sea, West Sussex)
G-CIDV	406B1A	Ace Aviation Magic Laser	AL155/AM167	PF Brightmore, (Bloxham, Oxfordshire)
G-CIDW	406B0E	Evektor EV-97 Eurostar	LAA 315-15227	D Workman, (Brierley Hill, West Midlands)
G-CIDY	406AEF	P and M Aviation Quik GTR	8675	GP Wade, (Watford, Hertfordshire)
G-CIED	406B30	Aeros Fox 16T/RIP 1	23-12-13/RIP1	RJ Ripley, (Oakley, Bedfordshire)
G-CIEI	403A13	Lindstrand LBL HS-110	174	Lindstrand Asia Ltd, (Oswestry, Shropshire)
G-CIET	406B06	Lindstrand LBL 31A Cloudhopper	1035	CA Butter and SI Williams, (Newbury, Berkshire & Cardiff)
G-CIFO	406A87	Aeropro Eurofox 912(S) (Built by PL Poole and D Johnstone)	LAA 376-15223	Herefordshire Gliding Club Ltd, Shobdon, Herefordshire
G-CIFZ	406AC0	Comco Ikarus C42 FB80 Bravo (Assembled by Red-Air UK)	1311-7293	GS Aviation (Europe) Ltd, Clench Common, Wiltshire
G-CIGS	406AFB	AutoGyro MTOSport (Assembled by Rotorsport UK Ltd)	RSUK/MTOS/052	GJ Slater, Clench Common, Wiltshire
G-CKFX	406B14	Centrair 101AP Pegase	101029	L Sleigh, Trustee of G-CKFX Flying Group, Rattlesden, Suffolk
G-CLMF	406B0B	Glaser-Dirks DG-200	2-83	PJ Whitehouse, (Dewsbury, West Yorkshire)

G-COPP	406A5C	Schleicher ASG-29E (Officially registered as an ASW-27-18E)	29667	GD Coppin, Lasham, Hampshire
G-DDDK	406B16	PZL-Bielsko SZD-30 Pirat	S-04-08	Buckminster Gliding Club Ltd, Saltby, Leicestershire
G-ENMY	406A2B	Kubicek BB-S/Ship	1028	AM Holly, (Breadstone, Gloucestershire)
G-EUYS	406A02	Airbus A320-232	5948	British Airways PLC, London Heathrow
G-EZWP	406A91	Airbus A320-214	5927	easyJet Airline Company Ltd, Luton (NB)
G-FFFA	406AA6	P and M Aviation PulsR	8673	Flying for Freedom Ltd, Cotswold, Gloucestershire
G-FVIP	406225	AgustaWestland A109E Power	11011	Castle Air Ltd, Trebrow, Liskeard, Cornwall
G-GAEC	406ADC	Aquila AT-01-100A	AT-01-100A-312	KHAir BV, Lelystad, Netherlands)
G-GARB	406A6A	Evektor EV-97 Team Eurostar UK (Assembled by Light Sport Aviation Ltd)	2013-4104	RJ Garbutt, Wycombe Air Park, Buckinghamshire
G-GPSI	406B27	Grob G115	8047	Westbeach Aviation Ltd, Wolverhampton-Halfpenny Green, Staffordshire
G-GPSR	406B26	Grob G115	8024	Westbeach Aviation Ltd, Wolverhampton-Halfpenny Green, Staffordshire
G-GTRE	406A96	P and M Aviation Quik GTR	8674	MJ Austin, (Cheddington, Buckinghamshire)
G-JMCS	406B1B	Boeing 737-4Y0	24903	Atlantic Airlines Ltd, Coventry, Warwickshire
G-KAXW	403EC4	Westland Scout AH1	F9740	Orion Enterprises Ltd, North Weald, Essex
G-MRGT	406B0C	Best Off SkyRanger Swift 912(1)	BMAA/HB/638	GI Taylor, (Houghton Regis, Bedfordshire)
G-OAUD	400C58	Robinson R44 Raven I	1467	A Giles, Fair Oaks, Surrey
G-ONSW	406B1D	Best Off SkyRanger Swift 912S(1)	BMAA/HB/646	NS Wells, (Dumbarton, West Dumbartonshire)
G-PNTB	406AFE	Airbus Helicopters EC135T2+	0762	Abbey International Finance Ltd, Oxford
G-PNTC	406AFD	Airbus Helicopters EC135T2+	0810	Abbey International Finance Ltd, Oxford
G-SHKI	406AFF	Comco Ikarus C42 FB 80 Bravo (Assembled by Red-Air UK)	1311-7292	Poet Pilot (UK) Ltd, Gloucestershire
G-SPRE	406B1F	Cessna 550 Citation Bravo	550-0872	Xclusive Jet Charter Ltd, Southampton, Hampshire
G-STBI	406A34	Boeing 777-336ER	43702	British Airways PLC, London Heathrow
G-TXAS	403468	Cessna A.150L Aerobat (Texas Taildragger conversion)	A150-0381	RS Grace, Trustee of Tango Xray Alpha Sierra Group, Rayne Hall Farm, Rayne, Essex
G-VSOZ	406AD2	Yakovlev Yak-18T	10-34	NR Parsons, Lausanne, Switzerland
G-VYGH	406AB4	Airbus A330-243	1390	AirTanker Ltd, RAF Brize Norton, Oxfordshire
G-WSTY	406ACA	Lindstrand LBL 77A	1481	C and C Westwood, (Huddersfield, West Yorkshire)
G-XARA	406ACC	Czech Sport Aircraft PS-28 Cruiser	C0500	AB English, Trustee of Andrew English PS-28 Group, Redhill, Surrey
G-XLED	406A03	Airbus A380-841	144	British Airways PLC, London Heathrow

EI-AEH	4CAA83	Luscombe 8F Silvaire	1821	D Kelly, Trevet-Dunshaughlin, Co. Meath
EI-FAM	4CAB67	Rans S.6-ES Coyote II	PFA 204-13864	N Blair, Cork, Co. Cork
EI-FDV	4CAB78	Airbus A320-214	2158	ILFC Ireland Ltd, Stored at Dublin
M-AAKV	43E9DE	Embraer EMB-135BJ Legacy 650	14501183	AAK Company Ltd, Beirut International, Lebanon
M-ELow	43E717	Cessna 525B CitationJet CJ3	525B0148	Sleepwell Aviation Ltd, Ronaldsway, Isle of Man
M-JCBB	43E9D5	Gulfstream G650	6049	JC Bamford Excavators Ltd, East Midlands, Leicestershire
M-JCBC	43E9DF	Sikorsky S-76C++	760616	JC Bamford Excavators Ltd, East Midlands, Leicestershire
M-YETD	43E99D	Bombardier Learjet 60	60-421	German ETD GmbH, Frankfurt-Main, Germany

PREVIOUS IDENTITIES

G-BUKJ	ex EC-HCO	G-PNTB	ex I-PNTB
G-CICJ	ex N212VL	G-PNTC	ex I-PNTC
G-CIDO	ex D-KMCO	G-SPRE	ex 5N-IZZ
G-CIEI	ex G-TRIB	G-TXAS	ex G-HFCA
G-CIET	ex EI-DJZ	G-VSOZ	ex HA-YAN
G-CKFX	ex BGA5067	G-VYGH	ex EC-336
G-CLMF	ex D-7419	G-XLED	ex F-WWAK
G-DDDK	ex BGA2031	EI-AEH	ex G-BSHI
G-EUYS	ex F-WWDY	EI-ERX	ex A6-RKB
G-EZWP	ex D-AUBF	EI-FAM	ex G-CBOK
G-FVIP	ex G-HCFC	EI-FDV	ex A6-RKC
G-GPSI	ex PH-KND	M-AAKV	ex PR-LBX
G-GPSR	ex PH-SPH	M-ELow	ex M-ELON
G-JMCS	ex N451KA	M-JCBB	ex N649GA
G-KAXW	ex G-BXRR	M-JCBC	ex G-XJCB
G-OAUD	ex G-CDHV	M-YETD	ex M-GLFZ

CANCELLATIONS

REG'N	TYPE	C/N	REASON
G-ASME	Bensen B.8M	12	Cancelled by CAA (Broken up for spares 2013)
G-AVVJ	Morane-Saulnier MS.893A Rallye Commodore 180	10752	Cancelled as destroyed (Crashed at Felthorpe 17.8.13)
G-BCBZ	Cessna 337C Super Skymaster	337-0942	Cancelled as Permanently WFU (Broken up at Gloucestershire and removed by road 7.10.11)
G-BJXP	Colt 56B	393	Cancelled as Permanently WFU (CoFA expired 9.9.00)
G-BLRA	British Aerospace 146-100	E1017	Cancelled as Permanently WFU (Dismantled at Exeter 1.14 and roaded to Cotswold for breaking up 18.1.14)
G-BNFS	Cessna 152	15283899	To Pakistan
G-BPSS	Cameron A-120	1947	Cancelled as Permanently WFU (CoFA expired 17.3.06)
G-BTGH	Cessna 152	15281048	To Pakistan



Gulfstream G650 M-JCBB was delivered to JC Bamford Excavators by the manufacturer on January 19. Steve Blood



Cessna 152, G-BTGH, has been cancelled from the UK register after being sold to a new owner in Pakistan. Kenneth J H Hearn

G-BUTE	Anderson EA-1 Kingfisher	PFA 132-10798	Cancelled by CAA (Permit to Fly expired 15.10.99)
G-BWKF	Cameron N-105	3736	Cancelled by CAA (CoFA expired 16.10.11)
G-BXRR	Westland Scout AH1	F9740	Re-registered as G-KAXW
G-BZFA	Avro RJ70	E1223	Cancelled as Permanently WFU (Last known of stored at Bacau-George Enescu International, Romania 3.10)
G-CCGT	Cameron Z-425	10398	To Denmark
G-CDHV	Robinson R44 Raven I	1467	Re-registered as G-OAUD
G-CDTD	Airbus Helicopters AS350B2 Ecureuil	9072	To Germany as D-HPWF
G-CDVX	Curtiss P-47G-10-CU Thunderbolt	---	To USA as N47FG
G-CGBC	Kubicek BB26Z	705	To Austria
G-CGRF	Lindstrand LBL 140A	1327	To Turkey
G-CHNE	Schempp-Hirth Nimbus 2B	91	To Czech Republic (Written off in a field landing near Milfield 10.13. Its sale to the Czech Republic is therefore likely to be for either a rebuild or for use as spares)
G-CHVN	Bombardier Challenger 604	5515	To Denmark (Actually purchased by Royal Danish Air Force for engines & spares. WFU at Aalborg 1.14. No OY-registration allocated)
G-CHXB	Grob G102 Astir CS77	1819	Cancelled by CAA (Restored again later in the month)
G-CRDY	Agusta-Bell 206A JetRanger	8112	To France
G-DEWE	Flight Design CTSW	8435	Cancelled by CAA (Restored again later in the month)
G-DGIK	DG Flugzeugbau DG-1000S	10-72T11	To France
G-DHJZ	Airbus A320-214	1965	To Cayman Islands as VP-CXG

UPDATES & CORRECTIONS

G-APXY	Became F-AYAS 7.1.14
G-BSHI	Became EI-AEH 7.1.14
G-BVTD	Badly damaged on landing at Stoke Golding 10.8.13. (Cancelled by CAA 30.9.13)
G-BWTD	Became SP-KOO 15.11.13
G-BZEH	Became N963MR 8.6.11 (Cancelled to USA 1.4.11)
G-CBOK	Became EI-FAM 23.1.14
G-CFBO	Type changed to Reality Escapade 22.1.14
G-CHPB	Became SX-EMI 12.13
G-CHPK	Builders changed to MR Tingle and AC Andover 7.1.14
G-CKRT	Became VH-GWS 9.12.13
G-CWTD	Type changed to A22 Foxbat (modified) 8.1.14
G-ECON	Became F-HROY 7.1.14
G-ESCI	Became OO-EMS 1.14
G-FIDL	Type changed to Thruster T600T 450JAB 3.1.14
G-IDWR	Became N101LY 10.1.14
G-OIBM	Became OK-VYS 16.10.13
G-PLAC	Became VH-TBJ 5.1.14
G-RAPP	Became N505XS 23.1.14
G-SJCH	Became YL-FBI 6.9.13
EI-DUS	Became OE-ICS 6.12.13
2-HIGH	Registered owner is Phoenix Managment Ltd
2-KOOL	Registered owner is Charlie Alpha Ltd
2-OFUS	Registered owner is LJ Murray
2-PLAY	Registered owner is N700 VB Ltd

G-DLTC	Hawker 900XP	HA-0035	To USA as N33235
G-EZUX	Airbus A320-214	5138	To Switzerland as HB-JXA
G-FCLF	Boeing 757-28A	28835	To Bermuda as VQ-BTB
G-HCFC	AgustaWestland A109E Power	11011	Re-registered as G-FVIP
G-HFCA	Cessna A.150L Aerobat	A150-0381	Re-registered as G-TXAS
G-HLEL	American Blimp A-60+	010	To USA
G-HPY	Bombardier Learjet 45	45-2102	To Canada as C-GLRP
G-HRBS	Robinson R22 Beta II	3537	Cancelled as Destroyed (Crashed at Goodwood 28.9.10)
G-JCBJ	Sikorsky S-76C+	760502	To USA as N767MY
G-JETC	Cessna 550 Citation II	550-0282	Cancelled by CAA (CoFA expired 1.4.10. Broken up at Southend, fuselage noted in a yard at Bayton Road Industrial Estate in the Exhall district of Coventry 26.10.13)
G-JMCS	Boeing 737-4Y0	24903	To USA as N451KA
G-KKAZ	Airbus A320-214	2003	To Germany as D-ABNE
G-KUKI	Robinson R22 Beta	1802	To Italy
G-MBTH	Whittaker MW.4	001	Cancelled as Permanently WFU (Permit to Fly expired 25.6.12)
G-MJBK	Swallow Aeroplane Company Swallow B	582007-2	Cancelled by CAA (Permit to Fly lapsed)
G-MTNL	Mainair Gemini/Flash IIA	591-1187-5-W380	Cancelled as Permanently WFU (Permit to Fly expired 14.1.03)
G-MVZK	Quad City Challenger II	PFA 177-11498	Cancelled as Permanently WFU (Permit to Fly expired 23.9.04)
G-MYFU	Mainair Gemini/Flash IIA	924-1092-7-W722	To Poland
G-MZER	Cyclone AX2000	7251	Cancelled by CAA (Force-landed near Two Ash Farm, Chard 9.8.13)
G-OIRP	Gulfstream G200	142	To Thailand
G-OMLS	Bell 206B JetRanger II	1957	To USA as N508XS
G-OTDI	Diamond DA40D Star TDI	D4.031	To Germany
G-PNTC	Airbus Helicopters EC135T2+	0810	To France
G-TRIB	Lindstrand LBL HS-110	174	Re-registered as G-CIEI
G-TSLA	Bombardier Global 5000	9231	To Portugal as CS-TSL
G-UILA	Aquila AT-01	AT01-165	To Germany as D-EBJK
G-UNIV	Montgomerie-Parsons Two Place (Modified)	PFA G/08-1276	Cancelled as Permanently WFU (Permit to Fly expired 18.1.05. Preserved at Museum of Flight, East Fortune, East Lothian)
G-VKGO	Embraer EMB-500 Phenom 100	50000145	To USA as N63007
G-VOUS	Cessna 172S Skyhawk SP	172S11266	To USA as N266CS
G-XJCB	Sikorsky S-76C++	760616	To Isle of Man as M-JCBC
G-ZAPH	Bell 206B JetRanger III	4401	To Czech Republic
EI-BUA	Cessna 172M	17265451	Cancelled as Removed from Service (Fuselage noted derelict at Dublin-Weston 19.11.13)
EI-CZN	Sikorsky S-61N	61740	To USA
EI-DKC	Solar Wings Pegasus Quasar	SW-WQQ-0351	Cancelled at Owner's Request
EI-EAG	Pipistrel Virus 912	265V912	To Hungary
EI-ETT	Boeing 737-4K5	24125	To USA as N240JT (Initially painted as N333JJ but this was not officially taken up)
EI-ETU	Comco Ikarus C42 FB UK	PFA 322-123774	Cancelled as Accident/Incident (Crashed on take-off at Carrickbrack, Letterkenney, Co.Donegal 27.12.12)
EI-EYD	Airbus A320-232	3012	To Vietnam as VN-A559
EI-FDG	Airbus A320-232	932	To USA as N192AT
EI-FDH	Airbus A320-232	943	To USA as N193AT
EI-FDK	Airbus A320-214	3240	To People's Republic of China as B-1825
EI-FDN	Airbus A320-214	2338	To People's Republic of China as B-9989
EI-GSE	Reims Cessna F.172M	1105	Cancelled as Removed from Service (Fuselage noted derelict at Dublin-Weston 19.11.13)
EI-OZH	Airbus A300B4-203(F)	234	To USA as N833JM
EI-WXB	Avro RJ85	E2311	Cancelled as Removed from Service (Broken up at Norwich 2.14)
M-AKAK	Embraer EMB-135BJ Legacy 600	14500970	To USA as N970EC
M-DRIL	Pilatus PC-12/47E	1318	To USA as N316CT
M-ELON	Cessna 525B CitationJet CJ3	525B0128	Re-registered as M-EL0W
M-GLFZ	Bombardier Learjet 60	60-421	Re-registered as M-YETD
M-GULF	Gulfstream G200	167	To Czech Republic as OK-GLF
M-IBAE	ATR 72-212A	759	To France as F-WNCL, then F-ONCL
M-NACO	Airbus Helicopters EC155B1	6968	To Monaco
M-SITM	BAe 125-800B	258050	To USA
M-YGVI	Gulfstream G650	6006	To Finland as OH-GVV

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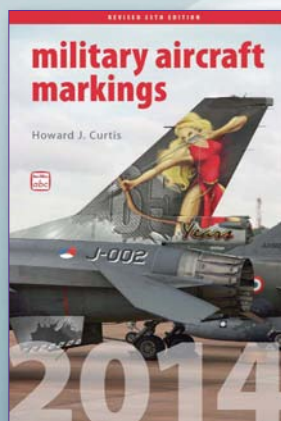
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AIRPORT MOVEMENTS

A round-up of notable aircraft visiting UK Airports

ABERDEEN

6/1 OE-FPK CitationJet 525A CJ2+. 7/1 G-JENZ EC225LP delivered to CHC. 8/1 D-IATE Cessna F.406 Air-Taxi Europe. 10/1 PH-HSF 737-8K2 Transavia. 14/1 SE-MAO BAE Systems ATP West Air Europe. 15/1 D-CAST CitationJet 525B CJ3. 17/1 LX-NEW PC-12. 19/1 G-CICJ S-92A delivered to Bristow. 23/1 D-AMGL BAe 146-200 WDL op for Flybe. 25/1 LX-JFM PC-12. 28/1 OE-FIX CitationJet 525 CJ1. 29/1 OE-FFB Citation 510 Mustang. 30/1 LX-EAA Learjet 45.

BIGGIN HILL

1/11 SE-MIR Diamond DA42 dep 3rd. 3/11 OE-IOD Falcon 900 n/s. 4/11 9H-JPC Legacy 600. 5/11 LY-LTA Hawker 800XP n/s. 7/11 OY-NPF Metro 23 North Flying dep 10th. 9/11 SP-COM Cessna 172S; 105/XK TBM700A ET00.040, French AF. 12/11 OY-RSE PC-12 n/s. 14/11 OE-IRE Gulfstream G450. 17/11 HB-KHB Cirrus SR20. 18/11 SP-EAR Citation 680 Sovereign dep 20th. 20/11 OK-SVK PA-46-500TP dep 23rd. 22/11 D-CGMR Citation 560XLS; F-HOBS Cirrus SR20 n/s. 24/11 RA-04214 Robinson R44. 25/11 D-CHGS Phenom 300 n/s; 9H-IPG Challenger 604 n/s. 28/11 PT-WUM Citation 750 X. 29/11 F-GXKC Cirrus SR22. 30/11 F-HIPE Phenom 300 n/s; UR-LDB Citation 680 Sovereign n/s.

4/12 D-FUEL PC-12. 5/12 OO-FTS Citation 560XL dep 10th. 6/12 F-HREL Cirrus SR22 dep 9th. 7/12 N673SA PA-24-250 n/s. 8/12 D-IITN Avanti. 9/12 D-GUST GA-7 Cougar dep 10th. 10/12 F-GTYD SOCATA TB-20; OE-FWR Diamond DA42 dep 12th. 11/12 D-CEEE Citation 560XLS dep 13th; N727DL Saab 340A dep 13th; OE-IOE Falcon 900EX n/s; 9H-GYB Hawker 900XP dep 13th. 19/12 I-TAKA Citation 560XLS; OE-FWH Citation 510 Mustang n/s. 22/12 OO-AFM Beech C90B. 28/12 I-PALS PA-31T Cheyenne II dep 30th.

BIRMINGHAM

1/12 OH-BLJ 717-21S Blue 1 op for SAS; ZZ333 Voyager KC2 10 Sqn, RAF. 2/12 EC-KES CitationJet 525A CJ2. 6/12 F-GISH Citation 510 Mustang. 8/12 OH-BLQ 717-23S Blue 1 op for SAS. 10/12 D-AEUK Challenger 604; YR-NAY Hawker 900XP. 11/12 A6-FEJ 737-8KN Fly Dubai on delivery dep 21st;

United Arab Emirates Air Force & Air Defence Airbus A330 MRTT, 1302, lifts off from Manchester Airport on February 25, having arrived the previous day. It was returning from the US and had passed through the airport westbound on February 21-22. Gary Claridge-King

D-CBCT CitationJet 525C CJ4; AP-BGK 777-240ER Pakistan International Heathrow Diversion. 12/12 D-CSIX Learjet 60; F-GSMG CitationJet 525B CJ3. 13/12 VH-PPD Falcon 900C. 17/12 EZ-A017 737-82K Turkmenistan Airlines on delivery. 18/12 HB-LTN Avanti. 20/12 OH-BLP 717-23S Blue 1 op for SAS. 21/12 A6-FEK 737-8KN Fly Dubai on delivery dep 5/1. 24/12 D-CJET CitationJet 525B CJ3. 29/12 D-CLEO Citation 680 Sovereign; D-CCCB Learjet 35A.

BLACKPOOL

3/12 OY-EDP Citation 650 III dep 7th; 9H-DOM Phenom 100. 8/12 D-CAST CitationJet 525B CJ3 n/s. 17/12 OY-SUR P68B Observer; OY-NPD Metro III North Flying. 18/12 SP-ZAK Global 5000. 23/12 D-EKEU PA-46-350P. 28/12 OE-FZB Citation 510 Mustang.

BRISTOL INTERNATIONAL

2/12 SP-ENF 737-4C9 Enter Air dep 5th. 4/12 OE-FFB Citation 510 Mustang. 5/12 F-HAJD CitationJet 525 CJ1; 422/F-RADB A310-304 ET03.060, French AF. 6/12 D-CEFD CitationJet 525C CJ4; SP-ENB 737-4Q8 Enter Air n/s also 20th. 9/12 VQ-BTV Falcon 7X. 10/12 D-CCCA Learjet 35A; OE-FOA CitationJet 525A CJ2; OE-LAI Gulfstream G450 Global Jet also 16th. 13/12 EC-GNK Falcon 2000; OY-PWO Phenom 300 n/s also 26th. 17/12 D-IAWG Cessna 425; D-CPMI Citation 560XLS+. 18/12 LX-JFQ PC-12 n/s; OO-FPE CitationJet 525B CJ2. 21/12 D-IPCG Cessna 425. 23/12 SP-ENE 737-4Q8 Enter Air dep 26th. 24/12 D-CJPG Learjet 35A. 8/12 PH-JCI Phenom 100.

CAMBRIDGE

19/1 D-CFLY Citation 560XLS+ Air Hamburg; OE-FLG CitationJet 525 CJ1. 21/1 C-FBEM Challenger 604; PH-EZY E190STD KLM Cityhopper; D-CSUN Citation 560XLS+ Air Hamburg.

DONCASTER SHEFFIELD

4/1 D-CFGG Learjet 35A. 7/1 PH-HRK Avanti dep 7th; D-CLEO Citation 680 Sovereign dep 9th; D-CSLT Learjet 60. 13/1 OK-FCY CitationJet 525A CJ2. 18/1 I-CMAB Citation 560XLS. 21/1 ZJ690 Sentinel R1

5(AC) Sqn, RAF Waddington diversion. 27/1 D-CJPG Learjet 35A; OE-FAN Cessna 441 n/s. 28/1 D-CHRA CitationJet 525C CJ4; F-HBMB Citation 550 II. 29/1 D-IEKU CitationJet 525A CJ2.

DURHAM TEES VALLEY

20/1 OH-RBX Citation 560XL n/s; HB-FOW PC-12. 21/1 PH-HHO EC155B1 Heli Holland also 22nd. 24/1 D-CXLS Citation 560XLS+ Air Hamburg. 26/1 F-HALM Falcon 50 dep 28th. 28/1 OE-GJP CitationJet 525B CJ3; SE-RCM Citation 560XLS.

EAST MIDLANDS

2/1 D-CNOB CitationJet 525B CJ3. 7/1 VP-BCJ 737-46Q/SF Atran op for TNT. 9/1 RA-26101 An-26B Pskovavia. 10/1 UR-82073 An-124-100 Antonov Design Bureau; EC-KPP Falcon 100. 13/1 D-CAWB Citation 680 Sovereign. 15/1 G-VYGG Voyager KC3 Air Tanker also 18th; F-HERE Citation 510 Mustang. 17/1 EI-LIS A320-214 Belle Air Europe for painting, dep 29th to Southend. 19/1 OE-ILY Challenger 850 VistaJet also 26th. 21/1 D-CSLT Learjet 60. 22/1 OY-TSA CitationJet 525B CJ3 also 26th. 23/1 UR-CAK An-12BP Ukraine Air Alliance; D-CCCA Learjet 35A. 26/1 I-STCC Citation 510 Mustang; UR-82029 An-124-100 Antonov Design Bureau also 30th. 30/1 D-CJOS CitationJet 525B CJ3. 31/1 ZZ331 Voyager KC2 10 Sqn, RAF.

EXETER

21/1 A9C-BAH Gulfstream IV Bahrain Amiri Flight. 23/1 C-FWSC CRJ100ER. 31/1 HB-VPE CitationJet 525A CJ2+.

Flybe Aviation Services engineering movements:

22/1 A9C-AWL RJ100 Bahrain Amiri Flight dep; G-CIDI E190LR ex PH-FNS returned from Bournemouth in Arkia livery, to become 4X-EMB. 26/1 OH-LEK E190LR Finnair dep; OH-LKL E190LR Finnair dep 7/2.

GLASGOW

3/1 D-CFLY Citation 560XLS+ Air Hamburg. 4/1 HB-VOU Citation 560XL. 13/1 TC-JLS A319-132

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Turkish Airlines football charter. 15/1 F-GPYV Beech 1900C Atlantique Air Assistance. 16/1 EC-LTC 737-436 Calima Aviación. 16/1 LX-DEC Citation 680 Sovereign; LX-JCD Citation 560XL. 17/1 D-CGRC Learjet 35A. 20/1 OO-VLR Fokker 50 CityJet start of new Cardiff service; OO-FPE CitationJet 525B CJ3. **23/1 D-CEFO Citation 560XLS+ Air Hamburg.** 30/1 **SP-CON Challenger 300;** PH-DRK Citation 560XL.

GLOUCESTERSHIRE

10/1 A7-HMD EC155B1 Gulf Helicopters o/s; ZJ182 Apache AH1 3/4 Regt, AAC o/s. 15/1 N8818Y PA-30-160. 17/1 LX-NEW PC-12; N843TE Eclipse EA.500. **19/1 PH-RID Citation 680 Sovereign.** 24/1 PH-ECC PC-12 also 26th. 26/1 D-IKOB Beech 200.

GUERNSEY

2/1 F-HDKG Diamond DA40, 2-OFUS Cirrus SR22 first flight as such. 3/1 LN-BAC CitationJet 525A CJ2+; G-LENM BAe RJ85 Cello Aviation op for Aurigny. 9/1



Embraer ERJ-145LR, N292SK, visited Humberside Airport over February 19-24 on delivery to Nigerian airline Air Taraba. Richard Grimley

2-HIGH Cirrus SR20 first flight as such. 10/1 F-GMBC Piper PA-46-310P. 14/1 N55003, N5529M & N5529P Cessna 172S all dep 16th to Sweden en route to Russia. 15/1 D-IAVI Beech C90B; N5501G Cessna 172S n/s dep to Sweden en route to Russia. 28/1 99/F-MABO TBM700A EAAT, French Army. 29/1 OE-FMD CitationJet 525 CJ1+.

INVERNESS

1/12 OE-FZE Citation 510 Mustang. 6/12 **CN-ATN Bombardier 415; LY-LTA Hawker 800XPi n/s also 10th & 13th.** 8/12 PH-JCI Premier 1. 12/12 I-DLGH Gulfstream G450 dep 14th. 13/12 OE-FZC Citation 510 Mustang n/s. 20/12 F-HBPP CitationJet 525B CJ3 also 26th. 22/12 OE-ILB Challenger 850 VistaJet dep 24th. 27/12 F-GSGL CitationJet 525B CJ3; OE-ILY Challenger 850 VistaJet. 29/12 OY-VCM Cessna 421C. 31/12 EC-JCU Metro III AeroNova.

LEEDS BRADFORD

4/11 C-FMFL Falcon 50. 9/11 **T7-PBL PC-12;** M-VANG Global Express. 21/11 10-5714 MC-130J 67th SOS, 352nd SOG, USAF; LX-JCD Citation 560XL; **OK-XLS Citation 560XLS.** 28/11 OE-FXE CitationJet 525A CJ2.

2/12 D-CWIN Citation 680 Sovereign; SP-ENF 737-4C9 Enter Air Santa Flights also 6th. 4/12 D-IIVA Avanti. 5/12 OO-GMJ Beech 350; F-GGVG Merlin IIIB Air Lec; OO-FPE CitationJet 525B CJ3. 6/12 OE-GVP Learjet 60 VistaJet. 10/12 D-CHIO CitationJet 525B CJ3. 16/12 OY-GKJ Falcon 2000EX; D-CHIC Phenom 300. 17/12 HB-JLK Falcon 7X. 20/12 I-STCB Citation 510 Mustang. 21/12 OE-LDA A319-112 Austrian Airlines f/v, start of weekly ski charters. 29/12 **M-510 & M-512 Merlin Mk 512s Esk.722, Royal Danish AF.**

LIVERPOOL

3/12 OE-HLL Challenger 300. 4/12 D-BIGA Challenger 300; 082/YG Xingu EAT00.319, French AF. 7/12 LN-IDB Citation 560 Encore. 13/12 D-CPSW Metro III BinAir also 16th; EC-JIP Metro II Flightline. 19/12 D-ISCH CitationJet 525A CJ2. 21/12 9M-TAN Global 5000. 22/12 OE-LIR Do 328-110 Welcome Air also 29th; OK-EAS Beechjet 400A also 28th. 26/12 LX-EAA Learjet 45. 29/12 F-GTVC Beech 1900D Twin Jet.

2/1 F-GTVC Beech 1900D TwinJet. 4/1 CS-DTZ Falcon 2000LX MasterJet; LX-DGQ CitationJet 525A CJ2. 5/1 D-CGRC Learjet 35A; OE-GBB Do 328-110 Welcome Air; TC-CMK Challenger 605. 8/1 D-CNOB CitationJet 525C CJ3. 9/1 F-GVYC Citation 560XLS also 11th. 11/1 SX-ATF 737-406 GainJet n/s also 16th-29th. 17/1 N627JW Global 5000 new aircraft for Liverpool FC owners, replaces Falcon 900 N611JW. 19/1 ZJ785 AS365N3 658 Sqn, AAC also 21st. 22/1



Polish-registered Airbus Helicopters EC135 T2i, SP-HIM, was an unusual sighting at Denham Aerodrome on February 16. Clive Glaister

D-CFGG Learjet 36A. 23/1 LX-JFR PC-12. 24/1 D-CGGG Learjet 31A. 25/1 D-CJPG Learjet 35A.

LONDON GATWICK

2/1 CN-RGI 737-86N Royal Air Maroc f/v; EC-JPF A330-203 Air Europa f/v; LN-NGQ 737-8JP Norwegian Air Shuttle f/v. 3/1 TC-JNP A330-343 Turkish Airlines f/v. 5/1 HB-JIN Falcon 900EX. 12/1 SP-ENA 737-4Q8 Enter Air f/v. 14/1 TC-JYC 737-9F2ER Turkish Airlines f/v; D-CADN Beech 350. 17/1 G-EZWP A320-214 EasyJet on delivery from Finkenwerder; LN-NGR 737-8JP Norwegian Air Shuttle f/v; TC-JHU 737-8F2 Turkish Airlines f/v; OE-ICA Global 5000 f/v; OO-AMR CitationJet 525A CJ2; **SP-DLB Legacy 600.** 29/1 9H-VJD Global 6000 VistaJet f/v. 30/1 F-HKIL Citation 510 Mustang.

LONDON HEATHROW

2/12 LX-MOI Legacy 600; V8-DLA 787-8 Royal Brunei f/v. 3/12 V8-DLB 787-8 Royal Brunei f/v. 5/12 B-5936 A330-243 China Eastern Airlines f/v; 6/12 VQ-BHX 747-4F6 Transaero f/v. 11/12 YU-APE A319-132 Air Serbia f/v. 13/12 EI-UNY 777-222 Transaero f/v. 14/12 EI-UNP 777-312 Transaero f/v; EI-RUK 737-86N Transaero f/v. **15/12 4K-AZ82 767-32LER Azerbaijan Airlines f/v.** 17/12 4X-EHB 737-958 EI AI f/v; TC-JNS A330-303 Turkish Airlines. 19/12 B-KQK 777-367ER Cathay Pacific f/v. **23/12 HZ-AK21 777-368ER Saudia f/v.** 25/12 EI-RUL 737-7K9 Transaero. 27/12 LZ-BHH A320-232 Balkan Holidays Air op for Air Bulgaria; OE-GVQ Learjet 60. **28/12 N29907 787-8 United Airlines f/v.** 29/12 N27908 787-8 United Airlines f/v. 30/12 HZ-AK22 777-368ER Saudia f/v. 31/12 B-KQL 777-367ER Cathay Pacific f/v.

1/1 A7-BEA 777-3DZER Qatar Airways f/v. 4/1 HB-JEH Global 6000. 6/1 JY-AYX A320-232 Royal Jordanian f/v. **7/1 B-5938 A330-243 China Eastern Airlines f/v.** 8/1

EI-RUM 737-7K9 Transaero f/v; PT-MSO 767-316ER TAM f/v. 10/1 OE-ILV Challenger 850 VistaJet; VP-BLP A320-214 Aeroflot f/v. 12/1 B-2735 787-8 China Southern Airlines f/v; C-FNNQ 777-333ER Air Canada f/v; I-TOPX Hawker 400XP. 15/1 B-2726 787-8 China Southern Airlines f/v. 16/1 JA739J 777-346ER Japan Airlines f/v. 17/1 A6-EEM A380-861 Emirates Airlines f/v; G-XLED A380-841 British Airways on delivery. 18/1 B-2737 787-8 China Southern Airlines f/v. 19/1 N744AX 767-232F ABX Air; PT-MSS 767-316ER TAM f/v. 20/1 VP-BTR A321-211 Aeroflot f/v. 21/1 YU-APF A319-132 Air Serbia f/v. 23/1 VP-BTL A321-211 Aeroflot f/v. 24/1 D-AEAM A300B4-622R/F DHL/EAT Leipzig f/v. 25/1 B-5937 A330-243 China Eastern Airlines. 26/1 D-AIUA A320-214SL Lufthansa f/v. 29/1 A6-EFM 777-F1H Emirates Airlines f/v; PH-EXA E190STD KLM Cityhopper f/v. 30/1 EC-LZJ A333-302 Iberia f/v; G-EUYS A320-232 British Airways on delivery. 31/1 B-LJK 747-8F Cathay Pacific f/v.

LONDON LUTON

13/12 OH-TRA Global 6000; D-BIVI Challenger 300; OE-IMZ Gulfstream G450. 14/12 OY-JSW Citation 510 Mustang. 15/12 **OK-EAS Beechjet 400A.** 16/12 SP-ENB 737-4Q8 Enter Air Santa flight. 18/12 D-ARKO Global Express. 19/12 9H-ALF Challenger 605. 20/12 ER-AXP A320-233 Air Moldova op for Carpatair, new service to Chisinau. 21/12 **SP-DLB Legacy 600.** 22/12 YR-BBA 737-36M Carpatair. 23/12 YR-BAZ 737-405 Blue Air. 24/12 OO-NGI Lineage 1000. 26/12 A6-CPC Challenger 604. 31/12 F-HFDA Falcon 7X.

1/1 5N-YYY Hawker 900XP dep ex M-LCJP. 8/1 N181CS DHC-6-200. 12/1 F-HTMS Falcon 900DX; OE-IZZ CRJ200. 13/1 N225CC Falcon 10. 15/1 9H-IPG Challenger 604; OO-AMR CitationJet 525A 2+. 16/1 I-TAKA Citation 560 XLS; TC-AFF Challenger 300. 18/1 F-GPYN ATR 42-500 Hop; HB-JEH Global 6000. 19/1 F-HAHA Citation 510 Mustang. 28/1 N715FJ Falcon 7X; I-FLYN Falcon 900EX; **VH-CRW Falcon 7X.** 29/1 PH-TFD Boeing 737-86N Arkefly for maintenance. 30/1 N886WT Gulfstream G650.

LONDON SOUTHEAST

13/12 OO-PMI Robinson R44 dep 18th; F-GZJM Merlin IIIA Air Mana. 18/12 EC-JIP Metro II Flightline n/s. 21/12 P4-KCJ E190LR Air Astana on delivery n/s. 22/12 D-CJET CitationJet 525B CJ3 n/s. 27/12 SE-DSU RJ100 Malmo Aviation to Inflight Aviation, dep 20/1. 31/12 EC-JCU Metro III Aeronova dep 2/1.

5/1 D-CJPG & D-COKE Learjet 35As. 7/1 EI-RJY RJ85 CityJet to Inflight Aviation, dep 12th. 10/1 D-ETED Cessna T.182T; PH-CGN Do 228-212 Netherlands Coast Guard. 12/1 PH-JEG Cirrus SR22GTS. 13/1 D-CTWO Learjet 35A. 14/1 EC-JCV Merlin IV Flightline. 17/1 TF-FIY 757-256 Icelandair to ATC

(Lasham). **YU-BST CitationJet 525 CJ1**; EC-GFK Merlin IV Flightline. 23/1 PH-ADE Cessna F.172M; 9Q-CDC 727-30 Democratic Republic of Congo dep to Manston after three years storage. 24/1 ES-AEA E170LR Estonian Air n/s. 2/1 D-IATE Cessna F.406 Air-Taxi Europe. 29/1 EI-LIS A320-214 arrived from East Midlands in Vueling Airlines livery, to ATC (Lasham). 29/1 N518XL Liberty XL-2. 30/1 OE-FAN Cessna 441 n/s. 31/1 LN-KKW 737-3K9 Norwegian Air Shuttle, weather diversion from Lasham n/s.

MANCHESTER

1/12 D-AIGM A340-313X Lufthansa f/v for painting at Air Livery dep 12th. 2/12 D-IRUN Citation 510 Mustang f/v. 3/12 G-TCDC A321-211 Thomas Cook delivery from Hamburg. 6/12 LN-WDH Dash 8Q-400 Widerøe. 8/12 D-ALFB 777-FBT Lufthansa Cargo; UR-PSJ 737-9KV Ukraine International f/v with FC Shakhtar Donetsk to play Manchester Utd. 9/12 EC-KKN Global Express f/v. 10/12 UR-YAD A320-212 Yan Air f/v FC Shakhtar Donetsk fans. 11/12 D-ALFA 777-FBT Lufthansa Cargo f/v; 5Y-KQT 777-2U8ER Kenya Airways Heathrow diversion. 12/12 G-DHRG A320-214 Nas Air arr from Norwich after painting, dep 24th as VP-CXF. 13/12 **D-AIGN A340-313X Lufthansa f/v for painting at Air Livery, dep 23rd in Star Alliance c/s.** 14/12 A6-DAS & A6-RJZ 737-7Z5s Royal Jet. 16/12 F-GPGH Beech 350 f/v. **18/12 F-HBMR Citation 550 II f/v.** 19/12 B-LJA 747-



Etihad Cargo Boeing 747-8F, N855GT, just about to touch down at East Midlands Airport on February 13. It departed the next day. Karl Nixon

8F Cathay Pacific Cargo, first 747-8 to visit; YL-RAC An-26B RAF-Avia. 20/12 HZ-MS4 Gulfstream IV-SP Saudi Medevac f/v. 21/12 PH-JND Citation 560XLS f/v; AP-BEQ A310-308 Pakistan International Leeds diversion. 23/12 TC-ACF 747-481(BDSF) Saudia Cargo f/v. 25/12 9H-VJD Global 6000 VistaJet f/v. **27/12 OE-LPA 777-229 Austrian f/v for painting at Air Livery.** 28/12 OY-CVW Beech 350 f/v. 29/12 **OK-LEO Citation 510 Mustang f/v; HZ-MS1A Learjet 60 Saudi Medevac f/v.** 30/12 **YU-SVL Citation 560XLS f/v.** 31/12 D-ABOL 757-330 Condor for maintenance at Thomas Cook.

MANSTON/KENT INTERNATIONAL

3/11 Z-BAM MD-11F AV Cargo Airlines also 7th; 9H-GYB Hawker 900XP Comlux Aviation Malta. 4/11 TC-SGM A310-308F KAZU Cargo Airline/ULS Cargo n/s. 5/11 TF-AMP 747-481(BCF) Saudia Cargo also 19th & 26th; N382WA MD-11F World Airways Cargo. **7/11 TC-ACG 747-481(BDSF) Saudia Cargo.** 8/11



A rare visitor to Edinburgh Airport over February 24-25 was Turkish Navy CN235M-100 MPA, TCB651. It left for Reykjavik in Iceland. Wallace Shackleton

D-CAPO Learjet 35A. 9/11 UR-DWF An-12BK Ukraine Air Alliance also 24th. 11/11 D-EWUI Beech A36; UR-CHT An-26B Meridian Airlines dep 15th. 13/11 TC-LER A310-308F Kazu Cargo/ULS Cargo n/s. **14/11 OO-HCW AS350B.** 15/11 OD-TMA A300F4-622R TMA Cargo n/s also 17th n/s, 19th n/s, 22nd, 25th & 29th. 17/11 SU-BMZ A300B4-203F Tristar Air Cargo. 21/11 ZZ419 Shadow R1 14 Sqn, RAF. 25/11 OO-TMO PA-28-161; HB-AFN ATR 72-202F Farnair Europe n/s; D-IFER Citation 510 Mustang.

1/12 PH-EZO E190STD, KLM Cityhopper in place of Fokker 70. 5/12 UR-CKL An-12BK Cavok Air also 13th & 16th. 7/12 OE-ILB Challenger 850 VistaJet n/s. **11/12 ZS-SYH Global 6000.** 12/12 F-GHPP

737-8K2 Transavia to KLM Maintenance. 27/1 D-AILU A319-114 Lufthansa to Air Livery; VP-BFY A320-214 Vladivostok Air to KLM Maintenance.

PRESTWICK

1/12 UR-CAH An-12BK Meridian; N835GA Gulfstream G280. 2/12 **9M-CJG Global Express; 9H-FMF PA-31-310 for local survey flights.** 4/12 N875CA TBM850; HB-FQN PC-12 c/n 1440. 7/12 **N990AV EO-5C 204th MIB, US Army;** 130616 CC-130J 436 TS, RCAF also 15th. 9/12 130605 & 130609 CC-130Js 436 TS, RCAF both also 15th. 10/12 177704 CC-177 429 TS, RCAF; 130613 CC-130J 436 TS, RCAF also 17th. 12/12 05-0932 C-40A 73rd AS, AFRC. 11/12 94-0310 C-23C US Army, ex SFO Sinai dep after two weeks u/s. 12/12 76-3239 C-12C US Embassy Ankara; RA-82045 An-124-100 Volga-Dnepr. 13/12 **UR-CLZ An-32B;** HB-FRC PC-12 c/n 1455; N54VU TBM850. 14/12 N392NG PC-12 c/n 1392 on delivery to Afghan AF. 15/12 165832 C-40A VR-58, USN also 17th-19th. 17/12 92-13125 RC-12X B/1st MIB, US Army. 17/12 TC-IZG 737-8AS ex EI-DPE rolled out in Izmir Airlines colours, dep on delivery 24th; **B-9060 Phenom 300.** 19/12 UR-CKC An-74TK-100 Cavok Air; UR-CZZ An-12BP Meridian; YL-RAC An-26B RAF-Avia. 20/12 10-0214 C-17A 62nd/446th AW, USAF also 23rd; N435NG PC-12 c/n 1435. 22/12 N836GA Gulfstream G280. 25/12 N137GA Gulfstream G280. 26/12 UR-82008 An-124-100 Antonov Design Bureau. 28/12 06-1437 C-130J 143rd AS, Rhode Island ANG; 130601 CC-130J 436 TS, RCAF. 30/12 93-1330 C-23C US Army, ex SFO Sinai dep after 5 weeks u/s. 31/12 63-7993 KC-135R 121st ARW, Ohio ANG.

SOUTHAMPTON

3/12 900528 C-26D AOD Sigonella, USN; SE-RKL Gulfstream G550 Saab AB; SE-LRA Saab 2000 Saab AB. 12/12 LN-IDC Citation 560 Encore; G-CICH S-92A arrived from docks on delivery to Bristow. **21/12 OE-LVE Fokker 100 Austrian Arrows ski charter.** **28/12 OE-LVA Fokker 100 Austrian Arrows ski charter.**

1/1 F-HAHA Citation 510 Mustang. 8/1 N43WF Diamond DA42NG. 14/1 M-2 Alouette III 40 Sm, Belgian Defence - Air Component. 17/1 ES-AEA E170LR Estonian Air. 18/1 G-CICJ S-92A on delivery to Bristow. 28/1 SE-RIZ Citation 560XLS; OE-FLG CitationJet 525 CJ1.

Key: f/v first visit; n/s night stop; o/s overshoot.

With thanks to: D Apps, D Banks, D Bougourd, S Boyd, J Brazier, N Burch, P Claridge, A Clarke, I Cockerton, KW Ede, M Farley, N French, P Gibson, D Graham, A Greening, J Gregory, I Grierson, D Haines, M Harper, K Hearn, G Hocquard, B Hunter, S Lane, G Morris, S Morrison, R Richardson, R Roberts, E Russell, RJ Sayer, M Shepherd, A Smith, D Turner, JA White, G Williams, Blackpool Aviation Society, Manston Movements, Solent Aviation Society/Osprey, South Wales Aviation Group, CIAN, GSAE, The Aviation Society, EGPE ATC, www.dtmovements.co.uk, Aerodata Quantum Plus and RHADS.

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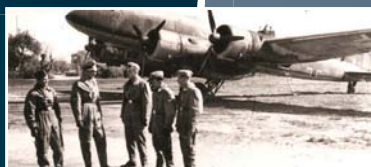
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A selection of the most interesting aircraft to visit air bases in the UK recently.

RAF BRIZE NORTON

10/1 2778/SI EC725R2 EH01.067, French AF. 15/1 231/F-RAFC Falcon 2000LX ET00.065, French AF. 17/1 CH-07 C-130H 15 Wing, Belgian Defence - Air Component. 21/1 **RA-82039 An-124-100 224 Flt, Russian AF.** 22/1 5629 C-130J-30 335 Skv, Royal Norwegian AF. 23/1 B-538 C-130J-30 Esk.721 Royal Danish AF. 27/1 100008/008 Tp-100C TSFE, Royal Swedish AF; ZJ649/49 Alpha Jet QinetiQ. 30/1 **0008/F-RBAB A400M ET01.061, French AF.** 31/1 68/F-RAFA Falcon 7X ET00.065, French AF; **SP-LIH E175LR 1.BLT, Polish AF.**

RAF CONINGSBY

31/1 ZK349 Typhoon FGR4 delivered from BAE Systems Warton.

RNAS CULDOSE

27/1 M-520 Merlin Mk 512 Esk.722 Royal Danish AF dep 29th.

FAIRFORD

1/1 80-1079 & 80-1076/BB U-2S 99th RS, 9th RW, dep 10th; 80-1086 U-2S 99th RS, 9th RW, USAF dep 9th. 9/1 80-1087 U-2S 99th RS, 9th RW, USAF dep 11th.

10/1 80-1066/BB U-2S 99th RS, 9th RW, USAF dep 18th. 24/1 03-3122 C-17A 437th/315th AW.

LAKENHEATH

7/1 08-8604/RS C-130J-30 37th AS, 86th AW, USAF. 8/1 04-3142/RS C-130J-30 37th AS, 86th AW, USAF. 9/1 CM-02 Falcon 20E 15 Wing, Belgian Defence - Air Component. 27/1 07 C-27J TE, Lithuanian AF. 29/1 M-520 Merlin Mk 512 Esk.722 Royal Danish AF.

RAF LEEMING

15/1 ZA547 Tornado GR4 arrived from Marham for storage and reduction to produce, followed by GR4A ZA401 on 31st. 23/1 Tornado GR4 ZG756 arrived from Lossiemouth for storage and reduction to produce.

RAF LEUCHARS

13/1 88-0195 MC-130H 7th SOS, 352nd SOG, USAF o/s also 30th o/s.

RAF LOSSIEMOUTH

8/1 ZZ391 Wildcat AH1 AgustaWestland. 14/1 ZJ651 Alpha Jet QinetiQ.

Israel Air & Space Force Boeing KC-707, 272, on final approach to RAF Brize Norton on February 16. Liam Daniels

MILDENHALL

3/1 07-0793 U-28A 318th SOS, USAF also 4th, 14th & 18th. 8/1 62-3499 KC-135R 351st ARS, 100th ARW, USAF returned to USA, replaced by 63-8025 which arrived 18th. 9/1 87-9287 C-130H 328th AS, AFRC dep 11th; 08-3175, 08-5693 & 08-5712 C-130J-30s 317th AG, USAF. 10/1 08-5679 & 08-5715 C-130J-30s 317th AG, USAF both n/s. 11/1 07-0779 U-28A 318th SOS, USAF also 15th, 16th, 18th, 19th, 24th & 28th. 16/1 G-988 C-130H 336 Sqn, Royal Netherlands AF. 22/1 73-1586/DM EC-130H 55th ECG, USAF; 87-0140 C-20E EFDAWG, USAF also 28th & 29th. 26/1 M-520 Merlin Mk 512 Esk.722 Royal Danish AF n/s.

RAF NORTHOLT

8/1 ZZ501 Avenger T1 750NAS also 9th & 23rd. 13/1 258 Learjet 45 102 Sqn, Irish Air Corps also 29th; 14+02 Global 5000 FBS, German AF. 17/1 85 Xingu 24F, French Navy. 30/1 2377/FU AS332M EH03.067 French AF.

RAF SHAWBURY

29/1 ZZ377 Wildcat HMA2 700WNAS.

RAF WADDINGTON

6/1 089/YJ (also 29th) & 098/YO Xingu EAT00.319, French AF. 14/1 099/YP Xingu EAT00.319, French AF. 20/1 092/YL & 103/YT Xingu EAT00.319, French AF. 23/1 108/YW Xingu EAT00.319, French AF. 24/1 R214/64-GN Transall EAT00.064, French AF. 26/1 R96/61-ZN Transall EAT00.064, French AF. 29/1 E48/705-MH, E129/705-FP & E141/705-NF Alpha Jet Es EAC00.314, French AF. 31/1 77/ZD Xingu EAT00.319, French AF.

RNAS YEOVILTON

8/1 ZZ409 Wildcat HMA2 700WNAS delivery. 10/1 ZZ390 Wildcat AH1 652 Sqn, AAC & ZZ378 Wildcat HMA2 700WNAS both delivered.

Key: n/s night stop; o/s overshoot



A colourful visitor to Mildenhall on February 26 was Turkish Air Force C-130E Hercules, 73-00991. This has been the support aircraft for the Turkish Stars display team for a number of years and interestingly now sports a new scheme. Matt Varley

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8th June	Fly-in (Theme to be confirmed)
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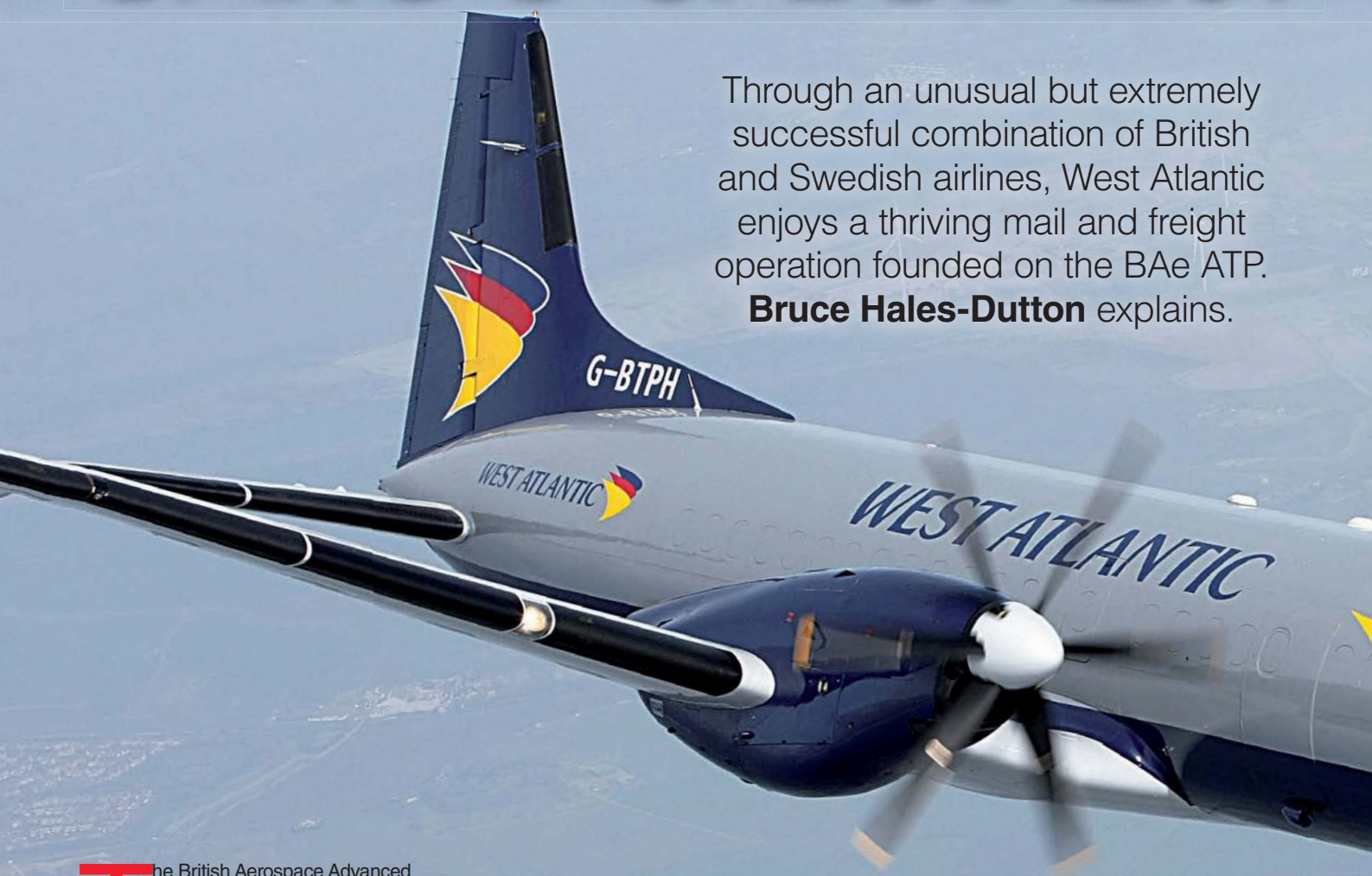


WEST ATLANTIC

ANGLO-SWEDISH CARGO SPECIALIST

Through an unusual but extremely successful combination of British and Swedish airlines, West Atlantic enjoys a thriving mail and freight operation founded on the BAe ATP.

Bruce Hales-Dutton explains.



The British Aerospace Advanced Turboprop, usually known simply as the ATP, has played a crucial role in shaping West Atlantic, which claims to be Europe's largest regional cargo airline.

Indeed because West Atlantic likes the ATP so much, it not only owns the world's largest fleet of the early 1990s turboprop, but it also plans to go on flying it until 2040 – and that's despite assembling a fleet of mainstream jet types. But then, West Atlantic is used to being different. For a start, it's the product of an Anglo-Swedish merger though two separate entities have been retained, one based in the UK, the other in Sweden. West Atlantic has developed techniques for handling time-sensitive cargo that keep its services in demand while expanding its jet services with a growing fleet of Boeing 737s. Its latest move will see it using widebody aircraft before the year is out.

And although West Atlantic has recently concluded an agreement with US company Air Transport Services Group, it intends to remain a predominantly European airline specialising in mail and parcel deliveries. One result of this arrangement, however, is that in 2014 West Atlantic will take delivery of pair of Boeing 767s – with further additions planned – a clear indication of its confidence in the growth potential of its business.

Yet West Atlantic remains loyal to the ATP. With 32 in use, plus eight stored, the airline continues to employ around two-thirds of the type's total production run. However, there's another reason why the ATP has a special place in the airline's relatively short history. "You could say the ATP brought us together," says Russell Ladkin, West Atlantic's group sales and operations director, recalling the

time in the mid-2000s when Atlantic Airlines and West Air Sweden – both using ATPs – first thought about joining forces.

"There weren't too many people operating ATPs," Ladkin adds. "But our operations were complementary; we weren't competing with one another. They were flying in Sweden and Norway for the post offices there while we were flying for the Royal Mail, as well as DHL and TNT. We decided to work together to see if we could find synergies on things like purchasing, parts, consumables and training. We wanted to achieve economies of scale that neither of us could do in isolation."

In hindsight Ladkin describes this arrangement as "a sort of engagement" before the two parties moved on to the next



Main photo: **Converted BAe ATP freighters form the backbone of West Atlantic's fleet.** West Atlantic

Left: **SE-DUY is one of three CRJ200(PF) conversions in West Atlantic's fleet. It wears the West Air Europe markings of the organisation's Swedish component.** Tom Gulbrandsen

Below: **Now in storage, SE-LGU was among the first ATP freighter conversions. The conversion's freight door was designed to accommodate a standard LD3 container.** BAE Systems



WEST ATLANTIC AB

Today, the group's holding company, West Atlantic AB, is headquartered at Gothenburg, Sweden, providing the base for its management and financial control. The major operating subsidiaries have completely separate legal and operating structures and are based at Coventry in the UK and Gothenburg, respectively. Further subsidiaries are responsible for maintenance and aircraft sales and leasing.

Flight operations for the whole group are controlled from Coventry, while heavy maintenance is undertaken at its Ronaldsway, Isle of Man facility. Light maintenance is performed at Coventry, Malmö in Sweden, Oslo and Tromsø in Norway, and Marseilles in France. The company's maintenance expertise is also offered to other carriers.

A subsidiary company, West Air Luxembourg (which was formed in April 2002) was sold in October 2013 to FAST Logistics, although West Atlantic continues to fly in the country. All but one of West Air Luxembourg LX-registered ATPs returned to SE- marks with Sweden's West Air Europe.

The airline reckons it has about one-fifth of the European cargo market by value. Its mission is to "meet the demand for safe, efficient and profitable airfreight solutions by means of a customised aircraft fleet". Gross profit for the group in 2012, the last year for which figures are available, totalled €18.9m of which flight operations accounted for €13.1m and aircraft management €5.8m. In 2012 about a quarter of the aircraft fleet was owned, financed by loans, with the remainder leased.

Having responsibility for strategic direction as well as sales and operations, Russell Ladkin is one of five members

stage of their relationship. "We thought the regional cargo industry in Europe was ripe for consolidation so we decided to merge the two companies. We felt it would put us in better shape to weather what was obviously going to be a recession, although we thought it would last only a couple of years."

The merger was announced in 2008. "We worked together very closely as a merged entity from then," Ladkin recalls. "But we didn't actually consummate the share transaction until 2011. We waited for the banking world to stabilise before we did a share exchange and created a legal merged entity."

Meanwhile, it was decided to continue with

two carriers with Atlantic Airlines becoming West Atlantic and West Air Sweden adopting the name West Air Europe. Each has its own Air Operator's Certificate (AOC) and fleets registered in the UK and Sweden respectively. Ladkin explains: "We could technically have put everything on to one AOC, but it would mean quite a large airline. We felt there weren't many savings to be made by doing that: you'd still need pretty much the same number of people." According to West Atlantic's group chief executive, Gustaf Thureborn, satisfactory integration was achieved during 2011.

HISTORY

West Atlantic can trace its origins back to 1962 and a company called Abal Air, renamed West Air Sweden in 1992. Five years later, passenger services between Gothenburg and Sundsvall were discontinued.

West Air Sweden became a cargo carrier providing services for FedEx, DHL, TNT and UPS using BAe 748s. It had flown on behalf of the Swedish post office since 1989. In 2006 a mail delivery contract with the Norwegian postal service required a 50% capacity expansion, a process that saw the 748s replaced by the BAe ATP.

Atlantic Airlines was established in 1994 as part of the Air Atlantique group to focus on contract and cargo services, specialising in the carriage

of dangerous goods and particularly radioactive materials. The bedrock of its business, however, was the supply and operation of aircraft for nocturnal freight integrators and consolidators, and ad hoc air charters on behalf of other airlines, freight brokers and freight forwarders.

In May 2004 Atlantic Airlines was the subject of a management buy-out, a process that had been instigated three years earlier. The buy-out team comprised Russell Ladkin, who had joined as a pilot in 1989, and Tony Auld, who joined in 1999. The new management bought all the assets of the business, including aircraft and spares. It also acquired an AOC and maintenance capability. In 2005 the newly

independent company began flying the first ATP freighters, following this up two years later with long-term agreements with BAe Systems Regional Aircraft to lease six more turboprops, with the intention of converting them to freighters.

In October 2008 it was announced that the airline was to merge with fellow ATP user West Air Sweden to form a new, enlarged specialist airfreight outfit based in Gothenburg, Sweden. The merger was completed in 2011. Today Auld is group managing director and Ladkin, group sales and operations director. Group chief executive Gustaf Thureborn is described as "an entrepreneur" who has played a key role in several business start-ups.



Above: West Atlantic ATP G-BTPE at Aberdeen in November 2013, still wearing the livery of Atlantic Airlines. Mark McEwan

Below: The ATP freighter conversion originated from a 50:50 joint venture between BAE Systems and West Air Sweden. It adds a 70 x 104in (177 x 264cm) sliding cargo door to the aircraft's port rear fuselage. West Atlantic

on West Atlantic's board. He explains: "My responsibility is to deliver the product and meet our contractual obligations each night. I'm based at the group's head office in Gothenburg and don't have a UK base. My role involves a lot of travel, especially with our commitment to the 767 project."

The Swedish subsidiary also uses three Bombardier CRJ200PF freighters. West Atlantic co-developed the package freighter conversion programme for the aircraft to make it suitable for long, thin routes where speed is of the essence. The airline says the aircraft is "highly efficient" and has "great potential."

The UK subsidiary has been assigned the airline's fleet of 737 freighters, the fourth of which arrived in December 2013. The company has disposed of its last pair of Lockheed L-188 Electras. "It's really becoming a Boeing-focussed certificate [the airline's AOC] now, although we'll continue with the ATP for the foreseeable future," Ladkin told *Aviation News*. However, he acknowledges that an internal debate about transferring the turboprops to the Swedish side remains ongoing, even though they are flown on behalf of Royal Mail.

In addition to the postal services of Norway, Sweden, the UK and France, West

Atlantic transports parcels for such companies as: DHL, FedEx, TNT and UPS. The postal and parcel markets each make up roughly half its business, taking its aircraft to destinations all over Scandinavia, the UK and Ireland, as well as France, Germany and Poland. They also fly as far south as Portugal, Madeira, Malta and Tunisia.

West Atlantic values its association with the postal services and sets out to devise new methods to speed up the mail transport process. Key among these is its development, in conjunction with the Swedish post office, of equipment that enables mail trolleys to roll on and off aircraft from and to lorries, without the time-consuming process of unloading mail into sacks.

Ladkin explains: "Our solution was to take the 150kg trolleys to the airport and design bridges that interface directly between the articulated trucks and the aircraft's on-board cargo handling systems. We can load an entire aircraft with a typical load of around 50 trolleys in about seven to ten minutes."

He calls it: "a very efficient and effective way of handling mail," which also means less risk of product damage and exposure to the elements. "The Swedish post office now uses this system over its entire network, as does the Norwegian post office. It's being tried in the UK on a couple of our ATP routes as well. Royal Mail is also looking at employing the same innovation to take time out of the process."





A comparison of the ATP's original cockpit (left), with the upgraded EFIS 'office', gives an idea of the work involved in the refit, as well as the improved operating environment it creates. both West Atlantic

ATP UPDATES

The airline's confidence in the ATP is clear from its programme to update the aircraft with state-of-the-art equipment, including a new full EFIS (electronic flight instrumentation system) cockpit by Rockwell-Collins, which is being developed in conjunction with the group. The cost is about \$1m per aircraft and the whole active fleet is involved.

Ladkin observes: "The ATPs are ageing, but 20 years isn't very old for a freighter. Most aircraft aren't converted for freight use until they're between 15 to 17 years old. There's no reason why the ATPs should be retired. We'll never reach their design life flying the kind of operations we do. But new technology is available which could give the aircraft another 25 years of economic life, while maintaining 99.5% despatch reliability over its expected lifetime. That was a key factor.

"At the same time we want to integrate new updated equipment to save weight and use less fuel by taking advantage of different air traffic routes and different flight levels through advanced avionics." The group is also undertaking research into a new propeller design to help reduce fuel consumption and has considered developing a 706 cu ft (20m³) cargo pod that would be under the fuselage.

FLEET

Type	Number in service
Bombardier CRJ200PF	3
Boeing 737-300SF	4 (1 more to be delivered)
Boeing 737-400SF	1 (leased out)
BAe ATP	32 (8 more in storage)

The UK-based arm is responsible for the 737 programme, which involves significant investment, but should open up important commercial opportunities "further allowing us to maximise the return of our operational leverage throughout the world," said Ladkin. Another 737 is expected in 2014. West Atlantic has also identified opportunities to lease out 737 freighters and so recently purchased a 737-400SF. The aircraft arrived at Coventry in early January, never taking up its UK marks before moving on.

A BIGGER BOEING

A major change was flagged up at the end of 2013 when it was announced that Air Transport Services Group (ATSG) of Wilmington, Ohio would take a 25% stake in West Atlantic. ATSG operates 47 converted 767 freighters through subsidiaries, as

well as offering maintenance and logistics services. Noting that the cash outlay involved in the arrangement with West Atlantic was "significantly less" than the cost of buying and modifying a single 767, the company's president and chief executive Joe Hete pointed out that the two companies had "complementary strengths." This, he said, made them "ideally suited" to work together on "emerging opportunities."

Thureborn said he looked forward to working with ATSG, "to augment West Atlantic's own fleet and air cargo service capabilities." He added: "This is a significant development opportunity for our business, its customers and our staff." The arrangement became effective on January 2.

Russell Ladkin explains: "Our relationship with ATSG is very deliberate in that we're able to make use of their huge experience in operating 767s and draw from their economies of scale even with the small number of aircraft we'll have relative to their fleet. It lowers the risk involved in using the type and in doing so reduces the costs. That's great news for our customers, because the 767 is a complex aircraft and very capital intensive compared to the fleets we have today. The relationship with ATSG gives customers reassurance that ▶

West Atlantic Boeing 737-300F G-JMCO was at Coventry in July 2013, representing the carrier's first fully liveried 737. Karl Nixon



we're going to survive that first unplanned engine change."

By early February the first of West Atlantic's 767s was undergoing a full 'C' check at ATSG's Wilmington facility. It's expected to be delivered to Monarch Engineering at Luton in mid-May. Monarch will provide the expertise necessary to get the aircraft on to the UK register. Both 767s will also require new avionics to meet a February 2015 legal requirement for revised equipment to be fitted to aircraft flying at Flight Level 280 (28,000ft) and above. "Monarch is our chosen maintenance supplier for the aircraft," Ladkin notes.

However, their arrival does not change West Atlantic's focus on flying within Europe. "We'll be flying them within the region," Ladkin explains. "We don't intend to start long-haul operations: it's the capacity we're after rather than the range. We chose the 767 following our experience with three on a wet lease back in 2011. We also had two Airbus A300-600s, which were similar in terms of capacity. From the data we gained we were able to determine that the 767-200 is the very best aircraft for



Above: This photo shows a Smart car inside a West Atlantic ATP. West Atlantic

Below: This digitally enhanced image provides an impression of how the Boeing 767 will look in West Atlantic livery. West Atlantic

intra-regional widebody cargo operations. We focussed our strategy on that."

With pure letter mail in long-term global decline, West Atlantic sees considerable growth potential in parcel delivery. It believes that traditional mail organisations are diversifying into the package market,

with integrators like DHL and TNT experiencing business growth at an annual rate of 6% despite the recession. Anybody who doubts that package post is growing need only consider companies such as Amazon and eBay.

"The aircraft requirement is going to get bigger," Ladkin observes. "We don't see any of our competitors going into the widebody category, but we think the integrators will require access to such aircraft. We think they're going to need three or four of them."

He also hints at the prospect of West Atlantic conducting operations outside Europe. "We're definitely looking at new geographical areas, like West Africa or the Middle East, but we would base the aircraft in the region," he says. "It would be replicating the sort of thing we're doing in Europe today but in a different territory."

Though West Atlantic is expanding its fleet with Boeing 737s and 767s, the management at this Anglo-Swedish cargo airline obviously still highly value the ATP and it is set to remain at the heart of its operations for years to come. **AN**



The next issue will be on sale on April 17, 2014*

*UK scheduled on sale date. Please note that the overseas deliveries are likely to be after this date.



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