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It's many years since I qualified as a helicopter instructor and nearly as long since I thought about my Flight Instructor (FI) course in any detail. But I was sorting through some stuff recently and I happened to come across the detailed diary which I kept during those weeks. The diary reminded me of just how hard I found that course. Indeed, it was probably the most difficult few weeks of my whole flying career.

Notes from a small airfield

A fond farewell

FTN is sad to report that Tad has recently hung up his headset and is retiring from his column this month, after a decade of gracing this publication with his unique insight into the grassroots end of the flight training industry. We'll miss you Tad, along with the rest of the cast at Sinking-in-the-Marsh, that world-renowned home of brew-ups, bent wings and best intentions.

Plane Speaking

CAE Moorabbin, Australia

This month, Plane Speaking meets some of the team at CAE Moorabbin, Melbourne and learns how flight training is done differently in Australia.

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Regular features

FLIGHT CAREER NEWS

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The return of the fully-funded pilot training programme

Aer Lingus and British Airways have become the first two European airlines to offer fully-funded pilot training programmes in the aftermath of the COVID-19 pandemic, signalling an upturn in low hours pilot recruitment.

While BA has yet to confirm which schools it will be partnering with to deliver the training, Aer Lingus has confirmed that it has selected Spanish Approved Training Organisation (ATO) FTE-Jerez as their training provider.

The BA training programme has been given the name British Airways Speedbird Pilot Academy in a nod to the flag carrier's callsign and will train up to 60 new pilots per year, with all training costs funded by BA. Applications for the new programme will open next month, with the first batch of cadets starting their training in the new year.

Costing upwards of £100k, BA says that the creation of the Speedbird Pilot Academy will see the cost barrier of training to become an airline pilot removed, making the profession much more accessible.

In addition to removing the cost barrier, BA says that it remains committed to further increasing diversity in the aviation industry and is determined to increase awareness, visibility, and applications to this new cadet programme to people from all backgrounds – not just those who can afford the initial training costs. The airline works closely with Fantasy Wings, the leading UK organisation for diversity in aviation, to promote careers to young people from Black, Asian and Minority Ethnic backgrounds, and young women in the aviation industry.

Sean Doyle, British Airways' Chairman and CEO, said: *"The Speedbird Pilot Academy will make the ambition of becoming a British Airways pilot a reality for people who'd previously written the option off because of the cost barrier.*

"Our aim is to attract the very best talent out there for our future generation of pilots. Whether someone is just leaving school or embarking on a second career they never thought possible, we're levelling the playing field by removing the initial training cost barrier to make a flying career more accessible to a wider range of people and giving everyone an equal chance.

"We fly to more than 200 destinations around the world on a range of aircraft types, providing pilots with an abundance of opportunities and making a career as a British Airways pilot extremely rewarding. This first-in-a-generation initiative will allow anyone to make it a reality."

Hannah Vaughan, British Airways senior first officer and former cadet said: *"This is a great career for anyone. You will naturally need a love for flying and travel, but being a British Airways pilot offers so much more.*

"From working with an incredibly dedicated team and meeting customers from around the world to benefitting from world-class training facilities. I would absolutely recommend it as a career path."

Entry requirements for the programme include:

- 6 GCSE's (or equivalent), Grade A-C or 5-9 (including English, Maths and one of the Sciences)
- To be a minimum height of 5ft 2in
- To be aged between 18 and 55
- To pass a UK CAA Class 1 Medical

The Speedbird Pilot Academy is just one part of the airline's wider pilot recruitment plans. As announced in the last edition, BA has also launched a 'Whitetail Recruitment Programme' in partnership with five approved training organisations (ATOs) - CAE, FTEJerez, Leading Edge Aviation, L3Harris and Skyborne.

> The programme was announced at a Pilot Careers Live event held at Manchester Airport in July and is part of a recruitment drive to place 500 new pilots with the British flag carrier over the next two years.

'Whitetail' is the term used to describe a pilot training programme with no airline affiliation, with cadets self-sponsoring their training and then applying to airlines for jobs once qualified.

Under BA's new scheme, cadets enrolled on whitetail training programmes with any of the five ATOs are now eligible to join the Whitetail Recruitment Programme, subject to meeting certain eligibility criteria. Those that meet the requirements will then be 'tagged' by BA as suitable for future employment with the airline.

The scheme is open to cadets enrolled on flight training programmes at any of the five ATOs and BA confirms that it will accept cadets pursuing either modular or integrated training pathways.

In order to be eligible to apply, applicants will need to have completed their Air Transport Pilot Licence (ATPL) theory exams, achieving an average pass mark of at least 85% with no more than three retakes. Applicants are also only allowed to have re-enrolled on a course once and must achieve a first series pass in their CPL and IR flight tests. APS MCC certification must also be acquired if not already included in their ATPL training programme, as well as Upset Prevention Recovery Training (UPRT).

Widening the recruitment pool further, BA has also relaunched its Newly Qualified Pilot Pathway (NQPP). This pathway is for graduated pilots who have completed their training via a modular or integrated course at any ATO, not just one of the five selected for the Whitetail programme.

The eligibility criteria for the NQPP includes:

- 85% ground school average with no more than three resits
- First-series CPL & IR pass (Series 1, Attempt 1 or Series 1, Attempt 2)
- APS MCC
- Attended no more than 3 training providers for the following phases of training: Ground School, CPL/IR and APS MCC
- To hold a UK CAA Class 1 medical and meet British Airways medical criteria
- English Language Proficiency of ICAO Level 6
- A valid passport (with minimum of 12 months before expiry date) allowing unrestricted worldwide travel

Additionally, for those transitioning from the military, BA is working on a managed pathway agreement with the MoD due to launch next year, requiring pilots to have amassed at least 1,500hrs and to be within two years of their pension point.

Over in Dublin, Aer Lingus is the second European airline to confirm a fully-funded cadetship for new pilots. Being delivered by FTE-Jerez, Aer Lingus has opted for a Multi-Crew Pilot Licence (MPL) training programme that will last around 14 months, before candidates travel to Dublin to undergo their type rating training on an Airbus A320. With entry criteria including the right to live and work in the EU, it may not be applicable for some UK hopefuls, but Aer Lingus nonetheless expects competition for places on the training course to be fierce.

Captain Karl O'Neill, Chief Instructor ATO/ Recruitment, said: *"We are looking for candidates with diverse backgrounds to join our team.*

"Aer Lingus has a proud tradition in pilot training and has been offering Future Pilot Training Programmes for almost sixty years. These programmes offer candidates a unique opportunity to join our expanding team as an Aer Lingus Pilot via this fully sponsored scheme.

"Whether you have just finished school/college or simply want to change career, this could be the right move for your future. Many of our pilots have joined us from other industries, and we urge you to consider doing the same.

"Successful applicants will complete 14 months of basic training in Jerez, Spain followed by a four-month transition course on the A320 Family of aircraft at the Aer Lingus Training Academy in Dublin.

"To secure a place on this course, you need to be highly motivated and must demonstrate the competencies required to become a commercial airline pilot. If successful, your journey towards becoming a pilot with Aer Lingus will begin in January 2024.

"I wish you every success with your application."

Following initial assessment of applications, candidates who progress through the screening will receive on-line assessments. Candidates shortlisted at this stage will then be invited to the group assessment stage which will be held in Dublin between 25 September and 13 October. Part of the selection process involves passing a Class 1 and a company medical.

While Aer Lingus and BA are the only two European airlines currently offering fully-funded pilot training programmes, it would seem that they are unlikely to be the last. A number of ATOs that FTN has spoken with recently have stated that airlines are snapping up pilot graduates as fast as they can complete their training. One ATO FTN spoke with said that they now have no one left in their graduate pool to feed onto airlines – a scenario that is unique in their experience. Training capacity would appear to be a growing concern for airlines, exacerbated by a current dearth of flight instructors, many of whom have left their jobs in recent months to take up positions with airlines. FTN is investigating the current instructor shortage and will be reporting on this growing issue next month.

news briefing...

GATWICK, UK

UK CAA publishes The Paramotor Code

The UK CAA has published The Paramotor Code in cooperation with the paramotoring community to provide guidance on regulations pertaining to the air sport.

Paramotors and powered hang gliders are classified as a category of non-Part-21 gliders in the Air Navigation Order 2016 (ANO), and as such non-public transport activities are unregulated with respect to registration, airworthiness and pilot licensing. Although they do not require a pilot licence or any form of airworthiness certification, the CAA advises that they still must comply with rules of the air such as keeping above the minimum heights/distances from people and property, taking off/landing well clear of congested areas and not operating in controlled airspace.

Most paramotors and powered hang gliders are foot-launched. However, the CAA has published an exemption to this requirement to allow these aircraft to be wheeled, provided they have an unladen mass (including full fuel), of no more than 70kg. An additional 5kg is permitted if the aircraft is equipped with an emergency parachute. To limit the performance of the aircraft, the chassis and wing combination must have a stall speed or minimum steady flight speed in the landing configuration of no more than 20 knots. This is to ensure that the overall performance and kinetic energy of the aircraft is kept similar to existing foot-launched aircraft. The exemption is also limited to single occupancy.

Aircraft flying in accordance with the exemption must also be insured in accordance with the applicable European aircraft insurance regulations, UK Reg (EU) No 785/2004, since they will no longer by covered by the exclusion for foot-launched aircraft. Pilots should ensure their insurance meets the requirements applicable for the mass of their aircraft and carry their certificate while flying.

The full text of the exemption can be found in CAA publication ORS4 No. 1224.

INTERNATIONAL

CAE becomes Boeing's first CBTA provider

Boeing and CAE have signed an agreement which makes CAE the first training provider to offer Boeing's Competency-Based Training and Assessment (CBTA) curriculum.

"This partnership expands our competency-based flight-training capacity to better meet the needs of our customers worldwide," said Stephanie Pope, president and CEO, Boeing Global Services. *"By sharing data, leveraging digital capabilities, and providing greater accessibility and affordability, Boeing and CAE are enhancing global aviation safety."*

The shift to CBTA methodology in pilot training focuses on developing and evaluating skills, knowledge and behaviours essential for pilots to operate safely and efficiently in a commercial air transport environment. Boeing's implementation of CBTA uses digitally-advanced tools and fleet operations data to customise training to each individual, and helps pilots efficiently respond to in-flight challenges. The first CAE locations to adopt Boeing's curriculum will be in India, with expansion anticipated into additional global markets. Boeing is implementing the CBTA curriculum through its global training campuses in Seattle, Miami, London-Gatwick, Shanghai, and Singapore, as well as at customer locations worldwide.

"As a Boeing authorised training provider, CAE will leverage its expertise and global network to expand access to high-quality training on Boeing commercial aircraft and give pilots the skills and knowledge they need for peak performance in the flight deck," said Marc Parent, CAE's President and CEO. *"Boeing and CAE are working together to enhance aviation safety, and this agreement ensures more pilots worldwide are ready for the moments that matter."*

LONDON, UK

David Ogilvy OBE, FRAeS (1929-2023)

Former RAF pilot David Ogilvy, a co-founder of AOPA UK and co-founder of the Vintage Aircraft club, has died at the age of 94. David was involved with flying throughout his life. In the RAF he flew the Mosquito mostly on PR operations at the end of the war. He then went onto have a long career in the UK flight training industry, running the London School of Flying at Elstree Aerodrome.

He was deeply involved with Historic and Vintage aircraft, becoming a founding member of the Vintage Aeroplane Club, which was initially restricted to members who owned their own vintage aircraft, before subsequently expanding the club's remit and rebranding as the Vintage Aircraft Club.

David was also involved with the British Light Aviation Centre (BLAC) when he was working as General Manager at the Shuttleworth Collection in the late 1960s and helped BLAC's transition to become AOPA UK after the US-based Aircraft Owners and Pilots Association invited BLAC to join forces with them.

David amassed some 6,500 hours on around 80 different aircraft types, many of them rare and exotic, and he was awarded the OBE in 1994 for services to aviation. Among the many highlights of his career was flying the Mosquito in scores of air displays, and for the film '633 Squadron'.

Commenting on his long association with David Ogilvy, Martin Robinson, current AOPA UK CEO, said: *"Through the years that I worked with him at AOPA he was totally dedicated to fighting for aerodromes, particularly those under threat of closure. Along with Jack Wells (who passed away last month) they established the General Aviation Awareness Campaign/ Council. As David leaves us his legacy will be in the 17 books he has written - the last has just gone to the publisher. My friend and mentor, RIP."*

FLORIDA, USA

Embry-Riddle opts for DA42-VI

Embry-Riddle Aeronautical University has selected the Austro Engine jet-fuel piston engine-powered Diamond Aircraft DA42-VI for its fleet renewal to provide multi-engine training at its Daytona Beach, Florida campus. The contract is for 12 new DA42-VI aircraft, to be delivered in 2024.

"We are excited to extend our long-term use of Diamond DA42 Aircraft," said Dr Ken Byrnes, Embry-Riddle's assistant dean and chair of Aeronautical Science. *"Diamond's commitment to the safety, quality and technological advancement of their aircraft align perfectly with our core values."*

"We are honoured to further strengthen our longstanding relationship with Embry-Riddle, which has been at the leading edge of aeronautical training for decades. The DA42-VI with an all-composite design, proprietary environmentally friendly and efficient jet fuel piston engines as well as Garmin G1000 NXi glass cockpits are a perfect fit for them," said Trevor Mustard, Head of Aircraft Sales and Marketing, Diamond Aircraft Canada.

The four-seat DA42-VI is the latest version of Diamond's light piston twin-engine aircraft, with claimed fuel savings of up to 50% compared to conventional AVGAS powered twins.

PARIS, FRANCE

BAA Training opens new Paris training facility

Flight training provider BAA Training has confirmed that it is opening its fourth simulator centre, to be named BAA Training France, near Orly Airport in Paris. The company says that it plans to have two Boeing 737NG, an A320neo and a Boeing 747-400 simulator installed at the facility by the end of the year, with a capacity to train up to 2,000 pilots per year.

Marijus Ravoitis, CEO of BAA Training, said: *"With the opening of the new training centre, we aim to create a training environment that adheres to world-class pilot training industry standards. The brand-new facility will support one of our primary and highly valued clients, Transavia France, by offering state-of-the-art equipment and tailored services. However, we also work with many other operators in Europe and on different continents. Therefore, the establishment of BAA Training France plays a crucial role in providing more training opportunities location-wise to our partners worldwide."*

SURREY, UK

Pilot Hub teams with Symbiotics

Online pilot support platform Pilot Hub has partnered with Symbiotics, the provider of ADAPT Pilot Psychological Assessments, to provide a range of pilot aptitude assessments to support future pilots at the start of their career, and qualified pilots looking for new jobs.

The partnership will see Pilot Hub offering Symbiotics' Pilot Aptitude Practice Tests to their members, to help them to prepare for their future assessments. Being able to gain experience in using these practice tests can help candidates to familiarise themselves with the aptitude testing process within the aviation industry, helping to remove test anxiety and demonstrate their true capability on the day.

Pilot Hub Founder Stefan West said: *"Our partnership with Symbiotics marks a significant milestone for us at Pilot Hub. We are passionate about fostering growth and success in the aviation community, and this collaboration will ensure that our members are fully prepared for their journey in the industry. By offering Symbiotics' Pilot Aptitude Practice Tests, we aim to demystify the aptitude testing process and alleviate test anxiety, allowing candidates to showcase their true potential. We believe this will not only support individuals in their immediate career goals but will also contribute to the overall development of a more robust and resilient aviation sector."*

GATWICK, UK

Recording Electronic Flight Data

The UK CAA is advising flight training organisations and GA pilots who operate aircraft equipped with electronic displays and/or Electronic Flight Instrument Systems (EFIS) (e.g. Garmin G1000, MGL Xtreme, Garmin G5, Dynon EFIS-D10A etc) capable of recording flight data, to make use of the data recording feature on these devices.

The CAA says that the data is especially useful for pilots and instructors for self-assessment, training and debriefing purposes to improve overall pilot performance. Additionally, the data may be a valuable input for preventative maintenance, making it useful to aircraft owners and maintainers as well.

CAA balloted over strike action

Prospect trade union members at the UK Civil Aviation Authority (CAA) are to be balloted on industrial action over pay. The call for strike action is a first for the UK's aviation regulator.

Having got its finances into a healthier position post-pandemic, the CAA has offered staff a 5% pay rise, but trade union Prospect is urging its members to reject the offer, stating that it is too little to offset pay cuts imposed during the COVID-19 pandemic, as well as current inflation rates, that Prospect says represents a real term drop of 37.2% since 2011.

"We will not hesitate to take industrial action to win a better deal for our members and restore the CAA's status as a world-class aviation regulator. Their goodwill in taking a pay cut during the initial stages of the pandemic to enable their employer to continue to function has not been met in kind by the CAA," says Prospect general secretary Mike Clancy.

According to Prospect, CAA staff have been facing a cost-of-living crisis after more than ten years of pay degradation. The trade union state that in real terms, CAA wages have plunged by 37.2% since 2011 against a current backdrop of 10.7% inflation.

About 40% of the CAA's income is derived from variable charges linked to aviation activity. After aviation traffic collapsed in the spring of 2020, as result of the COVID-19 pandemic, much of the regulator's income was cut. Now the positive impact of the recovery is not only ramping up CAA revenue, but also highlighting an increasing requirement for labour.

Prospect has expressed concerns that the 5% pay offer will worsen ongoing recruitment and retention issues at the CAA. Moreover, Prospect says that action threatens the ability of the aviation regulator to fulfil its statutory responsibility for aviation safety.

CAA employment costs were £107.9 million in its last fiscal year, representing an increase of £10.2 million and 10.4% compared to year end 2022. The CAA reports annual pay increases of 3.0% in 2022 – 2023, together with upping the average number of employees by 10.3% and 129 to 1,387.

The ballot ended just as FTN went to print but results had yet to be published.

Study reveals value of UK airline industry

A new study commissioned by industry association Airlines UK has revealed that the UK airline industry is worth £24bn to the UK economy and supports over a million jobs.

As the UK enjoys its busiest summer travel period since the pandemic, a new report has revealed the vital importance of UK-based airlines to UK jobs and growth. The new report by Steer, commissioned by Airlines UK, examining the strategic and economic contribution of UK-based airlines to the UK economy, has shown that having airlines basing themselves in the UK matters significantly for job creation, UK connectivity and future economic growth potential.

According to Airlines UK, the start of the school holidays saw the busiest travel weekend since before the pandemic with over 2 million Brits heading overseas, while UK Border Force expects over 34 million air arrivals coming through the UK over the coming months. Most of these travellers are carried onboard airlines with bases at UK airports. Airlines UK's new research has shown that UK-based aircraft generate four times the jobs and economic value for the UK, compared to an aircraft serving the UK based at an airport overseas.

Key findings from the report show:

- UK airlines who are members of Airlines UK have over 900 UK-based aircraft located and maintained in facilities across the country, employing local people directly as well as supporting jobs within supply chains.
- UK-based aircraft provide the significant majority of the UK's unique international connectivity (73%) and serve 85% of international routes and all domestic routes.
- Airlines with a UK operating certificate carry nearly 800,000 tonnes of air cargo annually – contributing to the 40% of the UK's non-EU trade by value carried onboard aircraft.
- By 2050, the economic benefits of UK airlines are expected to grow and, by 2050, generate £111 billion of output and £41 billion of GVA (gross value added).

Tim Alderslade, CEO of Airlines UK, said: *"As we hit peak summer travel, this report showcases the huge value that based airlines bring to the whole of the UK, not just for leisure travel but also for UK businesses and companies trading overseas. This highlights the importance of keeping the UK a competitive place to base and grow an airline and, critically, the vital role of effective partnerships between Government and our sector on our path to net zero".*

Aviation Minister, Baroness Vere, said: *"As this report recognises, the UK is a global leader in aviation connectivity and innovation, supporting jobs and businesses across the country.*

"The Government is committed to working in partnership with UK airlines and the wider industry to seize the opportunities that aviation decarbonisation can bring, through the Jet Zero Council and funding commitments such as £180 million to support the development of the UK SAF industry."

Johan Lundgren, CEO, easyJet, commented: *"The significant value of airlines like easyJet, with 178 aircraft based in the UK, is absolutely clear. Not only do we enable UK trade around the globe and bring visitors into the UK, but also ensure hard-working families can connect with friends and family, do business and enjoy well deserved holidays across Europe.*

"The UK is easyJet's largest market with more than half of our passengers flying to and from UK airports and over 10,000 people employed across the country. We continue to invest in the UK with a new three aircraft base in Birmingham opening next year and the benefits of this couldn't be clearer with the creation of around 100 direct and many more indirect jobs and this also demonstrates our confidence in the resilient strength of demand for travel and connectivity in the UK.

"Decarbonising aviation is a major undertaking for which the whole sector is coming together and government and policy support is vital to help us to ensure a sustainable future so these benefits continue to be realised for the UK economy and society."

Sean Doyle, Chairman and CEO, British Airways, said: *"As we experience our busiest summer travel period since 2019, the report shows the value that UK airlines bring to the economy and how much our island nation needs the connectivity that airlines offer. With more than 250 aircraft based in the UK, British Airways makes a uniquely important contribution to the jobs and prosperity that aviation delivers.*

"While we must all work together to ensure the aviation industry remains competitive, we must do so with sustainability at the heart of this. We must continue to work closely with industry and Government to effectively decarbonise our industry.

This includes making the UK a competitive place to develop sustainable aviation fuels (SAF) and getting the right policy support in place to produce more SAF right here in the UK, to ensure a more sustainable future for aviation."

Shai Weiss, CEO, Virgin Atlantic, said: *"UK airlines, including Virgin Atlantic, enable essential connectivity and trade that creates vital jobs and economic growth."*

"It's crucial that UK Government acts on its behalf and sees UK aviation as a strategic asset, with policy that supports a thriving and globally competitive aviation sector, including an affordable hub airport at London Heathrow. UK leadership in decarbonisation can only be achieved through radical collaboration between industry and Government to create the right conditions for accessible Sustainable Aviation Fuel at scale, one of the best levers available to achieve net zero 2050 ambitions and unlock green growth."

Are you up to date? August 2023

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CAA Chart Editions

Chart name	Current edition	Date	(Next edition due)
1:500,000 series			
Southern England & Wales	49	23/03/2023	
Northern England & Northern Ireland	46	20/04/2023	
Scotland	35	24/02/2022	(02/11/2023
1:250,000 series			
North Scotland West	12	08/09/2022	(05/09/2024)
North Scotland East	12	11/08/2022	(08/08/2024)
Northern Ireland	12	09/09/2021	(07/09/2023)
The Borders	13	14/07/2022	(11/07/2024)
Central England & Wales	15	10/08/2023	
England East	16	13/07/2023	
West & South Wales	13	07/10/2021	(05/10/2023)
England South	27	18/05/2023	
London Heli Routes	20	06/10/2022	(03/10/2024)

Aeronautical Information Circulars (AICs)

Barton – GA Airfields ATS ADS-B Traffic Display Trial	(Y031/2019)
Confidential Human Factors Incident Reporting System - CHIRPS (P110/2022)	
Duty to report aircraft accidents and serious incidents	(P056/2020)
Flight Simulation Training Devices to Support Multi-Crew Pilot Licence (MPL) Phase 3 - Intermediate Training	(W008/2020)
Gliding Activity in the UK	(Y027/2023)
Helicopter Precautionary Landings in Deteriorating Weather Conditions	(P003/2020)
The Use of Frequency Monitoring Codes in the UK Flight Information Regions	(Y100/2022)
UK Flight Information Services	**(Y064/2023)**
VHF low Level Common Frequency	(P047/2023)
Visual Reference Point Review	(Y107/2022)
Wake Turbulence	(P083/2020)

UK CAA Publications

Publication	Current Edition/Version
CAP 168 Licencing of Aerodromes	Ed 12 (14 January 2022)
CAP 393 Air Navigation Order	Ed 6 (12 February 2021)
CAP 413 Radiotelephony	Ed23.1 (21 January 2021)
CAP 413 Radiotelephony Manual – Radio Mandatory Zones	13 January 2022
CAP 413 SI 2022/02 Use of Cooperative ATS Surveillance Systems in Flight Information Service	24 November 2022
CAP 452 SA 2022/01 Update to requirements for Radio Operator's Certificate of Competence (ROCC) Holders	4 August 2022
CAP 601 Multi Engine Piston Aeroplane Class Rating Syllabus	Issue 3 (20 Oct 15)
CAP 637 Visual Aids Handbook	Issue 2 (May 2007)
CAP 773 Flying RNAV (GNSS) Non-Precision Approaches in Private and General Aviation Aircraft	Ed 2 (23 December 2014)
CAP 774 UK Flight Information Services	Ed 4 (15 December 2021)
CAP 793 Safe Operating Practices at Unlicensed Aerodromes	Edition 1 (1 July 2010)
CAP 1535 The Skyway Code	V3 (30 March 2021)
CAP 1637 Guidance Criteria for Declared Training Organisations	V5 (25 March 2019)
CAP 1854 Amendment to Flight Instructor privileges and conditions	(15 November 2019)
CAP 1855 Amendments to the Aircrew regulation affecting pilot licence applicants, licence holders and training organisations V3	(31 January 2020)
CAP1903A GA e-Exams candidate Tasman guide V3	20 January 2023
CAP1903B GA e-Exams organisation Tasman guide V3	20 January 2023
CAP 1933 Guidance for use of Web based training, Distance Learning, Simulation and Virtual Reality	6 October 2020
CAP 1939 Amendments to the Aircrew regulation affecting applicants and training organisations	19 June 2020
CAP 1942 Loss of Control in the Circuit	2 July 2020
CAP 1950 GA Safety: Landing Issues	7 August 2020
CAP 1972 Loss of Control Angle of Attack	8 October 2020
CAP 2138 Performance Based Navigation Endorsement – IR Holders (including guidance for IMC / IR(R) holders)	20 April 2021
CAP 2142 Cellma Applicant User Guide V3	28 January 2022
CAP 2400P The Airworthiness Code V1	04 October 2022
CAP 2510 Clued Up: Rejected take-offs	16 March 2023
ORS4 No.1477 (UK) Standardised European Rules of the Air - Visual Flight Rules (VFR) and Special VFR Flight at Night	31 March 2021
ORS4 No.1492 Landing and Taking Off Near Open-Air Assemblies	27 May 2021
ORS4 No. 1496 (UK) Standardised European Rules of the Air - Exceptions to the Minimum Height Requirements	28 June 2021
ORS4 No.1510 Use of National Permit to Fly Aircraft for Flight Instruction and Self-Fly Hire	29 September 2021
ORS4 No. 1578 Compliance with Cruising Level Requirements	05 May 2023
SN-2021/006 Non-Part 21 General Aviation Aircraft Safety Harness Integrity	26 February 2021
SN-2021/014 Pitot Blockage Events	12 June 2021
Safety Sense Leaflet 05 Flight under VFR	October 2022
Safety Sense Leaflet 14 Piston Engine Icing	July 2023
Safety Sense Leaflet 19	July 2023
Safety Sense Leaflet 21 Ditching light aircraft on water	July 2022
Safety Sense Leaflet 22 Radiotelephony for General Aviation PilotsV5	February 2023
Safety Sense Leaflet 30 Loss of control - stall and spin awareness	July 2022
Safety Sense Leaflet 31 Distraction	May 2023

GASCo

Flight Safety Magazine	Summer 2023

AFE Publications

UK VFR Flight Guide2023 (Purple, December 2022)

Entries in bold are new from the last edition of Flight Training News

Skytrek moves into new premises

UK pilot academy Skytrek Flying School has moved into new purpose-built facilities at its home base at Rochester Airport near Maidstone in Kent.

The school, which has been operating out of a 'temporary' porta-cabin for the last decade or so, is now housed next to the airport's new tower/visitor centre and is more accessible to visitors who no longer need to cross the airport's active apron to reach the school.

The school provides flight training courses, air experience flights and self fly rental, utilising a fleet of Cessna 150 and Cessna 172 training aircraft.

With a team of full and part time instructors, the school says it is always looking to attract new talent and is currently inviting applications from new instructors wishing to start their careers at an established school. Interested parties are asked to email their CVs to CFI@skytrekair.com

Kilo Charlie Aviation opts for Tecnam

Tecnam has announced that US flight academy Kilo Charlie Aviation has placed orders for a total of 30 Tecnam aircraft over the next two years.

Kilo Charlie Aviation is located near Kansas City at New Century Air Center, formerly known as Naval Air Station Olathe, a joint civil-military general aviation airport. The school has 96 students and was founded in 2020 by experienced pilot Robert Renfro and Drew Konicek.

> The new fleet selected by Kilo Charlie Aviation includes Tecnam's IFR P-Mentor and its twin-engine P2006T.

Students start their training in a P-Mentor with a modern Garmin G3x glass cockpit. In addition to an already very stable platform, the aircraft will be equipped with the optional BRS ballistic parachute. After completing their instrument rating (IR) in the P-Mentor, students can transition into the P2006T twin engine to train for their multi-engine rating.

The first of 15 deliveries will be comprised of three P2006T and 12 P-Mentor aircraft, with the remaining 15 aircraft to follow after the last of these first 15 have been delivered.

"We are very pleased that so many American flight schools are choosing TECNAM to replace or upgrade their fleet. Today's students are very demanding and deserve a brand new aircraft with the latest technology. We thank and welcome Kilo Charlie for their choice," said Walter Da Costa, Tecnam Chief Sales Officer.

"We have been in a two-year process trying to find the right aircraft partner for our career flight training school. Once Tecnam presented the P-mentor we knew that all the work over the last two years had to be re-evaluated and compared to this aircraft. Safety and Technology are our two highest priorities here and after comparing everything it was without a doubt the best option for our school and students," said Robert Renfro, Kilo Charlie Aviation Chief Operating Officer.

Piper forms PIMCO

PIPER INDUSTRIAL MANUFACTURING COMPANY

Piper Aircraft, based in Vero Beach, Florida, has formed a subsidiary called Piper Industrial Manufacturing Co. (PIMCO), to provide parts and services to new outside customers.

Over the past four years, Piper has invested $30 million in production improvements and in machinery, tooling and technology, including robotic riveting and 3D-printing equipment.

"These investments are the key to many things like improved product quality, employee well-being, enterprise productivity and long-term value for our company," said Ron Gunnarson, Piper Aircraft vice president of sales, in a press briefing. *"They also allow us to diversify in what we all know is a very challenging but fun—almost addictive this industry is-but it's a cyclical business we're in."*

Piper's new business entity plans to expand its business into new and adjacent markets, such as contract manufacturing, aerostructures and project services. Initially, it will specialise in sheet metal fabrication, CNC machining, hydro- and stretch-forming and tube bending and cutting. It also will offer laser cutting, fluid cell forming, welding and 3D printing.

"To support this effort, we're also adapting our own existing quality management system and pursuing AS9100 certification," says Gunnarson.

Piper is currently running small jobs through the factory to learn *"where our muscles are and where they're not,"* Gunnarson continues. It is performing work doing laser-cutting and 3D printing for a customer.

Piper has operated as one of the most vertically integrated original equipment manufacturers in aviation, Gunnarson says. Its production facility is busy today with more aircraft orders than it can produce, he reports.

"But we all know the cyclical nature of this industry," Gunnarson says. *"And after those investments, to be able to be suppliers for other aerospace companies ..., it's a nice place to have that."*

Piper does not have a lot of excess machine capacity today, but *"if and when a downturn does come, we've got the latest and greatest equipment. We've been bending metal and welding metal for 86 years,"* Gunnarson says. *"So, nobody knows it better."*

Beyond Root Cause

The UK CAA is hosting and supporting a new training course this October, designed for flight examiners, instructors and flight operations inspectors, helping to identify new threats and develop mitigations in training.

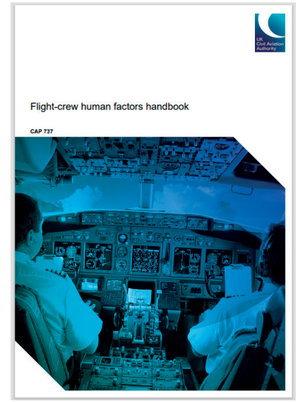
Named 'Beyond Root Cause' the course discusses critical new themes emerging from recent scientific industry research, with compelling, relevant, and surprising examples. Themes include subtle effects of modern automation, unnoticed pilot monitoring vulnerabilities, and consistent threats in abnormal event management. The course also discusses the place of competencies in identifying and prompting diagnosis.

The course is delivered by Steve Jarvis, a leading aviation human factors scientist, well-known educator, and author of CAA publication CAP 737, the Flight Crew Human Factors Handbook. Steve has been at the cutting-edge of aviation human factors for several decades, conducting research for airlines, helicopter operators and militaries. Tools from his work are used across the world (in both fixed and rotary wing).

Intended for instructors and examiners (and related professionals), course places are prioritised accordingly and the organisers say they apologise that they are currently unable to accept bookings from other areas such as research, human factors, CRM training, academia and consultancy.

The full-day courses are taking place at CAA headquarters at Gatwick on 24 October 2023 (fixed-wing) and 31 October 2023 (rotary). The cost of the course is £180 (+VAT), with lunch and refreshments included.

www.jarvisbagshaw.com/courses.php



Continental testing HVO in CD-100 engine series

Continental, a subsidiary of Continental Aerospace Technologies Holding Ltd, has confirmed that it is finalising testing of Hydrotreated Vegetable Oil (HVO) as a sustainable fuel option in its CD-100 series of engines.

This research and development investment signifies Continental's commitment to fostering a more sustainable general aviation industry aimed at reducing carbon emissions and promoting environmental stewardship.

HVO is a renewable fuel alternative. This biofuel is produced from vegetable oils, using hydrogen as a catalyst instead of methanol. In addition to vegetable oils, the new fuel can be produced from tallow and used cooking oil. By approving HVO for use in CD-100 engines, Continental enables aircraft owners and operators to significantly reduce their carbon footprint without compromising their engine's performance.

HVO emits slightly less carbon dioxide in the burning than petroleum diesel does—as much as 15 percent. But its total lifecycle emissions are 50 to 90 percent less than petroleum diesel because the fuel is returning to the atmosphere carbon already absorbed during the plant growth cycle.

"Hydrotreated vegetable oil is one of many sustainable alternative fuels. While the industry continues to work through a wide variety of diverse, sustainable options on their path to reach decarbonisation, Continental is proud to take this incremental testing step to potentially bring a cleaner fuel to our CD-100 Jet-A owners," said Dr David Dörner, Vice President of Global Research and Development for Continental. *"Our extensive analysis has thus far demonstrated results that confirm our 4-cylinder Jet-A engines exhibit seamless performance equal to traditional Jet-A fuel."*

HVO production is growing, but its market share is small. HVO and biodiesel are similar, but HVO is less carbon intensive because it contains no petroleum constituents. Biodiesel is called R-99 or green diesel because by federal law in the US, it must contain 1 percent petroleum-derived diesel. According to Avweb, the US is the largest producer of true HVO, but the market remains underdeveloped in the US. R-99 biodiesel accounts for about 2.3 billion gallons of 68 billion gallons produced. Biodiesel is currently between 70-130 percent more expensive than fossil diesel.

Aerovolt commences UK electric charging station roll-out

Aerovolt, a new British company, has commenced the installation of electric charging stations at UK general aviation airfields. Commencing this month, Aerovolt is installing charger stations at six airfields in the south of England, with plans to increase this to 24 stations over the next 18 months.

The charging stations will be used to charge electric GA aircraft, commencing with the Pipistrel Velis Electro – the first electric aircraft in the world to gain regulatory approval.

Aerovolt was founded in 2022 by Phil K-Dobson with his twin brother Alan and made its debut at the recent Royal International Air Tattoo (RIAT).

Aerovolt's charging stations will allow the company to offer low-cost electric flying to licensed pilots wishing to fly the company's Velis Electro. A conversion course of training is required but then the Velis Electro aircraft will be available for £100 per hour, with electricity costing £8 to £9 per hour.

Recognising that transitioning from piston-engine to electric aircraft requires a significant amount of ground school to be completed, along with a number of flights to get used to unique handling characteristics, particularly landings in a Velis Electro, Voltaero has decided to offer the training free of charge, including up to five flights with an instructor. Pilots will simply require to be registered with an active subscription on Voltaero's 'Squadron' management system.

The 'Squadron' management system allows users to see the entire network of charging systems, providing live information on their status and allowing bookings to be made.

Phil K-Dobson said: *"This is an exciting development in the aviation sector. Never before has a pilot been able to fly electric from one destination to another, charge the aircraft and return, using a publicly operated permanently installed smart charger.*

"Later this year, SkyDemon will be adding our smart charging data feed for electric aircraft to their popular flight planning and navigation application, marking a first in live access to aircraft charger information in pre and in-flight operations," Phil K-Dobson added.

The first six charging stations are being installed this month at Lydd Airport, Brighton City Airport, Lee-on-Solent Airport, Sandown (Isle of Wight), Bournemouth Airport, and Kittyhawk in Essex.

CAeS opens new facilities at Cranfield Airport

Cranfield Aerospace Solutions (CAeS) has unveiled its newly refurbished hangar and R&D facility at Cranfield University campus in Bedfordshire.

The facility, leased by CAeS has undergone major refurbishments as part of Cranfield University's decarbonisation plan, with significant investment into reducing the building's carbon footprint.

The modernised and more environmentally-friendly hangar will be used to modify CAeS' Britten-Norman Islander, undergoing conversion to a hydrogen-electric propulsion system for entry into service in 2026.

It will also be used by CAeS to develop the procedures and processes required for the maintenance of future hydrogen-powered aircraft, while still maintaining its conventional MRO function which specialises in wide-bodied and light aircraft such as Diamond DA 40/42 Series and Piper Singles and Twin Piston Engine Series.

CEO of CAeS Paul Hutton said: *"This modernised hangar becomes a classroom of possibilities, where we will not only deliver the intricacies of zero emissions propulsion but also pioneer maintenance procedures for hydrogen-powered aircraft. Our engineers and technologists, fuelled by curiosity and a passion for sustainability, stand ready to lead the charge at the most exciting stage of our growth yet."*

On a visit to the new facility, Aviation Minister Baroness Vere said: *"Cranfield is a historic site for UK aviation: from training RAF pilots and the formation of the College of Aeronautics, to now being at the forefront of emerging technologies like hydrogen fuel-cell aircraft.*

"It is apt therefore that these facilities open a year on from publication of the Jet Zero Strategy. Decarbonising aviation will be challenging, but the experience and ingenuity of UK engineers will see us through. And I am proud to see UK companies leading the way."

The opening of the new facility coincides with CAeS proposed merger with British aircraft manufacturer Britten-Norman, and looks to build on the conversion of the BN Islander with a series of future aircraft optimised around zero-emissions technology.

eDA40 completes maiden flight

Diamond Aircraft's electric eDA40 development project reached a significant milestone at the end of last month when it completed its maiden flight at the company's headquarters in Wiener Neustadt, Austria.

Piloted by Diamond's Head of Flight Test Sören Pedersen the inaugural flight covered system checks, all basic flight manoeuvres and an initial performance evaluation. *"The flight went as scheduled and delivering all results requested,"* Diamond confirmed.

Safran Electrical & Power supplied the ENGINeUSTM electric smart motor, and Electric Power Systems (EPS) supplied the battery module, which is equipped with a direct current (DC) charging system for fast recharging.

Billed as a 'circuit trainer', Diamond says the eDA40 will provide 90 minutes airborne time with a fast 20-minute recharge cycle between sorties. The trainer will feature a G1000 NXi glass cockpit and offer a 40% reduction in operational costs compared with a traditional piston-engine trainer.

The Safran ENGINeUSTM 100 electric motor delivers 130 kW maximum at take-off power and features a fully integrated motor controller, with thermal management provided by an optimized air-cooling system. The certification of the electric motor is planned for mid-2023.

"We are extremely proud to announce another significant milestone for our all-electric eDA40. The aircraft performed outstandingly well during its maiden flight and not only met but exceeded all our expectations," said Liqun (Frank) Zhang, CEO Diamond Aircraft Austria. *"We are very much looking forward to offer an exceptional sustainable aircraft for the flight training market of tomorrow."*

"We are very excited to take part in the eDA40 first flight, along with Diamond Aircraft, as it is the first time our ENGINEUS electric motors and the electrical protection system will fly on an all-electric aircraft. Participating in the electrification of the DA40, a proven aircraft and a best seller, has been a thrilling technical challenge. We have recently obtained Design Organisation Approval from the European Aviation Safety Agency (EASA) for our ENGINeUS 100 electric motor and are currently on the home stretch in obtaining their final certification. This state-of-the-art equipment is one of the essential building blocks in Safran's decarbonisation strategy," said Bruno Bellanger, Executive Vice President & General Manager of the Power division of Safran Electrical & Power.

Nathan Millecam, CEO of Electric Power Systems, said: *"This marks a historic milestone for both Diamond and EP Systems. The flight is the culmination of years of determination, innovation, and hard work. The eDA40 project ushers in a new era of electric propulsion that solves an immediate problem in both an economical and sustainable way. Through unwavering dedication and cutting-edge technology, we are showing the industry how electric propulsion can be implemented in aviation. We extend our deepest gratitude to our visionary customer, dedicated employees, and passionate investors who have made this achievement possible. Their unwavering belief in our mission has fueled our determination to power a more sustainable future."*

The eDA40 is scheduled to be presented to the public at AERO Friedrichshafen 2024.

Indian flight schools select Piper

Piper Aircraft has confirmed that it has secured three new fleet customers in India, who have ordered a total of 47 diesel-powered Archer DX aircraft between them.

The three schools are Skynex Aero in New Delhi, Dunes Aviation Academy in Gujarat, and Vman Aero Services in Mumbai.

"The Archer DX is the ideal diesel-powered professional flight training aircraft. It offers the durability and reliability that pilots have come to expect from the Piper Archer, along with the efficiency and flexibility provided by the Continental CD-155 turbocharged diesel engine," said Ron Gunnarson, VP of Sales, Marketing and Customer Support at Piper. *"It is also equipped with the Garmin G1000 NXi Avionics Suite, which can be further enhanced from a large selection of additional avionics equipment options."*

The 47 aircraft on order will join an existing fleet of Archer DXs already operating in India, including 10 recently ordered by Chimes Aviation based in Madhya Pradesh. Piper says that India is one of the fastest growing commercial aviation markets for them and is expected to remain so for the foreseeable future.

"The Continental CD-155 turbocharged engine has a service ceiling of 14,100 feet or 4,298 meters, burns less than 6 gallons per hour at 65% power, and provides a very quiet and effortless flight experience for both students and instructors," says Chuck Glass, Piper's Director of International Fleet Sales. ***"This aircraft performs as smooth as a turboprop and has ample power for use in all aspects of commercial flight training. It sets the standard for modern, cost-effective flight training."***

The order sheet comprises:

- Skynex has 27 Archer DXs on order to be delivered in 2024 and 2025.
- Dunes Aviation Academy has 10 Archer DXs on order to be delivered in 2024.
- Vman Aero Services has 10 Archer DXs on order to be delivered in 2024.

Cirrus Private Pilot Programme launched

Cirrus Aircraft has announced its new Private Pilot Programme designed to teach anyone to learn how to fly a SR Series Cirrus aircraft whilst gaining their pilot's licence. Training will be delivered by a Cirrus Standardized Instructor Pilot (CSIP) through a Cirrus Training Centre (CTC), of which there are currently 700 worldwide.

"Learning to fly and earning a pilot's licence is what moves the personal aviation industry forward," said Zean Nielsen, Chief Executive Officer of Cirrus Aircraft. *"From day one, our mission has been to grow engagement and participation in personal aviation, and our new Private Pilot Programme makes that experience easier and smoother along the way."*

The Private Pilot Programme includes 11 modules with 40 lessons that take students through the pre-study material, ground instruction lessons, flight instruction videos, performance assessment and quizzes. Cirrus says the Private Pilot Programme is a highly specialised training programme offering specific flight training content to learn to fly a Cirrus aircraft alongside a dedicated CTC and CSIP by leveraging study materials designed and written by Cirrus Aircraft's flight training experts.

Designed and developed by Cirrus Aircraft's pilots and experts, the Private Pilot Programme is the industry's first programme that focuses on learning to fly an SR Series aircraft.

The Private Pilot Programme is now available through Cirrus Aircraft's corporate-owned flight training locations and US Network Partners, with plans to roll it out worldwide in due course.

www.cirrusapproach.com/private-pilot-program

Instructor Notes

Helen Krasner

My helicopter FI course - Part I

It's many years since I qualified as a helicopter instructor and nearly as long since I thought about my Flight Instructor (FI) course in any detail. But I was sorting through some stuff recently and I happened to come across the detailed diary which I kept during those weeks. The diary reminded me of just how hard I found that course. Indeed, it was probably the most difficult few weeks of my whole flying career.

I wrote about it mainly for my own benefit at the time, although it was also published on a popular aviation website. At the time, many people followed it avidly and enjoyed it. They said they found it inspiring, that it made them want to do the course. So, I thought I'd introduce it to a new audience here, in the hope that a new generation of pilots might be able to enjoy it and benefit from it – or maybe just prove to themselves that there are others who were once worse at learning than they are!

Let's set the scene then... It's January 2003 and I've arranged to go down to Thruxton Airfield in Hampshire to do my FI course. I have the bare minimum of flying hours required at that time (300, and I have 300.1). I'm going to be staying there during the week, so I've found a cupboard of a bedsitter in Andover to live in. I've been told quite a lot about the course by pilots who've done it before and this seems to summarise it:

Week 1: Nothing to this instructing lark.
Week 2: Oh dear...
Week 3: I've paid for this; I might as well carry on.
Week 4: If I'm lucky and everything goes well, I might just scrape through.
Week 5: Phew, done it!

Was mine going to be similar? Let's see, shall we...

> The first week goes fairly well. There are only two of us taking the course and we spend the first day doing intensive ground school – how to teach and how students learn. Then, when we should be flying, we're hit by January gales and have even more ground school.

The first week goes fairly well. There are only two of us taking the course and we spend the first day doing intensive ground school – how to teach and how students learn. Then, when we should be flying, we're hit by January gales and have even more ground school.

Finally, on the fourth day, we get airborne. The early days are spent learning to fly from the left seat, the 'wrong' seat in most helicopters. Next, we learn to give briefings and are shown how to teach the very early exercises. Mike, our instructor, teaches them to us; then we each have to teach them to him. Apart from the highly artificial situation of teaching the Effects of Controls to a zillion-hour helicopter instructor, things go really well and I drive home after the first week on something of a high. Yes, maybe there really is nothing to this instructing lark.

Then comes the second week...

Monday 03 Feb

The weather is good but it's expected to change. So, we get given Exercises 6, 7, 8, and 9 one after another! That's 'straight and level', 'climbing, descending and turning', 'basic autorotations', 'hovering', 'takeoffs and landings'. Phew!

Tuesday 04 Feb

The weather is OK in the morning, so we get given Exercise 10 – transitions – on the ground and then in the air. I have a lot of ingrained bad habits like raising the collective slightly before I start the transition and forgetting right pedal as I speed up. Mike jumps on everything and I start to wonder how I can hope to instruct when I can't even fly helicopters properly. Then the weather changes so it's more ground school and Mike asks us to prepare a briefing on weather fronts. John gives his briefing, then, out of the blue, Mike asks me to give one on wind! *"That's not fair,"* I protest and he asks me what I remember about wind. At that point, under those stressful circumstances, the answer is absolutely **** all. He coaxes me through the Coriolis Force, Buy's Ballot's Law etc, telling me that it's PPL stuff and I should know it. I do, but I've forgotten it and I can't cope with being put on the spot like that. I spend the evening trying to revise, but I'm getting depressed. I can't fly and I don't know anything; how do I expect to be an instructor?

Wednesday 05 Feb

We get another quick lesson on transitions in the air since the wind has dropped a little. Then we get Exercise 11 (circuits) and Exercises 13 and 14 (hovering sideways and backwards, spot turns).

Thursday 06 Feb

We have to 'give back' Exercise 4 in the air. John goes first and I stare at the little card I've made up with the relevant points. I realise I've forgotten everything; we were taught Exercise 4 last week - a lifetime ago. I manage to stumble through the four main controls and then it all goes totally pear-shaped. By the time I finish I can barely fly, never mind think and speak at the same time. I decide this is all impossible and I say to Mike that I feel as though I'll never be able to do it. I'm actually giving him the chance to tell me I'm right; I won't, and maybe I should give it up! He doesn't though. He says it's always the way - people think it'll be easy and it isn't. How do I explain that I didn't think it would be easy; I started with very little confidence and now I have even less? I mess up the approach, then even struggle with trying to land. We get a debrief, being told our first efforts weren't bad. A little while to recover, then we do ground briefings. My Exercise 4 goes reasonably well. Mike says I seemed confident, and was I? I said no - but it hadn't been as bad as I expected. John does Exercise 5, then I'm asked to do Exercise 6, with no preparation, from my notes! This is a massive briefing anyway and I get tied in knots, but it's not too bad. John then does Exercise 7. I'm knackered after such a long day and I sleep fitfully, waking up worrying about which pedal it is and which way you'll roll! I finally give up at 4am and make some hot chocolate, eventually dozing off about 5am. I'm telling myself this is not an emergency situation, it's just a bloody FI course!

Friday 07 Feb

I get in, looking more bright-eyed and bushytailed than I feel after hardly any sleep but lots of black coffee. I'm first out to give back lesson 5. It's a complete fiasco. It starts bad and gets worse. After about ten minutes I tell Mike that I'm sorry, but my mind's gone completely blank and I can't remember a thing. I say I'll be OK, I just need a minute and I'll pull myself together. On top of everything we're above broken cloud with only a few holes and I'm completely lost. Mike doesn't play amateur psychologist, thank goodness. He does the next bit; then I say I'll carry on. But I tie myself in knots with what ought to be a fairly simple exercise. I simply can't fly and talk and think all at once; one of the three has to go. This means if I manage to talk and demonstrate the exercise I get lost, forget carb heat, etc, if I remember those things... well, you get the idea. I fly back, deciding I'll give this whole thing up. Because of that decision, I relax and fly like I used to rather than like the incompetent beginner I feel as though I've become. I go in, head for the loo and burst into tears! When John comes back he asks me how it went. I tell him total crap would be a fair approximation. He says his was the same; he just couldn't remember anything. I think we both feel better for realising we're not alone. Mike comes back and tells us how it should have gone. We have a break and then he tells us to do some mutual flying, teaching each other Exercises 8 and 9. We do, and it's fun. Suddenly I get my tongue back and my flying ability and confidence with it. I remember most of what to say and we both enjoy being the student, putting the helicopter into mad oscillations, while the 'instructor' sees how hard it is to correct it - surprisingly easy actually. We agree that hovering with one or two controls is quite hard, especially when the 'student' has the collective and pedals and it's really difficult to keep straight with the cyclic when you don't know what's happening on the other two controls. Anyway, we both feel better after this. Mike tells us we may as well finish early as we have long drives home and a lot of homework. I get the feeling he planned all this, that we're being ever so slightly manipulated.

Am I going to go on? I meet a pilot friend for lunch before driving home and he reminds me that although I gave myself permission to fail, I didn't give myself permission to quit!

So, I gritted my teeth and carried on...

(More next month)

Barton pioneers FID

Manchester Barton Aerodrome in Greater Manchester has become the first airfield in the UK to gain approval from the Civil Aviation Authority (CAA) for a new low cost safety system which provides real-time information to air traffic staff, working in the UK's oldest operational control tower.

The system, known as a Flight Information Display (FID), looks similar in appearance to a radar screen used at large airports, but uses a low cost receiver aerial, from avionics manufacturer uAvionix, mounted on the control tower roof to receive data transmitted from aircraft providing their position twice a second using a system called Automatic Dependent Surveillance - Broadcast (ADS-B). This data is then plotted on a map of the airspace around the airfield allowing the air traffic team to have increased situational awareness and to be able to warn pilots of other aircraft and airspace.

The project has taken six years to complete and is the brainchild of aviation consultant Steve Hutt who operated under the governance of Airspace4All funded by the CAA's Future Airspace Strategy Facilitation Fund. Key to the project was the development of a new CAA policy permitting the use of FIDs by Air Traffic Units.

Barton Flight Information Service Officers (FISO) Nick Duriez and Steve Cooper developed the programme for Barton, including creating a Trial Safety Case and Plan which went on to provide four years of data, with the Barton FISO team providing regular feedback to the CAA. Following this extended trial period and subsequent introduction of new policy, last month the CAA finally issued Barton with the UK's first approval to use a FID at an airfield.

Part of the project has included the creation of a FID template, to be available as a shared resource for all airfields. The template was created by the Barton team, again under the stewardship of Steve Hutt and his company Custom Chess Company Ltd, and was approved and funded by the CAA.

Commenting on the project, Steve Hutt said: *"This is a true enhancement to flight safety bringing a low cost surveillance solution within the budget of general aviation airfields using off the shelf hardware and applications which can be easily implemented – I know other airfields are eager to adopt the system. Myself and the team can provide project and technical support as well as training to airfields wishing to implement similar systems, and I look forward to working with them."* Barton FISO Nick Duriez said: *"We've gained the first CAA operational approval at Barton for a FID surveillance system that's not reliant on Radar, it really shows that ADS-B is the way forward and that General Aviation airfields can tap in to the data it provides simply and easily."*

Fellow Barton FISO Steve Cooper added: *"This was an exciting project to be involved in and I'm glad many years of dedication have paid off. Barton is a busy aerodrome with a real mix of aircraft types operating from it - ranging from military helicopters to microlights - so this is fantastic addition to our toolset to keep the skies around the aerodrome safe."*

The FID uses uAvionix's 'pingStation' to receive ADS-B position data from aircraft on the ground and flying in the vicinity of the airfield. The concept of a Flight Information Display is a recognition that the use of ADS-B OUT equipped aircraft enables low-cost airspace and aerodrome/airport situational awareness at a cost and scale not previously imagined. Since ADS-B OUT equipment relies on readily available certified or qualified equipment broadcasting the aircraft's position from an approved high-integrity position source, the ground-based surveillance and display capability needed to provide situational awareness can be produced at a fraction of the cost of the legacy radar solutions.

Barton's FID uses a uAvionix pingStation to receive ADS-B position data that is passed to the local FID computer, which displays the traffic situation to the FISO in the tower. For many years, general aviation pilots have had access to technology, such as the uAvionix SkyEcho2, enabling them to receive and display the position of other ADS-B conspicuous aircraft flying nearby to help avoid collisions. The CAA approved FID now provides an equivalent low-cost capability for FISOs and Air Traffic Control Officers (ATCOs) in the airfield tower.

uAvionix's pingStation claims a reception range of over 300km, receiving ADS-B position data on both the 1090 MHz and 978 MHz frequencies. According to uAvionix, 978 MHz will become increasingly important in the UK as the CAA roles out Beyond Visual Line of Sight (BVLOS) operations for drones, using 978 MHz ADS-B for Electronic Conspicuity in support of detect and avoid (DAA) services.

CAA completes CO Detector trial

The UK CAA has completed a 12-month trial on the use of electronic carbon monoxide detectors in general aviation (GA) aircraft and has recently published its findings.

The CAA reports that feedback gained from the 12-month trial, combined with a review of CAA Mandatory Occurrence Reporting (MOR) data, suggests the risk of CO exposure remains a persistent background threat throughout the year and is somewhat elevated during cold weather operations.

Anecdotal test evidence supported by results from the 12-month study suggest that electronic CO detectors designed for domestic use can function reasonably at typical recreational GA altitudes (up to 5,000ft). However, the CAA adds that bearing in mind domestic devices are designed for ground use, reliance on specific ppm readings should not be assumed as being 100% accurate.

The CAA says that whilst effective maintenance remains the first line of defence against CO and is the only way to avoid exposure, choosing to fly with an electronic CO detector is a decision pilots can make to protect themselves and their passengers from CO should maintenance fail. With a wide range of CO detectors on the market, the CAA adds that it has never been easier for pilots to find a device that suits their needs and budget. Active CO detectors are also increasingly being built into other aviation equipment as standard, including ADS-B devices and headsets, making them more prevalent in GA aircraft. Additionally, some active CO detectors can be paired to personal electronic devices such as smartphones and smartwatches, increasing the likelihood of being alerted to elevated CO levels.

The CAA says that the evidence gathered to date indicates that active CO detectors capable of alerting pilots via aural and/or visible warnings are a net safety benefit to GA pilots and their passengers.

Whilst the risk of CO poisoning may be known and understood by many GA pilots, the same cannot be said for consumers and third parties generally, who may fly in piston engine aircraft on a commercial or recreational basis. The CAA therefore advised pilots to consider the significant safety benefits offered by flying with an active CO detector.

FLIGHT CAREER NEWS

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Boeing's Pilot & Technician Outlook

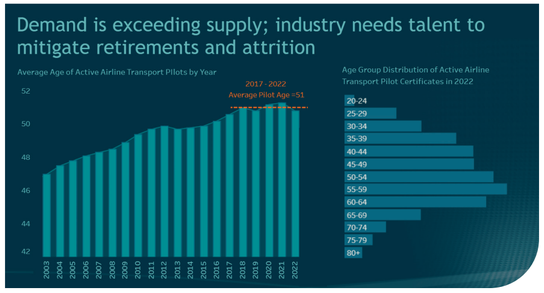
Boeing has published its annual Pilot and Technician Outlook, detailing demand for new aviation personnel over the next 20 years.

While the statistics have not changed dramatically since the 2022 Outlook, increasing by around seven percent on average, what does appear to be increasingly emphasised is that current training capacity is insufficient to meet projected demand, especially at the rate that it is being requested.

The demand for training and related services has shown signs of faster recovery, says Boeing, but the industry still faces lingering challenges in meeting the demand. Among them says Boeing are insufficient training capacity to support significant personnel shortage and the lag time required to bring personnel online. To support the recovery and growth driven by expansion of global fleets, Boeing says that the aviation industry will need a long-term strategy that addresses upcoming labour challenges. Boeing advises that investment in early career-development programmes and outreach efforts that spark excitement among future aviators will be essential to a healthy aviation market for years to come.

Onto the figures, and Boeing calculates a global demand for 649,000 new pilots, 690,000 new maintenance technicians and 938,000 new cabin crew members required to fly and maintain the global commercial fleet over the next 20 years. Boeing's 2022 figures were 602,000, 610,000 and 899,000 respectively. What's worth noting is that these personnel figures are for the airline industry only and do not include personnel demand figures for the wider aviation industry, such as business jet and helicopter operations.

Boeing says that because the airline industry was heading towards a global pilot shortage before the pandemic, many airlines instituted cadet pilot programmes to fulfil their personnel requirements. With the advent of COVID-19, however, these programmes closed overnight and Boeing now expects these to start reappearing in earnest [see this month's lead article – Ed]. Boeing adds that, concurrently, the industry needs to quickly resolve a growing instructor shortage if it is to have a chance of meeting demand, as recruit by airlines has swallowed-up a large proportion of the instructor workforce over the last year or so.



Boeing says that in addition to demand derived from airline growth, two factors have added to the pilot shortfall globally and these are retirements and pilots not returning to airline roles after having been laid-off during the pandemic. According to Boeing, the average pilot age has remained at approximately 51 from 2017 through 2022 and over 60% of the current airline pilot workforce will have retired by 2042.

One of the most significant changes to pilot jobs post-pandemic has been an increase in salaries, says Boeing, enacted by airlines to attract new staff. Boeing reports that since the onset of the pandemic, pay scales for pilots in North America have increased 86% for regionals and 29% for mainline. Boeing adds that 2023 is expected to see the highest percentage of mainline pilot salary increases since 2010, driven by the need to attract and retain flight crew.

While pilot salaries are on the rise, Boeing nonetheless expects the airline industry to remain profitable. According to Boeing, after fuel, flight crew salaries are the second largest cost to airlines in terms of operational outlay.

The challenge of recruiting sufficient numbers of new technicians is also a major challenge for the industry, says Boeing, with over 30% of the global workforce at or near retirement age within the next five years.

The role of the aviation maintenance technician continues to evolve as new generations of aircraft join the global airline fleet, says Boeing. New sensors and flight data recorders generate huge amounts of data, enabling technicians to implement new, predictive solutions. These innovations drive demand for technicians who can accurately analyse, interpret and act on the information generated. At the same time though, older aircraft remain in service, requiring maintenance providers to employ technicians with vast skillsets who can maintain and repair aircraft built decades ago.

Boeing says that this combination of cutting-edge and more traditional maintenance will demand flexible training that addresses not only traditional maintenance but also emerging, analytical skillsets.

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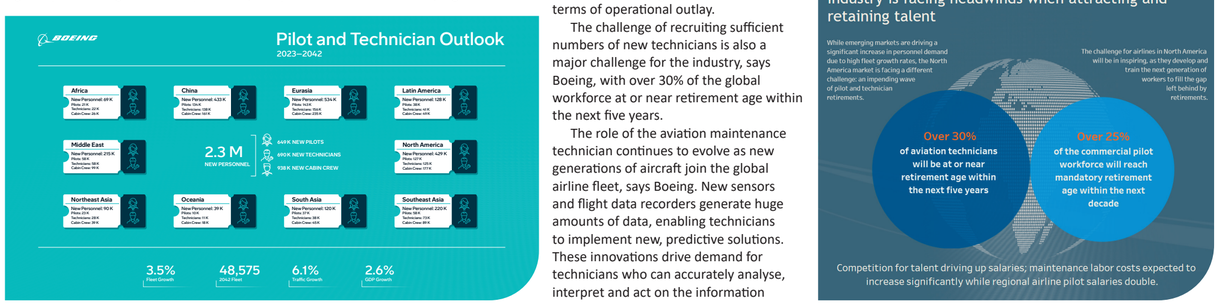
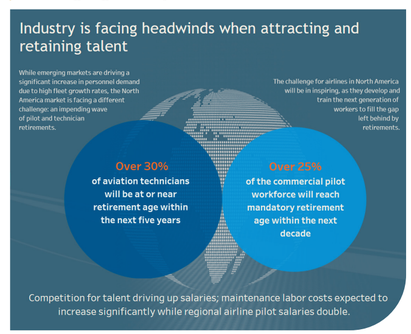




FLIGHT CAREER NEWS

Virgin pilots balloted over strike action

Virgin Atlantic has confirmed that it is commencing pay talks with pilots amid reports of potential strike action over fatigue and wellbeing concerns.

The issue centres on scheduling and rostering arrangements introduced during the pandemic as the long-haul carrier fought for survival.

Pilots' union BALPA said that members working for the airline backed being balloted for industrial action. The union said that 81% of its members at Virgin Atlantic voted in the ballot, giving BALPA *"an overwhelming mandate to pursue this dispute"*.

The current work arrangement expires in December with the majority of Virgin Atlantic's 835 pilots understood to be members of BALPA.

A Virgin Atlantic spokesperson said: *"The health and wellbeing of our people is paramount and we have a dynamic Fatigue Risk Management System (FRMS) in place driven by robust data, with regulatory oversight, operating above industry standards that monitor pilot rosters and schedules.*

"We carefully analyse and manage working levels and fatigue levels to ensure the wellbeing of our pilots at all times."

"Virgin Atlantic underwent a radical transformation as a result of the impact of Covid-19, which was possible due to the collective effort of our amazing people.

"This was fundamental to our survival and our steadfast commitment to returning to sustainable profitability. We're grateful to them all, including our pilots who play a pivotal role in the success of our operation.

"We currently have an existing pay and lifestyle agreement in place until the end of 2023, that was agreed, developed and supported by BALPA's pilot representatives within Virgin Atlantic and our pilot community.

"We continue to honour all agreements and have offered to enter formal pay and lifestyle negotiations with BALPA's pilot union representatives in the coming weeks, well in advance of the agreement expiring in December.

"We look forward engaging in healthy discussion with our pilots on the topics that matter to all of us."

A BALPA spokesperson said: *"Our members have registered a trade dispute with Virgin Atlantic arising out of serious concerns relating to pilot fatigue and wellbeing around scheduling and rostering arrangements, implemented during the Covid-19 pandemic.*

"In a recent indicative ballot to gauge the depth of feeling about this issue, 96% voted in favour of being formally balloted for discontinuous strike action. This was based on a turnout of 81% of our members, giving BALPA an overwhelming mandate to pursue this dispute.

"It's clear Virgin Atlantic pilots feel very strongly about this. BALPA prefers to address matters constructively through negotiation and industrial compromise and will only countenance industrial action as a last resort.

"We remain ready to commence negotiations to find an acceptable way forward and urge Virgin Atlantic to listen to its staff and put forward an acceptable offer that our members could support."

United pilots to gain 40% pay rise

Pilots working for United Airlines are to receive up to a 40% pay rise following protracted negotiations over the last year between United and pilot union the Air Line Pilots Association (ALPA).

The pilots will get cumulative 34.5%-40.2% increase in pay raises in a new four-year contract, the Air Line Pilots Association (ALPA) said.

With a growing shortage of pilots in the US, ALPA, which represents the interests of about 11,000 pilots at the Chicago-based carrier, has been enjoying enhanced bargaining powers. It said it reached an agreement in principle with United management, which includes substantial improvements to compensation, as well as advancements in quality of life, vacation, and other benefits.

"We're pleased to have reached an agreement with ALPA," United Airlines CEO Scott Kirby said. *"The four-year agreement, once ratified, will deliver a meaningful pay raise and quality of life improvements for our pilots while putting the airline on track to achieve the incredible potential of our United Next strategy,"* he added.

The deal comes after pilots at rival carrier Delta Air Lines were granted a new contract that includes over $7 billion in cumulative increases in pay and benefits over four years. Industry officials say Delta's new contract has become a new benchmark for contract negotiations in North America, which are forcing other carriers to follow suit.

United pilots turned down a deal last year that would have delivered them more than 14.5% in cumulative wage increased and enhanced overtime and training pay. The new deal will now see them get cumulative 34.5%-40.2% salary increases in a new four-year contract.

Analysts have meantime calculated that the US is short of around 10,000 pilots.

CAA takes action against Wizz Air

The UK Civil Aviation Authority has taken enforcement action against Wizz Air following "significant" concerns over high volumes of complaints about the airline not paying passengers what they are owed.

The regulator reports that it has been in contact with Wizz Air for several months after complaints by passengers that their rights had not been met when flights were cancelled or delayed.

The CAA says that passengers were left very frustrated because they believed the airline had failed to meet its passenger rights obligations - particularly around providing alternative flights to enable passengers to get to their destinations when their flight had been cancelled.

This is likely to have contributed to a large number of County Court Judgements (CCJs) which have been found against Wizz Air over the last nine months, the CAA added.

The CAA has now instructed Wizz Air to make changes to its policies and procedures to ensure consistent compliance with its re-routing and care obligations and the airline has reportedly engaged with the regulator and has committed to introduce changes to its policies, procedures and passenger communications. The CAA adds that the airline has also committed to re-look at claims it received for replacement flight costs, transfers when replacement flights were via different airports, and care and assistance (typically hotel costs) following flight disruptions.

This will make sure passengers who made claims to Wizz Air in the past, but had their claims incorrectly rejected, will receive the money they are legally owed.

The CAA says it will monitor the airline for compliance with its revised policies and procedures over the forthcoming months. As part of the enforcement action, Wizz Air will also be required to provide information to the UK Civil Aviation Authority about its review of closed expenses claims.

FLIGHT CAREER NEWS

Transatlantic SAF flight scheduled for November

Last year, Virgin Atlantic won £1m of government funding to fly a B787 Dreamliner from London Heathrow to New York JFK in 2023 using sustainable aviation fuel (SAF). With the ground phase testing of the fuel now complete, Virgin has confirmed that the flight is scheduled to take place on 28 November.

Towards the end of July, Virgin Atlantic and Rolls-Royce completed a successful ground test of a SAF blend used to power a Rolls-Royce Trent 1000 engine. At the same time, fuel suppliers Air bp and Virent confirmed that they will supply 60 tonnes of SAF to be used in the world first, supporting consortium research, testing and the flight itself. The SAF is a blend of Hydroprocessed Esters and Fatty Acids (HEFA) as well as synthetic aromatic kerosene (SAK) SAF at an 88% and 12% blend ratio.

The SAF is largely made from forestry or agricultural waste, such as cooking oil. The use of these fuels will allow Virgin Atlantic to reduce the flight's carbon emissions by about 70 per cent, with the remaining 30 per cent being offset by an investment in carbon removal technology.

Currently, regulators only allow a maximum of 50% SAF blended with kerosene to be used in commercial jet engines.

However, UK aviation minister Baroness Vere said the flight would demonstrate that it was safe to fully power a passenger aircraft with the new fuels.

"For decades, flying from London to New York has symbolised aviation's ability to connect people and drive international progress," said UK transport secretary Mark Harper. *"It's now going to be at the forefront of cutting carbon emissions from flying.*

"Not only will this flight pave the way for future generations, but it will demonstrate just how much we can achieve when we work together on a shared goal – bringing together some of the best businesses and academics in the world and led by a British airline."

The realisation of the 100% SAF transatlantic flight taking to the skies is a challenging task requiring cross industry collaboration and dedicated project teams working on the research, testing and operations to make it happen, says Virgin. The Virgin Atlantic led consortium, joint funded by the Department for Transport, includes Rolls Royce, Boeing, University of Sheffield, Imperial College London and Rocky Mountain Institute. The successful bench engine test is a key milestone, however further permissions and safety approvals are required for the flight to take off in November. Virgin Atlantic and the consortium will leverage the 100% SAF transatlantic flight to further SAF use, as well as addressing other environmental impacts of the sector. The project will demonstrate further reductions in CO2 from operational efficiencies, contribute to research and development into the non-CO2 effects of flying, and provide an end-to-end life cycle analysis of the flight. Any residual CO2 emissions from the flight will be mitigated using innovative carbon removals from biochar projects.

Shai Weiss, CEO, Virgin Atlantic, commented: *"The 100% Sustainable Aviation Fuel transatlantic flight will be a historic moment in aviation's roadmap to decarbonisation. Alongside fleet transformation, SAF is the most readily available way for our industry to decarbonise, but currently there's not enough supply and without it and the radical collaboration required to produce it, we can't meet our 2030 targets. We need UK government support to create a UK SAF industry to allow for every single flight out of the UK to operate with 100% SAF – if we make it, we can fly it."*

A huge barrier to the uptake of SAF is its high cost, compared to that of kerosene, and the fact that it is only produced in very small amounts. However, UK government claims that it is making significant investments to drive the sector forward, and industry estimates suggest that a UK SAF industry could reach an annual turnover of £2.3bn by 2040.

Vertical Aerospace achieves untethered flight

UK start-up Vertical Aerospace has achieved the first battery-powered free flight of its VX4 electric-vertical-takeoff-and-landing (eVTOL) demonstrator, marking a milestone on the road to type certification for the company's four-passenger air taxi.

The first free flight of the VX4 took off from Cotswold Airport in Gloucestershire. During the flight, the aircraft lifted vertically, hovered, transitioned, flew horizontally and then landed, all by the thrust of its own propulsion system and powered by Vertical's proprietary battery packs.

Having previously completed a tethered flight test last year, connected to ground power, this was the first time the full-scale VX4 demonstrator flew untethered on its own batteries.

"The aircraft was remarkably easy to fly," Vertical's Chief Test Pilot Justin Paines said in a statement following the flight. *"It was rock-solid in stability and provided precise control even in demanding flight conditions such as hovering close to the ground. The aircraft leapt into a stable hover at lower rpm than expected, taking advantage of the ground effect cushion. Battery temperatures and state-of-charge remained well within predictions for the duration of flight."*

Unlike other eVTOL startups, Vertical Aerospace has elected to perform all of its flight tests with piloted, full-scale vehicles from the outset of its testing and certification efforts. The company said the greater upfront time investment required by that approach, combined with other factors including a protracted Means of Compliance process with the UK CAA, contributed to a recent decision to delay its certification target to late 2026, from 2025 previously.

ZeroAvia completes prototype ZA600 flight testing

Another R&D aerospace company operating out of Cotswold Airport has also announced a milestone in its project development. US/UK hydrogen-electric aircraft developer ZeroAvia completed its initial prototype ZA600 flight testing campaign at Cotswold Airport last month. The 10th flight in the initial series was completed in July and saw a cruise test to establish projections for future flight ranges using the system, with the first cross-country flights cited as the next stage of testing and demonstration.

Over the course of the last six months, ZeroAvia has sequentially tested different areas of engine performance following its world-first flight of the system in January. The project has seen the aircraft fly at 5,000ft, perform an endurance test of 23 minutes, operate in the a temperature range from just above freezing to almost 30C, and reach the maximum allowable speed under the Permit to Fly issued by the UK CAA.

ZeroAvia confirms that throughout all phases of testing, the fuel cell power generation and electric propulsion system that are the core components of the novel zero-emission engine, performed at or above expectations, providing critical validation for the concept. ZeroAvia adds that the hydrogen-electric engine has matched the power of the conventional, fossil fuel engine on the opposite wing, with pilots able to fly with thrust generated only from the experimental clean propulsion system in certain tests.

Commenting on the completion of this testing phase, Val Miftakhov, Founder & CEO, ZeroAvia, said: *"Zero-emission flight technologies are moving from promise to delivery and our amazing team is leading the way with this testing programme. We do not have to push the unappealing choices on passengers of paying more or flying less to deliver climate conscious air travel. We instead can adopt this technology quickly to reduce climate impact and air pollution."*

FLIGHT CAREER NEWS

Airline Industry Performance 2023

Top 10 States July 2023

Source: Eurocontrol

Departures and arrivals

Week 10-16 Jul 2023

No.	Country	Average daily flights	% prev week	% prev year	% 2019
1.	United Kingdom	6,160	+0%	+7%	-8%
2.	Spain	5,586	+0%	+6%	-1%
3.	Germany	5,157	-1%	+5%	-17%
4.	France	4,719	-2%	+6%	-9%
5.	Italy	4,314	-2%	+7%	-4%
6.	Türkiye	3,914	-0%	+12%	+10%
7.	Greece	2,445	+1%	+4%	+12%
8.	Netherlands	1,705	+5%	+9%	-7%
9.	Portugal	1,439	+1%	+10%	+8%
10.	Norway	1,362	-1%	+10%	-5%

- The top 10 States recorded a similar number of flights compared to the previous week (-0.3%).
- Compared to the previous edition: Portugal and Norway swapped places.
- The Netherlands recorded a 5% growth rate, owing to increases from KLM Group and light aircraft operators.
- Three States within the top 10 are now recording growth above 2019 (Türkiye, Greece and Portugal) while Spain and Italy are relatively close to their pre-COVID levels. The five remaining States are still between 17% and 5% below 2019 levels.

Top 10 Aircraft Operators July 2023

Source: Eurocontrol

Week 10-16 Jul 2023 (avg daily flights)

No.	Aircraft operator	Average daily flights	% prev week	% prev year	% 2019
1.	Ryanair Group	3,277	-1%	+11%	+25%
2.	easyJet Group	1,735	-0%	+9%	-8%
3.	Turkish Airlines	1,616	-2%	+7%	+11%
4.	Lufthansa Airlines	1,219	-3%	+6%	-23%
5.	Air France Group	1,080	-4%	+6%	-20%
6.	Wizz Air Group	900	-2%	+14%	+35%
7.	KLM Group	897	+6%	+17%	-4%
8.	British Airways Group	833	+0%	+21%	-16%
9.	Vueling	697	-1%	-1%	-5%
10.	SAS Group	635	-0%	+102%	-19%

- The top 10 aircraft operators posted a slight decrease in the number of flights (-1% on average) compared to the previous week.
- Last week, only two airlines/airline groups had more daily operations compared to the week before (KLM and British Airways).
- KLM Group posted a 6% week-on-week growth adding flights mainly on the following flows: Germany ↔ Netherlands, UK ↔ Netherlands and France ↔ Netherlands.
- Three airlines within the top 10 are flying well above their 2019 flight levels: +35% (Wizz Air Group), +25% (Ryanair Group) and +11% (Turkish Airlines).

Top 10 Airports July 2023

Source: Eurocontrol

Airport ranking

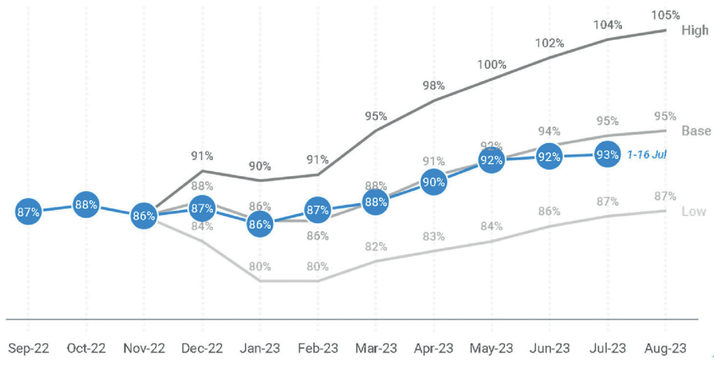
Week 10-16 Jul 2023 (vs 2019)

No.	Airport	Avg. daily dep/arr flights	vs 2022	vs 2019
1.	IGA Istanbul	1,487	+12%	+18%
2.	Amsterdam	1,395	+15%	-7%
3.	Paris Charles de Gaulle	1,340	+5%	-12%
4.	London Heathrow	1,301	+18%	-5%
5.	Frankfurt	1,291	+12%	-15%
6.	Madrid Barajas	1,115	+7%	-12%
7.	Antalya	1,018	+9%	+9%
8.	Barcelona	992	+10%	-8%
9.	Palma de Mallorca	957	+2%	+5%
10.	Munich	891	+6%	-28%

- Some changes in the ranking compared to the previous edition: Frankfurt and London Heathrow swap places, as do Palma de Mallorca and Munich.
- All airports experienced sustained growth vs 2022, ranging from +2% (Palma de Mallorca) to +18% (London Heathrow).
- Three top 10 airports – IGA Istanbul, Antalya and Palma de Mallorca – are currently handling traffic above their 2019 levels.

Overall European Traffic Situation July 2023

Source: Eurocontrol



Notes from a small airfield

Tad Higher

A fond farewell

FTN is sad to report that Tad has recently hung up his headset and is retiring from his column this month, after a decade of gracing this publication with his unique insight into the grassroots end of the flight training industry. We'll miss you Tad, along with the rest of the cast at Sinking-in-the-Marsh, that world-renowned home of brew-ups, bent wings and best intentions.

It's time to finish. I've now lost my medical and I get the impression that people are dealing with different issues. During my time, I've had the privilege to fly as a Skydiver pilot, air taxi pilot, and air ambulance pilot, but much of my time has been spent as an instructor. I wasted too much time and energy resenting the CEOs of large airlines who offered cheap flights while expecting pilots to absorb the risks and costs of sitting in the right-hand seat. I flew and taught others to fly getting to see things no one else got to see. Mind you, I don't think you ought to see them. Hence...

I held up a small plastic container to Randolph. It wasn't another sample for old Doc Mort but a sample of blue Avgas fuel that had failed our rather simple test. We all took samples of our aircraft's fuel to check for contaminants. Unless contaminated in some way, we pour it back into the fuel tank. On the odd occasion when we've found water or something in a sample, we have released it back into the wild.

The CAA put a stop to such behaviour. Our solution to what the CAA wanted was the Environmental Protection Agency can. It is just a big can with 'EPA' written on the side in red crayon. The red gives it an air of importance and authority. We pour the samples into this. Unfortunately, no one told us what to do when the EPA can becomes full. There was the option to dispose of it expensively, the 'preferred' way. This was not one we could afford. So, Randolph installed an even bigger can.

We had acquired an old quad bike. Well, someone had thoughtfully fly-tipped it into a ditch by our gate. Randolph had tinkered with it, and then everyone wanted a ride. The quad bike was easy to start but reluctant to stop, and you'd have to drop the revs to idle and brake with your feet to bring it to a halt. This had been fine, as long as you weren't going too fast. The throttle also had a habit of jamming open, requiring a knack to unjam it. One day, someone had opened the fuel cap and just poured the EPA can into the vehicle.

I think it was part of a scientific experiment... or laziness. Inspired by the dangerous thought of, 'I wonder what would happen if?' And followed by the much more hazardous, 'Well, that wasn't so bad...'

> Whatever the real inspiration, someone had poured the contents of the EPA can into the tank and there it had mixed with a much larger volume of regular quad bike fuel

Whatever the real inspiration, someone had poured the contents of the EPA can into the tank and there it had mixed with a much larger volume of regular quad bike fuel. Despite this addition, nothing horrible happened. This is probably the worst-case scenario in the world of health and safety and is never a good thing.

We had quickly become very relaxed about pouring the contents of the can into the quad bike - whether it be petrol, Avgas, or the occasional small quantity of jet fuel.

My need for Randolph was born because I couldn't find the can. *"It had disappeared,"* I grumbled. Randolph walked up to the nearest bin, rummaged around amongst the discarded waste, and came up with an empty drink can. Holding it out to me, he said, *"Pour it in there."*

I did and was dismissed back to my Tomahawk with my empty fuel sampler.

As I entered the club, I came upon Quentin and Walter. As usual, they were idling. Never pilots, occasional visits became regular, and then daily. I quietly suggested they should be charged rent or pay Clive some daycare allowance. Each day, with little else to do, these two retired gentlemen come to make sure that Clive is faring well. What they would do if he weren't well, I don't know; possibly give him fatherly advice. They appear to have much to share and are generous.

As is often the case, Quentin and Walter make an unlikely pair.

> Quentin is ex-RAF. He attained the rank of warrant officer and has attended the Queen's garden parties. Being ex-RAF, he is aware that there are no uncertainties in life.

Quentin is ex-RAF. He attained the rank of warrant officer and has attended the Queen's garden parties. Being ex-RAF, he is aware that there are no uncertainties in life. The RAF considered every eventuality and wrote a rule book covering them all. Having read, inwardly digested and practised every one of these rules, Quentin now knows how to deal with every problem.

Walter was a tradesman and built a successful business; he was educated at the school of hard knocks. He knows people and their ways. He understands that no rule survives contact with real people; you must adapt. As a result of his worldly experience, Walter also knows how to deal with every problem confronting humankind. Sometimes you stand up to people; sometimes, you roll with the punches. Life can be uncertain and you can't know what's around the corner.

Clive – who must deal with the airport's owner, decaying infrastructure, and customers – has their constant attention. They clashed on everything, with Walter not believing that such foolishness could come from a Quentin, and Quentin aghast that such utter drivel could spill out of the mouth of Walter.

Such behaviour continued until the day that Walter developed a significant health problem and was banned from driving. This should have been a day of triumph for Quentin. Unhindered by the ignorance of Walter, he could scatter wisdom wherever it was needed. But this was not to be. With a plot twist worthy of Agatha Christie, Quentin drove straight to Walter's house the next day. There, he insisted on being Walter's chauffeur until he was fully recovered. The doctors, dentist, supermarket – wherever Walter needed to go, Quentin was there to convey him. Heart-warming for many, but for the unfortunate Clive, they now arrived together and still disagree about everything. I go instructing, so have little to do with them while Randolph quickly grew immune to them.

Randolph can manage, but it depends on his knowledge of what we are up to. Walter and Quentin restrict their antics to our club, so they aren't his problem. Occasionally when the two go walk-about, Clive breathes a sigh of relief, but no one knows what they are up to.

On Friday, it had become necessary to take several samples of jet fuel from the Cessna Caravan, a large amount and greater than normal. At the same time, Clive decided to remove Quentin and Walter from the club, mainly for the good of his mental health. With nothing to do, they'd offered to help Randolph, who asked them to take the samples of jet fuel to the EPA can and dispose of them. The quad bike also needed to be moved to the other side of the airfield, and he told them to help with that job. Clive was happy, as he thought it would keep them out of his way for ages.

> Quentin announced to everyone that his training in the RAF made him the ideal candidate to drive the quad bike, and Walter would have the privilege of walking beside him

Quentin announced to everyone that his training in the RAF made him the ideal candidate to drive the quad bike, and Walter would have the privilege of walking beside him. Quentin had gone to get his jacket, vital for this mission, and Walter headed off with the large samples of jet fuel. The walk to the EPA can would have been longer than the walk to the quad bike, so Walter had headed that way instead. Upon arriving at the quad bike, he disposed of the large volume of jet fuel straight into the fuel tank.

Quentin arrived to see a smiling Walter and an empty fuel tester. He then checked the quad bike with care before clambering onto the seat. Walter stepped onto the bar at the back and waited for the ride to begin. Admonishing his fellow helper, Quentin gently hit the start button and revved the engine. Then he started a short lecture on the RAF method of driving a quad bike. By this time, the jet fuel had made its way through the fuel pipes into the engine. What had been a comfortable 'PUTT, PUTT' became a sharp, loud snarl. The quad bike took off doing a wheely. Wide-eyed and white-knuckled, Quentin clung to the handlebars, and Walter clung to the back of Quentin's jacket.

Clive stood with his back to the window, giving us a brief talk on the usefulness of filling in the technical log before we left each day. We saw the two grown men and the quad bike hurtle past; Clive noticed we weren't listening. All three of us watched as the quad bike and its terrified passengers tore across the apron, bumped over some grass and sped across two taxiways. It accelerated as it crossed the runway. By providence, Quentin and Walter were heading towards the overgrown area of bushes and small trees that contained nothing expensive and required a good trim.

Vaguely aware of the Health and Safety at Work Act, we all wondered what they were doing and how we could save them. We shouted various ideas at each other, everyone wanting to do something. Meanwhile, Quentin and Walter were ploughing through some low-lying bushes and heading, out of control, for bigger stuff.

We fussed but did nothing. Then a quiet voice, clothed in paint-spattered shorts and sandals, came up beside us and asked, *"Who fuelled it up last and when?"*

Randolph quickly established that no one had filled it up for ages, and it dawned on us that the tank was half full of pure jet fuel.

"Leave them to it; it may teach them a lesson," he announced. *"They might even cut down some of those bushes for us."* We thought he was being optimistic.

Then we returned to the club. I put the kettle on and John found some biscuits. We passed a pleasant half hour, apart from a little background noise. Eventually, someone noticed it had become quiet outside.

"Don't think they will do that again," Randolph commented as he popped a third biscuit into his mouth.

easyJet launches new Summer Flight School for kids to inspire the next generation of aviators

UK low-cost carrier easyJet has announced that it is launching a new Summer Flight School, to combat persistent gendered stereotypes of pilot and cabin crew jobs and inspire more young people to consider a career in aviation.

As new research by the airline reveals around four in ten children (37%) still believe that a pilot is a job exclusively for men, easyJet is inviting children aged 7-12 to go behind the scenes at its training centre for hands on training experiences with real easyJet pilots and crew, to challenge these outdated stereotypes.

The first-of-its-kind event by the airline will offer children the opportunity to take the controls of an A320 flight simulator, learn what it takes to provide the best inflight service to passengers and find out from easyJet pilots and cabin crew about their jobs and how they got there.

easyJet has launched the initiative after a poll of 2,000 British parents and their children found that two thirds (66%) of British parents still believe there are misconceptions that being a pilot is a job for men rather than women and that most parents (86%) believe that gender stereotypes of jobs start at primary school age.

Around three quarters (72%) of female adult respondents said that when they were a child, they believed only men could be pilots, while nearly two thirds of men (63%) said they never considered a role as cabin crew due to their gender.

Now, over two thirds (68%) of girls surveyed said that they believed both boys and girls could be a pilot, indicating a positive shift in attitudes compared to the previous generation.

However, with over a quarter of boys (28%) still believing that cabin crew is exclusively a job for women and the same proportion of girls believing being a pilot a job for just boys, there is still clearly work to be done to course correct these perceptions.

Summer Flight School is the latest initiative from easyJet as part of the airline's ongoing work to drive greater diversity within areas in the industry that still face a significant gender imbalance, particularly for pilots and cabin crew.

With still around only 6% of pilots worldwide being women, easyJet has been focused on tackling this industry-wide gender imbalance for a number of years and has nearly tripled the number of female pilots in its ranks since 2015.

Over half of children (51%) said they never seen a female pilot and so alongside recruitment campaigns to attract more women and people from diverse backgrounds to the career, the airline's Pilot School Visits programme has seen female and male pilots presenting to hundreds of schools up and down the country, to show it's a job for everyone.

By providing a unique and immersive free experience blending fun, education and hands-on activities, the airline hopes its Summer Flight School will not only inspire a new generation of aviators, but also help the 87% of parents who said they struggle find low cost or free experiences for children during the holidays.

Jane Storm, Chief People Officer for easyJet commented: *"We're delighted to be taking families behind the scenes with our new Summer Flight School, not only to offer a unique and exciting day out during the school holidays, but also one we hope will inspire the next generation of pilots and cabin crew, showing young people that their aspirations don't have to be limited by outdated stereotypes and help broaden their horizons.*

"Increasing diversity in all of its forms across our airline and creating an inclusive environment where people can be themselves at work is incredibly important to us and is a long-term focus for easyJet, so we will continue to lead the industry on this issue."

easyJet Training Captain Kate West added: *"At school I was told that being a pilot wasn't a suitable career option for me, so I know from first-hand experience how important it is to challenge these misconceptions, which we know can start from a young age. Role models and awareness of our jobs as pilots and crew are such an important part of this and so I'm delighted that our Summer School will give children that opportunity this summer - even their first taste of flying an aircraft!"*

easyJet's Summer Flight School takes off from 21 August at easyJet's London Gatwick training centre. Places are available to book for free at

https://easyjet.eventbrite.com

Scholarships & Sponsorships
WHERE TO APPLY *QUICK REFERENCE* GUIDE 2023

	Fixed Wing Basic	Fixed Wing Advance	Helicopter	Gliding	Airsports	Air Experience	
Aerobility	•				•	•	www.aerobility.com/scholarships
Air Cadets	•	•	•	•	•	•	www.aircadets.org
Air League	•	•		•			www.airleague.co.uk
British Aerobatics Association					•		www.aerobatics.org.uk
British Women Pilots' Association	•	•	•	•	•	•	www.bwpa.co.uk/scholarships/
British Microlight Aircraft Association	•					•	www.bmaa.org
Cotswold Airport Scholarships	•					•	www.cotswoldairport.com
Flying Scholarships for Disabled People	•					•	www.fsfdp.co.uk/scholarship/
Girls Venture Corps Air Cadets	•	•				•	www.gvcac.org.uk
Sir Geoffrey de Havilland Flying Scholarship	•	•					www.coachmakers.co.uk
Helicentre Aviation Academy			•				www.flyheli.co.uk
The Honourable Company of Air Pilots	•	•		•			www.airpilots.org
Launchpoint				•			www.gliding.co.uk
Light Aircraft Association	•	•				•	www.lightaircraftassociation.co.uk
Liz Inwood Taildragger Scholarship		•					www.vintageaircraftclub.org.uk
Nick Davidson Memorial Flying Scholarship	•	•					www.nickdavidsonflyingtrust.org.uk/
Royal Aero Club Trust	•	•	•	•	•	•	www.royalaeroclubtrust.org/bursaries
Royal Aeronautical Society Centennial Scholarship Fund	•						www.aerosociety.com
Royal Navy Gliding Scholarships				•			www.fleetairarmoa.org/faaoa-gliding-aviation-scholarships
The Take-Off Scholarship	•						www.take-off.org.uk/scholarships/
University Air Squadron	•	•		•	•	•	www.raf.mod.uk/our-organisation/university-air-squadrons/

Air League awards over 100 scholarships

The Air League has announced that it has awarded over 100 scholarships this year to individuals across the UK, providing flight training courses and engineering placements across the nation.

Scholarship courses are taking place at flying and gliding clubs across England, Wales and Scotland, with engineering placements at Marshall Aerospace and Affinity Flying Training Services and Drone Scholarships at Eagle Eye Innovations.

This year, the Air League says it is proud to award a total of 107 Scholarships. The awards include 27 gliding scholarships, 66 powered flying scholarships, six engineering scholarships and eight drone scholarships.

Data from this year's Scholars reveals that 31% are female, which is far higher than the industry average of 6.5% for pilots. 49% of scholars are under the age of 18, and 47% are aged between 18-35. Furthermore, one in three scholars are from an ethnic or minority background and 50% of Scholars' parents were not university educated.

Commenting on this year's awards, Ben Harris, Scholarships Programme Manager at the Air League, said: *"The 2023 Scholarship Programme has proven that the desire to pursue a career in aviation is as strong as ever. Close to 700 applications were received for our Flying and Gliding Scholarships. The job of picking our lucky recipients was made very difficult due to the outstanding quality of the applicants. Our scholarships aim to assist in breaking down the barriers of entry to the aviation industry. We are hopeful that the 2023 Scholars will use their scholarships to propel themselves towards long and prosperous careers in aviation. We wish all recipients of the 2023 Air League Scholarships the very best of luck with their training."*

Commenting on her award, Emily Chase, who was given a gliding scholarship, said: *"Ever since I was a small child, I have loved aviation. My parents used to take me to air shows when I was little, and they say that I have always been fascinated by things that fly. Planes, helicopters, gliders, anything really. As I got older, I started looking into potential career paths as an aviator and decided that I would like to fly as a commercial pilot when I'm older. It was last year that I fully committed to achieving that goal; I would study theory for hours on end. When school rolled back around in September, I began looking into PPL training schools. It was a big decision to make; but after a few months of research, I finally decided on a school. Not too long after, I began gliding, and recently, I received a gliding scholarship from the Air League. Knowing that I had that scholarship really helped my family and I; one of the barriers we have faced is money. It isn't a cheap career path to follow, unless you obtain bursaries or scholarships. It was, and still is, a struggle, but the support that I have been granted from the Air League is truly incredible."*

Elizabeth McAllister, who won a Marshall Aerospace engineering scholarship, said: *"Growing up on RAF bases has meant that I've always been surrounded by aircraft and had an interest in aviation from a very young age. However, I wasn't properly bitten by the aviation bug until I tried out flying for myself during a gliding scholarship which I was awarded by the Air League last summer. As much as I loved flying, I know that engineering is the career for me, and my flying experience has motivated me to look down an aerospace engineering path more specifically. Since last summer I've been bringing my interest in engineering and aviation together, such as by constructing a powered glider with my friends and teaching myself more about the principles of flight and aircraft design. I'm looking forward to learning even more about aerospace engineering during my placement at Marshall Aerospace. The experience will also motivate me throughout my engineering degree as I'll have seen the real-world applications of all that I'll be studying at university."*

Scholarship recipients will complete their courses over the coming months and will be invited to the annual Scholarship Awards Reception being held in London in November.

The Air League aims to inspire, enable, and support the next generation of aviation and aerospace professionals from any background across the United Kingdom. Over the past decade, scholarships worth over £2 million have been allocated. In 2023, over 100 awards worth over £180,000 have been allocated to aspiring individuals throughout the UK. The Air League says that it is deeply grateful to the sponsors of the scholarships and bursaries who generously provide continuing support for scholarships and programmes.

Aerobility's first disabled flyer to earn TMG Class Rating

Claire Tonkinson, a disabled woman from London, is the first student with a disability to have earned her TMG (Touring Motor Glider) Class Rating with training from Aerobility on the charity's Grob 109B.

Aerobility is a UK Charity which changes lives by providing anyone, with any disability, access to the magic and wonder of learning to fly and has specially adapted aircraft. It is the only flying charity in the country to offer TMG training for individuals with disabilities.

Claire has been flying with the charity since 2014, gaining her PPL in 2016. She has also been volunteering at Aerobility for nearly a decade, representing the charity at events and speaking to the public. This year she decided she wanted to earn her TMG rating so she could speak about Aerobility's Grob 109B from experience.

Aerobility's Grob 109B was made possible through the innovative Project Able bringing former RAF Air Cadet motor gliders back into service for society benefit thanks to the help of the Department for Transport.

Claire said: *"When I fly in an aircraft, the required focus and concentration is a distraction from pain. I am able to sit in an aircraft for longer periods than normally possible.*

"I feel incredibly proud and honoured to be Aerobility's first student to have earned my TMG Class Rating. With a disability, the world doesn't have things put in place. It's a daily battle. One of the most important things that Aerobility does is to build confidence.

"None of this would have been possible without the guidance and support from my instructors, particularly Mike Owen, who is incredibly skilled and an intuitive teacher who always remained calm during my training, however difficult it was. The entire team at Aerobility helps you to focus on what you can do, instead of what you can't, giving people with disabilities a new outlook on life."

Mike Owen, Aerobility's Chief Flying Instructor, said: *"We are all really pleased with what Claire has accomplished. Earning a TMG Class Rating takes a lot of skill and Claire should be very proud of herself."*

Ultimate High announce Rob Wildeboer UPRT Scholarship winner

The Ultimate High UPRT Academy has announced that Jordan Hazrati has been awarded the 2023 Rob Wildeboer UPRT Scholarship.

The scholarship will provide Jordan with a full training course in Upset Prevention & Recovery Training (UPRT), designed to provide pilots will the skills to recover from inadvertent flight attitudes – a course requirement for all commercial pilots.

Jordan holds a PPL and has a MSc in Human Factors in Aviation. She has worked as cabin crew for two airlines and currently works as a Human Factors specialist for a leading British airline.

"We were hugely impressed with both the number and high standard of applications this year" said Steve Johnson, Head of Training at Ultimate High. *"There were a large number of worthy candidates, and we selected Jordan as we were impressed with her commitment and perseverance despite difficult circumstances, and her resilience and dedication to advancing her flying experience and skills."*

"I'm delighted to be offered this truly amazing opportunity - I'm honestly thrilled!" commented Jordan on hearing the news. *"In my current role working in safety I am increasingly aware of the safety risks associated with GA, and the need to upskill pilots to efficiently manage these. One of the best ways known to do so is through the completion of a UPRT course. I have obviously been aware of Ultimate High's reputation as the leading experts in UPRT so to be able to carry out this Flight Safety training with them is just awesome!"*

Mark Greenfield, Ultimate High's CEO and Head of UPRT Programmes, added: *"We're delighted to honour the memory of Rob Wildeboer, the former Goodwood Flying School Manager, a wonderful man who was loved and appreciated by all who came into contact with him. Jordan will be returning to Goodwood aerodrome having flown here on her first solo navigation and as part of her QXC."*

Ultimate High offer Flight Safety and UPRT solutions to airlines, business jet operators, NAAs, ATOs, corporates and individuals. Clients include Boeing, Rolls-Royce, the AAIB and easyJet.

www.ultimatehigh.co.uk

Plane Speaking
David Hoy

CAE Moorabbin

This month, Plane Speaking meets some of the team at CAE Moorabbin, Melbourne and learns how flight training is done differently in Australia.

Moorabbin Airport is located south-east of Melbourne's central business district and is now the second busiest airport in Australia. It is also the leading general aviation and flight training centre in Australia and home to a full range of aviation activities including charter, maintenance and recreational flying. The airport is wholly owned by the Goodman Property Group and boasts almost 300,000 movements each year. What better place to find CAE's (Canada Aviation Electronics) Melbourne Flight training academy?

My career has taken me to more than my fair share of flying schools, clubs, colleges and academies. My purpose in visiting Moorabbin was to understand how flight training may be done differently in Australia and to meet the key players behind this impressive organisation. I wasn't disappointed.

As I approached the buildings, the first difference I noticed were the manicured grounds, the cleanliness of the buildings and their surroundings; the smartness of the students and the quiet but obvious efficiency of the operation. The day's programme was visible on a large computer screen open to all. The Operations area was manned by three uniformed staff and the academy gave the appearance of simple, quiet efficiency. There was a breakout area for staff and a similar one for students with good views over the airfield. The classrooms were large, airy and well equipped.

Today, I was to meet two key employees of CAE, Janet Martin, the Head of Operations (HOO), and Samantha (Sam) O'Connor, the Student Services Manager. It was Sam who kindly showed me around before I was to meet Janet. Sam's pride in the operation was obvious.

Sam explained that CAE Moorabbin is a jointly owned private company, half owned by Shanghai Eastern Flight Training ('SEFTC'), a fully-owned subsidiary of China Eastern Airlines, and the other half by CAE, which claims the accolade of being the largest aviation training provider in the world. Janet whose position is Head of Operations has been with the company through the General Flying Services-Oxford-CAE transition since 1990 - some 34 years. Sam, who has had a 20-year history in aviation, first with Emirates and then with Jetstar, has been with CAE for 11 years. Acting primarily as the Customer Services Manager, she and Janet are key members of a team of approximately 110 staff including 55 flight and ground instructors plus four MCC tutors.

Janet enjoys the mix of her job and is still very much an active instructor and examiner. She is not only managing the academy but regularly gets airborne, primarily as an examiner. Nonetheless Janet enjoys the challenge of keeping the entire operation on the right track. *"Good administration skills are obviously essential,"* she explained and it's clearly an exacting position in which she is quite at home.

It was early morning when I visited. Outside, I saw five neat rows of parked Cessna 172s, some 28 in total, carefully parked alongside seven twin-engine PA 44 Seminoles. The academy also operates two Beechcraft King Airs for high performance, turbine training and all the aircraft were in the familiar attractive CAE two-tone, blue paint scheme, and I had no doubt each aircraft was identically equipped.

The transition from the Cessna to the Seminole and advanced training should not be overly difficult as both aircraft have Garmin 1000 twin screens as do the academy's flight simulator training devices. The academy boasts a Frasca fixed-base simulator, a Mechtronix Cessna 172 and three PA 44 Seminole/Cessna 172 fixed base, reconfigurable training devices. They also have a Bombardier CRJ 200 Jet Simulator which is used for MCC and instructor training. The academy is capable of delivering traditional PPL-CPL training as well as MPL and MCC. For UPRT and aerobatic training the school has two 8 KCAB Decathlon aircraft capable of sustaining +6g to -5g. Maintenance for all the aircraft is provided on site by CAE maintenance.

> CAE Moorabbin also trains its own instructors and the ideal succession plan for employees is for direct recruitment from the Batchelor of Aviation Program at Swinburne University into the Flight Instructor Program. Some more senior and experienced instructors are also recruited directly from industry. There are a few part-time instructors, but the majority are full time *"which makes for easier standardisation,"* as Janet explained.

This is no simple operation, and the dovetailing of ground-school, university and flight school training can be a logistical challenge. Janet, who was originally a schoolteacher, explains that she has had a career in teaching and training (just with a different subject matter – but teaching is teaching!). Janet started flying in 1985 and has been teaching and examining almost ever since.

Training and its funding in Australia is very different to the UK model. Firstly, CAE works in conjunction with Swinburne University. In Australia, the degree course is considered integral to the Flight Training Programme.

Janet explained: *"We don't consider our domestic students are a cadet sponsorship as such; they are self-funded. This is primarily through the higher education, government loan system, following strict criteria, allowing the student to access a loan scheme that funds all their flight training and is repaid once the student commences employment through the tax system. This system allows access to pilot training for anyone who meets the university entrance requirements. Long term this is beneficial to the government.*

"We aim to keep the students with their Primary Flight Instructor for the first 50 hours or so – certainly up to a PPL standard or just beyond. Thereafter, students will encounter a small mix of instructors whose ages can range from as young as 22 to their late 60s. We also have some examiners in their 70s. There is a massive range and depth of experience and knowledge to draw from here and experience is only gained through time."

The flying and the ground-school are fully integrated. Both are mixed on a daily and weekly basis. Janet reflected, *"We see the mixture of the two as being advantageous, if not essential allowing students to apply their ground school knowledge immediately and appropriately. This truly integrated model supports the appropriate level of theory with practical application, reinforcing theory's relevance and importance. The CASA (Civil Aviation Safety Authority) examinations are, we feel, largely relevant to the job. These are not just a bank of questions and answers to memorise. The European model of completing the ground-school 'up front' is not as often applied this side of the equator, even if it is easier to manage. We do not consider ground-school a hurdle to jump over or forget but an essential part of training a mature pilot."*

Half the students at Moorabbin are self-funded, (through the government higher education loan scheme). Of the 400 or so students most of the rest are destined for China Eastern. The China Eastern Cadets are fully sponsored and even receive a salary whilst training.

"We also have the' Jetstar cadets' who are also accepted via Swinburne University's Associate Degree Program," says Janet, adding: *"They too are not considered sponsored. However, Jetstar Cadets are offered a conditional letter of employment by the Airline, upon successfully completing the program and subject to the airline's operational requirements. The remainder of the student cohort are from Swinburne University Degree Program. No airline this side of the equator expects the students to fund their own type rating."*

All students will undergo the British, Symbiotics Pilot Aptitude Testing (ADAPT) selection process before being accepted onto the course. Sam O'Connor, the Student Services Manager manages this and believes it to be an excellent selection tool.

Janet Martin

As Sam pointed out, *"Flight training is expensive; we don't want to waste anyone's money, government's, airline's or student's, chasing a career the student may not be suited for."* Eventually the loan will be repaid to the government, once the newly qualified pilot becomes employed – much the way the student loan scheme operates for most other courses in the UK except aviation. HECS-HELP, as it's known, is a scheme that assists eligible Commonwealth supported students to pay their student contribution amount with a loan. HECS HELP loans are available at all public universities in Australia and at a handful of private higher education providers.

The academy works closely with CASA, the Australian equivalent of our CAA and is government funded and publicly accountable. CASA regularly seeks the assistance and involvement from the training industry and as a result is generally admired by the industry it regulates. Almost all of the examining tasks are completed by the industry which is largely self-regulated within the framework set up by CASA. Examiners are trusted to examine objectively even at schools where they are employed. *"As a general rule,"* Janet confided, *"examiners will not test their own students but that is in the academy's control and not policed by CASA"*.

The HOO's role is one of the three personnel roles required for a Flight Training Organisation in order to be CASA 142 compliant, along with the Chief Executive Officer and Safety Manager. The HOO, along with the other key personnel, is responsible for the safety of the operation, for compliance and oversight of the training and supporting manuals, the SOPs, and the exposition compliance. An exposition is a description of how organisations will conduct their operations to maintain the required level of safety and compliance. The exposition is the primary suite of manuals including, to name a few, the Management System Manual, Operations Manual, Training Manual and Safety Management Manual in addition to a series of supporting documents.

Reporting to Janet is an impressive wealth of experienced administration staff as well as instructors. She recognises that some instructors will move on to the airlines. Losing instructors at short notice is an accepted factor in running a busy flight school; it can be a problem especially when the airlines are expanding and recruiting at a faster rate than normal, as they are now. However, proactive recruitment reduces this issue.

This was an informative visit. I was impressed. Impressed by the size of the operation, its orderliness and calm efficiency. I was also impressed by the fleet and the fact the school offers advanced training in the Beech King Airs – not something currently offered in the UK. Impressive too, was the obvious collaboration between the school and CASA. Equally impressive with the true integration of flight training with ground school and it was especially pleasing to see Government assistance through the loan scheme enabling anyone, even the poorest student, to become a pilot.

om O'Connor

From the Cockpit

by Dave Unwin

This article was first published in the Summer 2023 edition of Flight Safety magazine and is reproduced with kind permission of the General Aviation Safety Council (GASCo).

As one of the Tug Pilots for the Buckminster Gliding Club I spend a lot of time in the circuit at quite a busy mixed-use airfield. Along with the various based motor gliders, microlights and occasional visiting aircraft, most of the traffic are gliders and this means that A) their pilots very much expect the tug (and indeed all the powered aircraft) to give way and B) none of the gliders will be going around. Consequently, to achieve maximum safety and efficiency, it is imperative that the tug pilot always maintains good situational awareness. An excellent and comprehensive definition of the term 'situational awareness' is that it is *"the perception of environmental elements and events with respect to time and space, full comprehension of their meaning, and accurate projection of their future status"*. A more concise version is simply *"Where you and everyone else are, and where you and everyone else is going"*.

Solid situational awareness is absolutely fundamental to strong Threat and Error Management (TEM), and an invaluable aid when constructing and maintaining that all-important mental picture of exactly who and what is where in the circuit is the radio, so why do so many pilots fail to use it properly, and why is CAA mandated RTF so verbose? Even the term RTF (for Radio Telephony) is antiquated – and where, exactly, is the 'F'? I've always felt that the two biggest problems with RTF are quite simply that pilots say too much and don't listen enough. And it isn't always that pilots don't say the right things, more that they often say too much which is unnecessary. You've got two ears and one mouth, and they should be used in proportion. Good RTF comes from communicating concisely and clearly, and an excellent 'rule of thumb' (or should that be 'rule of tongue'?) is - if you're unsure, stick with who you are, where you are and either what you are either doing, or would like to do. And remember, just because an airfield's web site has 'tower@' as its email address, this no more makes it an airfield with a Tower than buying four gold bars from your favourite pilot shop makes you a captain. Personally, I find the UK's system of a mix of Air/Ground (Radio) FISO (Information) and a proper controller in a Tower ambiguous and potentially dangerous, particularly when an over-zealous (or officious) A/G operator or FISO oversteps their remit. I much prefer the American system, where you're either being controlled by an appropriately licensed FAA employee in a Tower or operating on Unicom and simply communicating with other pilots. I also think that more information could be conveyed in less words by omitting the 'Golf' part of your callsign and replacing it with your aircraft's type.

> I also think that more information could be conveyed in less words by omitting the 'Golf' part of your callsign and replacing it with your aircraft's type.

For example, we all know that having made initial contact you may be able to truncate your callsign from say 'Golf Alpha Bravo Charlie Delta' to Golf Charlie Delta'. But what does retaining the 'Golf' actually add? I think dropping 'Golf' and adding the type in front of the last two letters would be much more useful. For example, if I'm joining downwind, and I hear "Golf Alpha Bravo Charlie Delta downwind", that tells me almost nothing, except that something else is downwind, somewhere. (Incidentally, because Saltby is on one of the common gliding frequencies, you'd be amazed how often pilots neglect to say which airfield they are at!) *"Saltby - Golf Charlie Delta downwind, left-hand, two-five – Saltby"* tells me considerably more, but "*Saltby– motor glider Charlie Delta joining (or late) downwind, left-hand, two-five – Saltby"* would fill in all the gaps (including the not untrivial fact that it can go around). Even at a more power-orientated airfield, saying, for example, Warrior Charlie Delta downwind etc would be a lot more use than Golf Charlie Delta. Why? Well, firstly the 'Golf' part is completely superfluous and a waste of bandwidth (indeed, there could easily be another 'Golf Charlie Delta' on frequency) and secondly, if you're looking for traffic that you've heard, and you see something where you think that thing should be, you will assume that what you're looking at is what you think you're looking at. That's human nature. However, if you heard 'Warrior Charlie Delta' but the machine you're looking at has a high wing or rotary wing, you can be fairly confident that you've not yet ascertained the location of Warrior Charlie Delta! I've done a lot of flying in the USA, and saying type and the last three letters of your callsign is very common – and the circuit (or should I say 'pattern') is a safer place for it. Now, I know that 'CAP413 Callsigns for aircraft 2.26' says that 'a pilot may only abbreviate the callsign of their aircraft if it has first been abbreviated by the aeronautical station' and also seems to suggest that 'at unattended, or 'Safetycom' airfields, the aircraft should use full callsigns all the time'. However, personally (and I must emphasise the 'personally' – these are my opinions and not necessarily GASCos) I maintain that 'Warrior Charlie Delta' does a lot more for my situational awareness than 'Golf Charlie Delta'. CAP413 clearly indicates that this is allowable, but very few people do it. Why? I would welcome the readership's thoughts on this.

Addendum - Since this was published in GASCo Flight Safety Magazine, it has generated the largest postbag of any FSM piece since I became Editor, by an order of magnitude! I have attended several meetings and visited several airfields lately – and the feedback is always 100% "This is a great idea – why aren't we doing this?" I have also received many requests for it to be reproduced in strut and club newsletters, so it really does seem like a good idea. If you have an opinion (and most pilots have several) both I and the Editor of FTN would love to hear them! ***Dave Unwin***

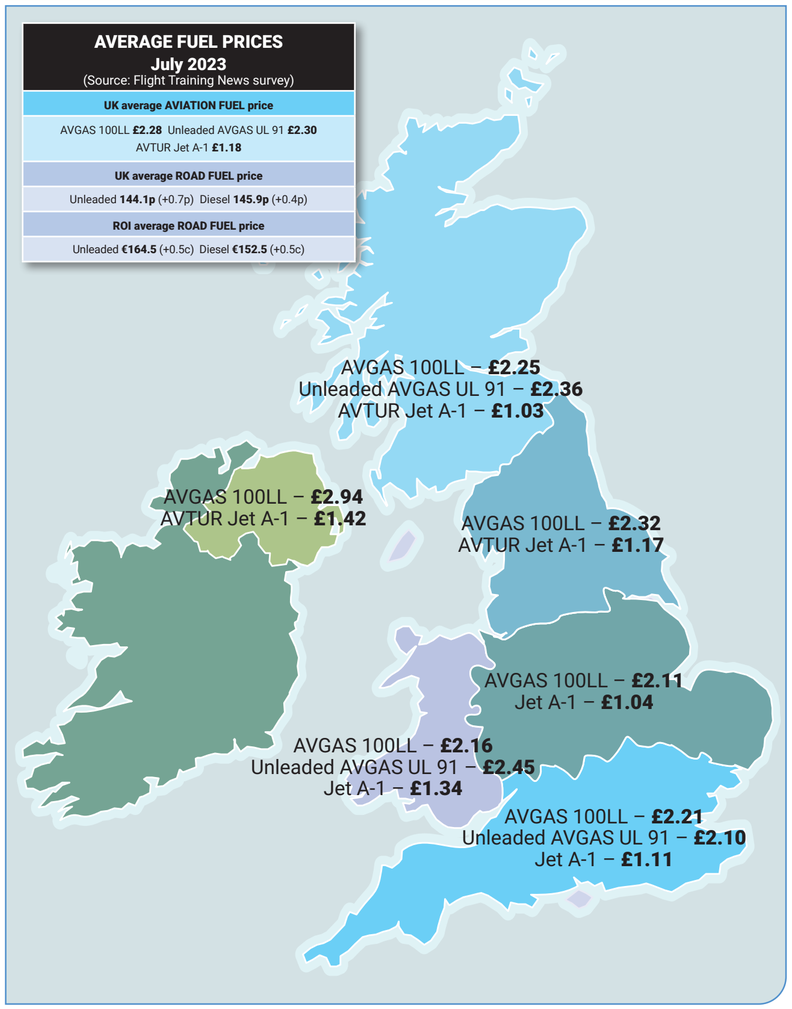
GASCo The General Aviation Safety Council

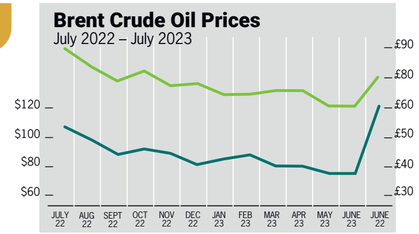
THE RIGHT STUFF

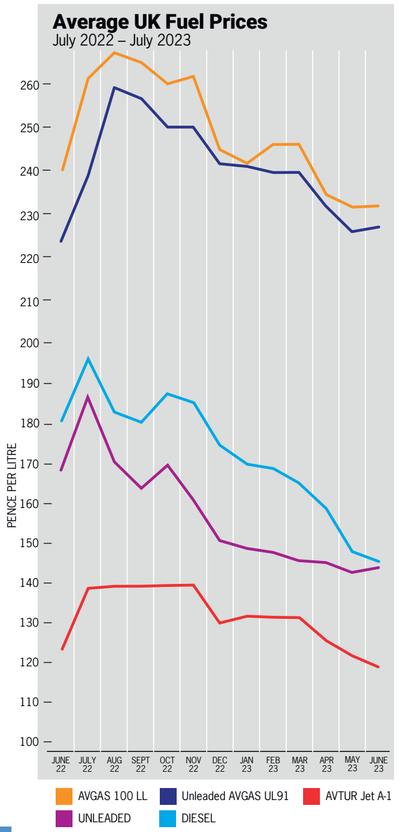
DATA & STATISTICS

AVERAGE FUEL PRICES
July 2023
(Source: Flight Training News survey)

UK average AVIATION FUEL price
AVGAS 100LL **£2.28** Unleaded AVGAS UL 91 **£2.30** AVTUR Jet A-1 **£1.18**
UK average ROAD FUEL price
Unleaded **144.1p** (+0.7p) Diesel **145.9p** (+0.4p)
ROI average ROAD FUEL price
Unleaded **€164.5** (+0.5c) Diesel **€152.5** (+0.5c)







Number of licenced airfields in the UK (Source: 2016 UK AIP)	126
Professional Flying Training Organisations UK and ROI *excluding organisations that are solely TRTOs (Source: Flight Training News)	101
Microlight Schools UK and ROI (Source: Flight Training News)	107
Helicopter Schools UK and Ireland (Source: Flight Training News)	102

European General Aviation

90,000 pilots engaged in private powered flying
40,000 microlight pilots
90,000 glider pilots
115,000 hang glider and paraglider pilots
5,300 balloon and airship pilots
20,000 General Aviation aircraft
22,000 gliders

Statistic of the month

649,000

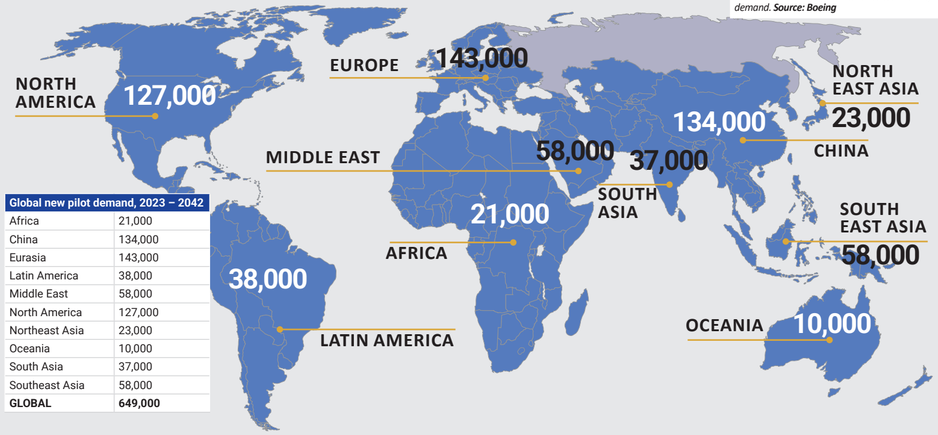
- The number of new airline pilots needed worldwide by 2042.

Source: Boeing

DATA & STATISTICS

New Pilot demand to support fleet growth and pilot retirements (2023 – 2042)

Boeing's 2023 forecast is limited to the commercial aviation sector, which it says includes commercial passenger and commercial freight, and assumes that air traffic demand will recover to 2019 levels by 2024. Consistent with last year's forecast, this year's outlook does not include business aviation and civil helicopter demand. Boeing's new personnel demand is calculated based on a 20-year fleet forecast for commercial aviation aircraft with more than 30 seats. By analysing fleet growth and replacement, aircraft utilization, attrition rates, and regional differences in crewing specific to aircraft type, Boeing's Pilot and Technician Outlook estimates the number of new pilots, maintenance technicians, and cabin crew members needed worldwide to meet global traffic demand. ***Source: Boeing***



Global new pilot demand, 2023 – 2042	
Africa	21,000
China	134,000
Eurasia	143,000
Latin America	38,000
Middle East	58,000
North America	127,000
Northeast Asia	23,000
Oceania	10,000
South Asia	37,000
Southeast Asia	58,000
GLOBAL	**649,000**

Boeing Commentary

Air travel demand is outpacing economic growth as domestic markets have fully recovered from the pandemic years, while international traffic is expected to return to pre-pandemic levels by 2024. Effective training and an adequate supply of personnel remain critical to maintain the health, safety and prosperity of the global aviation ecosystem.

The demand for training and related services has shown signs of faster recovery, but the industry still faces lingering challenges in meeting the demand. Among them are insufficient training capacity to support significant personnel shortage and the lag time required to bring personnel online while continuing to prioritise safety. To support the recovery and growth driven by expansion of global fleets, the aviation industry will need a long-term strategy that addresses upcoming labour challenges. Investment in early career-development programs and outreach efforts that spark excitement among future aviators will be essential to a healthy aviation market for years to come.

Long-term demand for newly qualified aviation personnel remains strong, as 649,000 new pilots, 690,000 new maintenance technicians and 938,000 new cabin crew members will be needed to fly and maintain the global commercial fleet over the next 20 years.

Industry Watch

General Aviation new aircraft deliveries worldwide

(source, General Aviation Manufacturers Association)

Q1 2022 V Q1 2023

Aeroplanes	Q1 2022	Q1 2023	Change
Piston	267	294	+ 10.1%
Turboprops	110	117	+ 6.4%
Business Jets	118	117	- 0.8%
Total	495	528	+ 6.7%
Value	$3.8bn	$3.7bn	- 3.5%

London Heathrow Traffic

Note: We have now returned the comparative to a 'year on year' basis.

June 2023

	June 2022	June 2023	Change
Passengers	5,990,385	7,041,157	+17%
Air Traffic Movements	34,696	38,117	+10%

Ryanair passenger statistics

Note: We have now returned the comparative to a 'year on year' basis.

July 2023

	July 2022	July 2023	Change
Passengers carried * (000,000s)	16.8	18.7	+11%
Load Factor	96%	96%	0 pp

* Represents booked seats sold.

Wizz Air passenger statistics

Note: We have now returned the comparative to a 'year on year' basis.

July 2023

	July 2022	July 2023	Change
Passengers carried	4,760,725	6,028,939	+26%
Load Factor	89.7%	94.9%	+5.2pp

FORTHCOMING UK & ROI THEORETICAL KNOWLEDGE EXAM DATES

UK CAA PROFESSIONAL PILOT EXAMINATION CENTRES:

AYRSHIRE, UK • Ayrshire College, Ayr Campus, Room L230, Riverside Building, Dam Park, Ayr, KA8 0EU

BRISTOL, UK • Bristol Groundschool (BGS), Windmill Road, Kenn, Clevedon, BS21 6UJ

GATWICK, UK • Civil Aviation Authority, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR

GLOUCESTER, UK (Cat 3c) • Cat3C, Aviation House, Gloucestershire Airport, Cheltenham, GL51 6SR

GLOUCESTER, UK (Skyborne) • Skypark Flight Centre, Gloucestershire Airport, Staverton, Cheltenham, GL51 6SR

LONDON, UK • Global Wings Aviation Academy S.L, University of West London, St Mary's Road, Ealing, London W5 5RF

LUTON, UK • CATS, Innovation Centre, 110 Butterfield, Great Marlings, Luton, Bedfordshire, LU2 8DL

OXFORD, UK • CAE Oxford Aviation Academy, Oxford Airport, Kidlington, Oxfordshire, OX5 1QX

ROSYTH, UK • Pathway Pilot Training, Rosyth Business Centre, 16 Cromarty Campus, Rosyth Europarc KY11 2WX

SEPANG, MALAYSIA • Malaysia Aviation Academy (MAvA), Jalan Pekeliling 2, Sepang, 64000

UK CAA Part-FCL ATPL, CPL and IR theoretical examinations

All exam dates should be treated as 'provisional' and subject to cancellation or re-scheduling.

Dates	Venue(s)
07 – 09 August 2023	Sepang, Malaysia
07 – 09 August 2023	Leading Edge, Oxford UK
07 – 10 August 2023	London Gatwick, UK
07 – 10 August 2023	Luton, UK
14 – 16 August 2023	Leading Edge, Oxford UK
14 – 18 August 2023	Gloucester (Skyborne)
21 – 24 August 2023	Bristol, UK
21 – 24 August 2023	London Gatwick, UK
23 - 25 August 2023	Rosyth, UK

Dates	Venue(s)
04 - 06 September 2023	Sepang, Malaysia
04 – 07 September 2023	Luton, UK
04 – 07 September 2023	London Gatwick, UK
06 – 08 September 2023	Ayrshire, UK
11 – 13 September 2023	Leading Edge, Oxford UK
11 – 15 September 2023	Gloucester, UK (Skyborne)
18 – 21 September 2023	London Gatwick, UK
18 - 21 September 2023	Bristol, UK
25 – 27 September 2023	Leading Edge, Oxford UK

IAA ATPL Theoretical knowledge examinations, Republic of Ireland

CPL/ATPL/CB-IR

Month	Exam Date	Closing Date
October	09 – 11 October	18 September

PPL

Month	Exam Date	Closing Date
October	02 – 04 August	11 September

Austro Control Theoretical knowledge examinations, UK exam centres

All exam dates should be treated as 'provisional' and subject to cancellation or re-scheduling.

Austro Control UK Professional Pilot Examination Centres:
Bristol, UK Bristol Groundschool Windmill Road Clevedon, BS21 6UJ
Gloucester, UK Cat3C Aviation House Gloucestershire Airport Cheltenham GL51 6SR
London, UK Global Wings Aviation Academy S.L University of West London St Mary's Road, Ealing London W5 5RF
Luton, UK CATS 110, Butterfield Great Marlings Luton LU2 8DL
Rosyth, UK Pathway Pilot Training, Rosyth Business Center, 16 Cromarty Campus. Rosyth Europarc, KY11 2WX

Dates	Venue(s)
16 – 18 August 2023	Bristol, UK
16 – 18 August 2023	London, UK
21 – 22 August 2023	Rosyth, UK
23 – 25 August 2023	Luton, UK (CATS)
28 – 30 August 2023	Aeros, UK

Dates	Venue(s)
11 – 14 September 2023	Bristol, UK
12 – 15 September 2023	London, UK
25 – 29 September 2023	Luton, UK (CATS)

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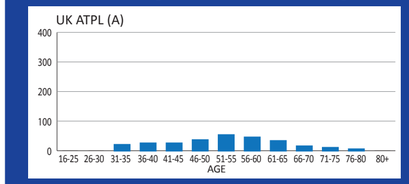
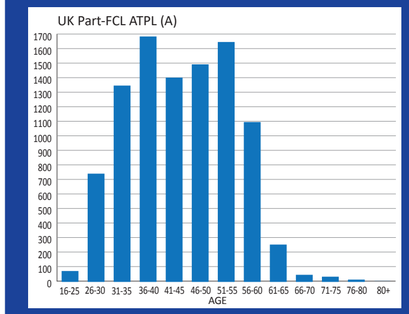
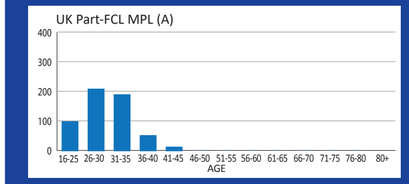
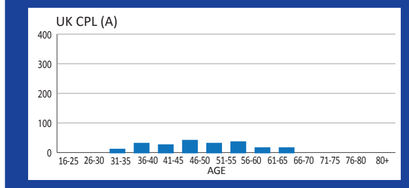
DATA & STATISTICS

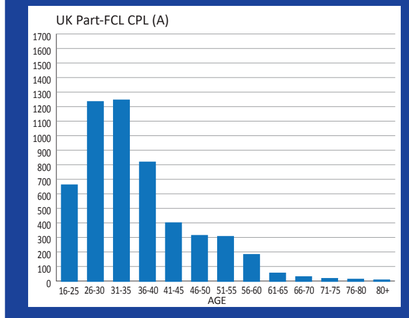
UK-issued pilot licences, age and gender profile





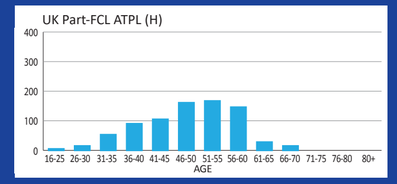


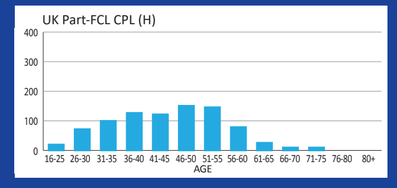


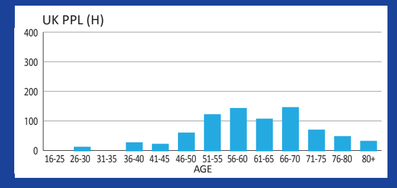


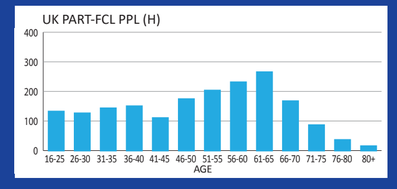
UK-issued pilot licences, distribution by gender

	Female	Male	Total
UK ATPL (A)	5	204	209
UK Part-FCL ATPL (A)	484	9239	9723
UK Part-FCL MPL (A)	38	439	477
UK Part-FCL CPL (A)	339	4844	5183
UK CPL (A)	5	99	104
UK PPL (A)	319	8956	9275
UK Part-FCL PPL (A)	745	12452	13197
UK Part-FCL LAPL (A)	64	1881	1945
UK NPPL (A)	176	4553	4729
UK Part-FCL ATPL (H)	24	655	679
UK Part-FCL CPL (H)	41	752	793









Figures based on UK CAA figures as at 31/12/2021. Figures include only holders of a UK Part-Med medical certificate (it is assumed that holders of a medical declaration are excluded).

Due to limitations of the CAA data, small numbers may be rounded to the nearest five.

Where both a UK Part-FCL and a national licence is held, these are counted separately. The figures therefore represent the number of valid licences and not the number of individual licence holders.