The official magazine of the Aircraft Owner and Pilots Association www.aopa.co.uk

AOPA UK

A truly unyielding Brit classic

The Britten-Norman Islander has been in the skies for more than 50 years. We talk to CEO William Hynett OBE about why after all this time this hard-wearing British bird is so popular

ALL THE WAY AROUND
David Hastings tells all about his epic adventure flying around the USA in a Cessna

CLOUDBASEGA REVIEW
Henry Simpson looks at one of the newest tools for schools and explains how it can help

AOPA COMMUNITY
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IT'S TIME FOR A CHANGE

LET'S START with a quote: "There is nothing permanent except change." – Heraclitus of Ephesus.

By the time you are reading this the AOPA AGM will have come and gone for another year. I remark upon it, not only because it will have been my first as Chairman but also because the AGM presents an opportunity for change.

This year we will have marked George Done's nineteen years as Chairman of the Board with the honorary title of Life Vice President, nineteen years that have seen a lot of change. I'm certain that most of you will remember the turn of the century, and the worry that computers would crash to a halt when we entered the noughties.

During this time dictators have come and gone, there have been natural disasters and we seem to have weathered a financial crash, after a fashion. Through this time George has steered the path of AOPA such that we're still here and still working for the membership. George will continue to chair the Maintenance Working Group so members need not worry that we are losing his experience and expertise in engineering matters, and he'll still be on hand to help members with their engineering and maintenance issues.

We hope to welcome, if elected at the AGM, Philip Church to the AOPA Board and Executive Committee. Please read Phil's achievements in the Aviation industry at http://bit.ly/2kezDKY. I hope you'll agree that he will be an asset to AOPA. He has already made a significant contribution to the suite of projects that AOPA is now involved in for the benefit of our members. These include projects on conspicuity, GPS navigation approaches, and the next generation of ELTs.

Demonstrating that the aviation world we fly in is not constant, improvements in technology are going to change the airspace we fly in, the way it is managed for us and other participants in the space, as well as the technology of the aircraft we will fly. To continue to participate in these discussions and influence the change for everyone's benefit, AOPA also has to change to meet the new challenges. We expect this will include a new post-Brexit world where we'll be re-establishing UK GA in a global industry.

To this end, I mentioned last time that the Board has decided to move the AOPA HQ away from 50a Cambridge Street. This will secure the financial future of the association and give AOPA the opportunity to realign its resources and invest in new endeavours for the benefit of our membership.

In moving our AOPA HQ the Board continues to show its commitment to keeping overheads low and as a consequence membership fees unchanged, whilst still ensuring the association has the resources to continue its work. We'll be keeping you all informed with regular updates.

In the words of Martin, our CEO, "The work AOPA carries out on your behalf doesn't change, there's just more of it." AOPA doesn't intend to step down from protecting the rights and privileges of its members to fly in the UK and beyond. ■

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INSIDE THIS MONTH

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EDITOR'S MOMENT

It's been a fantastic summer for air sports. We've had the final Red Bull Air Race – congratulations to Matt Hall and his team – and the French team dominated the World Aerobatics Championships. These events are a great way to attract the next generation and get them excited about becoming a pilot.

It's a shame that the Red Bull Air Race has come to an end; it promoted great flying and competition that was thrilling. There are rumours that it might come back under a different title sponsor, but only time will tell.

We also celebrate the people who are making a difference in the UK with the AOPA Awards. There are a lot of deserving people who have received these iconic awards and trophies. You can read all about that on page 10. Plus, in this issue, we look at one of the UK's last remaining aircraft manufacturers, Britten-Norman. If any company knows about keeping aviation alive, it's this one!

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PUBLIC CONFIDENCE IN UNMANNED AIRCRAFT IS NOT THERE YET

OLD ROADS were not designed for cars and if you look at the very early cars they were little more than horse carriages with an engine. Airspace and its rules were not designed for drones. Early requirements for automobiles travelling on country roads at night included sending up a rocket every mile, then waiting ten minutes for the road to clear. The driver could then proceed, with caution, blowing his horn and shooting off Roman candles, as before.

If the driver of an automobile saw a team of horses approaching, he was to stop, pulling over to one side of the road, and cover his machine with a blanket or dust cover which was painted or coloured to blend into the scenery, and thus render the machine less noticeable.

In case a horse was unwilling to pass an automobile on the road, the driver of the car was supposed to take the machine apart as rapidly as possible and conceal the parts in the bushes. And most of us will have heard of the man with a red flag walking ahead of the car.

BRINGING IT UP TO DATE

Now we are being asked to consider a new kind of airspace user and how their requirements for access to all airspace may be met. Currently drones can only be used within visual line of sight. However, the next stage of their development is to go beyond the visual line of sight, including launch and forget operations. Governments around the globe are looking at the development of UAS (unmanned aerial systems) as a part of the fourth industrial revolution. There is work going on around the regulations that will underpin the development of operations. There was a proposal for segregation, which would reduce the access to airspace for existing users, but AOPA objected to this saying that the way forward was for the safe integration of users and that there needs to be more progress made on developing the right technology.

Unmanned Aerial Systems (UAM) include the development of Urban Air Mobility (UAM) vehicles that Airbus, Boeing and Uber are developing along with Amazon who are looking at drone deliveries in urban/city areas. Some people think that this initiative is a long way off. I think the matter is closer than people think and we need to make sure that the rules that are under development do not further restrict GA's activities.

"AOPA is following these developments closely and has been invited to take part in various forums"

AOPA IS HELPING

We need to engage in the subject and that's what AOPA is doing. This change will happen over time. There is no Big Bang but governments and industry see this as the next area of growth in activity and jobs. AOPA responded to the government's Aviation 2050 Green Paper and we made the point of not forgetting about GA, and how the next stage of development can include GA's needs, particularly for the development of new technology, including 5G and where geofencing may be of benefit to GA.

AOPA is following these developments closely and has been invited to take part in various forums, which in future will give us the ability to influence appropriate outcomes.

The DfT has initiated a review of regulation through Tony Rapson and Geoffrey Podger. In the discussion it was clear that the government is thinking about the volume of regulation that impacts on GA – AOPA has always made the point that GA is safe, but it's not risk-free. A measure of the effectiveness of regulation can be seen in the number of accidents both serious and fatal – the question then is one of appetite – and how much appetite do regulators have to reduce the number of regulations, if it increases the accident rate? The main problem is the cost of regulation i.e. the CAA administration and oversight. Can the oversight be reduced without making big changes to regulations? I suspect that this will depend on the kind of legal opinion the CAA receives, particularly in light of the Shoreham 2015 air crash – businesses tend to like a clear regulatory framework as it gives them a degree of comfort when operating/providing a service. Individuals will and do have a different risk appetite and we know that in current accidents it's often the individuals approach to risk that is the problem, and, in fact, the regulation is not considered when the action is taken. However most regulations are established to protect the third party involved, and when there is an accidents there is a cost to the families that get left behind. When this is a commercial aircraft then the problem is multiplied and unlike GA accidents they tend to stay in the news much longer. Fortunately aircraft accidents are relatively rare – which gives the public confidence to use aeroplanes to travel. Whether or not the public will move to pilotless aircraft will take time to emerge because the pilot is a safety device, and a well-trained pilot is the best safety device. So, whilst some sectors move ahead in the development of AI and algorithms to replace humans, I think they have not considered public confidence and therefore it will be some time before Bladerunner becomes reality. ■

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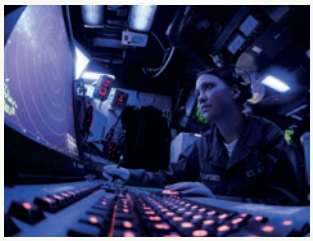
HELPING YOU STAY FLYING

Welcome to the AOPA Community section of the magazine, bringing you all the news and insights from the world of AOPA...



WORDS Pauline Vahey **IMAGES** Mick Elborn

THE WINNERS OF THE 2019 AOPA AWARDS

The 2019 AOPA Awards were presented at AeroExpo UK, which was held at Wycombe Air Park – congratulations to all the winners!

AOPA'S BIANNUAL awards once again took place at AeroExpo in Wycombe Air Park, in front of a packed tent. Congratulations to the well-deserving winners.

LENNOX-BOYD TROPHY

Awarded to a person, club, group or organisation who has contributed significantly to the furtherance of general aviation, flight training, club flying or piloting standards.
The trophy is a cup in a special presentation box that was originally given to the Association of British Aero Clubs by the late Rt Hon Alan Lennox-Boyd PC CH MP (subsequently Viscount Boyd of Merton) in 1953. The last winner of the Lennox-Boyd Trophy was Carol Vorderman who was seen as a fantastic contributor to GA due to her media presence.

Winner: Ken Ashton
Ken has a lifetime career in aeronautical navigation service provision. He led the project team that introduced LPV approach procedures at Alderney Airport, one of the first to be approved by the CAA.
He now supports smaller airfields in implementing PBN (performance-based navigation) operations and in particular, approaches with vertical guidance. AOPA has been privileged to have Ken working as the Project Manager of Project GAGA for the last three years.
Project GAGA is all about the implementation of GNSS approaches for General Aviation.
It is expected this will contribute significantly to the safety of General Aviation in the decades to come.

"He now supports smaller airfields in implementing performance-based navigation operations"

Blackbushe Airport was the winner of the best aerodrome

BEST AERODROME

Awarded to an aerodrome that offers outstanding facilities and helpful service to residents and visitors alike.
The trophy is a sword (see below left) donated to AOPA by Airtour International Ltd (now Pooley's Flight Equipment Ltd) in 1982.
The sword was renovated by R Pooley in 2004. 2017's winner was Jersey Airport.
Winner: Blackbushe Aiport
Like many smaller airports in the UK, Blackbushe has had its ups and downs. Blackbushe is now definitely on an up, with its new management team in charge.
The facilities at Blackbushe have improved as has the welcome for GA. The vision and strategy for the sustainable and viable future of the airport, as a centre of excellence for General Aviation and a key contributor to the local community, is outlined on their website.
It is a model for other smaller airports to take a serious look at, if the UK is to keep its airfields for aviation and not housing.

INSTRUCTOR OF THE YEAR

Awarded to an instructor who has made a special contribution to the training of student pilots for the PPL or NPPL, or to private pilots for added qualifications. The trophy is an art deco cup donated in 2004 by Virgin Experience Days.
Geoff Prout, the former CFI of GoFly, who has 12,000 hours in his logbooks, was the pervious winner.

Winner: Simon Atkins
Former Head of Training at Booker Aviation, Simon continues to work in General Aviation when a career in the airlines would have been an easy step for him. His outstanding knowledge of the GA sector and its rules and regulations, together with his continued support, has earned him widespread respect throughout the UK GA community including the CAA who values his knowledge.

Pauline Vahey, AOPA's Chairman, presents Simon Atkins with his Instructor of the Year trophy

"His outstanding knowledge of the GA sector and its rules and regulations, together with his continued support, has earned him widespread respect."

CONTRIBUTION TO THE COMMUNITY

Awarded to a person or organisation who has made an outstanding contribution to the aviation community. The trophy is a cup donated in 1997 by Flyer magazine.

Winners: Luc and Edith Dufour
For over thirty years Luc and Edith have run the restaurant at Cherbourg Maupertus Airport in Normandy, Le Coucou de Forchette. They have provided an unfailing welcome and assistance to the Brits who make Cherbourg their first or last stop to clear Customs and Immigration when flying to and from the Continent. Luc and Edith are retiring at the end of this year. We wish them the very best for their retirement, they'll be missed.

FRIEND OF AOPA

Awarded to a person or persons who has or have made a special contribution towards the work of AOPA (a half-pint tankard to keep, no permanent trophy). The winner in 2017 was Matthew Bolshaw who has been keen to share his knowledge of aviation insurance.

Winners: Roger Kimbell, Paul Layzell and Mike Smart
Roger, Paul and Mike are founder members of the AOPA Maintenance Working Group from its earliest days in 2009, and at that time, were owners and operators of maintenance organisations.
Over the past 10 years, they have applied their specialist knowledge in the provision of valuable advice on a wide variety of AOPA members' engineering problems, to the ultimate benefit of those members. ■

AOPA TROPHY FOR THE BEST ARTWORK DEPICTING LIGHT AIRCRAFT

This award will be presented for the first time since 1983 – the AOPA Trophy for the best artwork depicting light aircraft from 1946 onwards – by a Full Member or Associate of the Guild of Aviation Artists, at their Annual Exhibition. The Award was presented at the AGM. Michael Latham won with Martin Perman runner up. The Cup was originally the BLAC Trophy so originates from the days before BLAC Ltd started trading as AOPA UK, pre-1966.

WORDS Anonymous

A LESSON IN INFRINGEMENTS

In spring, an AOPA member was caught infringing on London CAS. To ensure no one goes through what he did, he explains what happened, but wishes to remain anonymous

IN APRIL I managed to infringe London CAS south of Bury St Edmunds through carelessness – nothing else – I have no excuses. I was operating at over 7,000ft photographing when I managed to drop a camera lens that rolled under a seat. I took my eye off position whilst I fumbled around retrieving it. In doing so with a strong northerly wind I let myself drift south and just clipped CAS. My infringement could be likened to a chalk line call at Wimbledon tennis, in or out…?

Regardless I was pretty certain I had clipped it and kicked myself, calling Wattisham who confirmed I had bust airspace – they had received a call from NATS. I spoke to both centres the following day and was told that no avoiding action or diverts had resulted (thank goodness) and I thought possibly I would be given the benefit of the doubt …

It was not the case: three weeks later a letter from the CAA landed with a thump on my door mat. I was invited to give my account, which I did, and was told they would reply once my response was received.

Their reply was simple; having evaluated my response it was considered that "remedial" action was required. This took the form of attending an infringement awareness course which I participated in on Saturday 10 August with 26 others. The age of the pilots ranged from early twenties to seventies, and encompassed every type of GA pilot – microlight, SEP, twin engine, rotary, a warbird pilot and two flight school instructors.

"The course was enlightening, providing me with a much greater insight into the work of Swanwick, NATS etc."

The course was enlightening, providing me with a much greater insight into the work of Swanwick, NATS etc. and costs that infringements add annually – around £50 million in wasted JET A1 to start with. Examples of serious infringing of both Stansted and Heathrow were screened. SEPs managed to get right inside CAS, at one point (Heathrow) looking like they were lining up to land! The simulators showed commercial diverts hurriedly expedited as the infringer wandered around inside CAS before realising and scarpering, and made interesting viewing.

After lunch we plotted various routes on half million charts, one being a direct track through controlled airspace, the other around it. We were then tasked to explain our reasonings, hazards en route and general thinking. Various multiple-choice questions were screened, with answering via a hand-held remote, and results displayed once the small counter at the top right of the screen hit 27. The presenters stated that those who got questions wrong (myself included) knew who they were!

I am not proud to have been there, but infringe I did, and it seems that anyone who does so from now on will be invited to attend a similar course … so be warned. ■

They're always watching, so be careful when you're flying close to restricted airspace

WORDS John Walker

THE LATEST NEWS ON UK AIRFIELDS

THERE ARE airfields across the UK currently under the threat. Here are the latest developments, updated 2 September 2019.

MANSTON

Examination period ended on 9 July 2019 into the application made by River Oak Strategic Partners (who have now purchased the site) for a Development Consent Order (DCO) to retain the aerodrome as a Nationally Significant Infrastructure Project. The Planning Inspectorate now has three months to make a recommendation on the application. Thanet District Council definitive 2031 Local Plan submitted for Public Examination on 30 October 2018 with hearings commencing on 2 April 2019 recognises the existing use of Manston as an airport and provides for the DCO process to continue.

RAF WYTON 2019

Aerodrome being sold off – DIO has a Land Sales Delivery Partnership Agreement with property developer Crest Nicholson and proposed a 4,500 home development on site, a scheme that is not included in the Huntingdonshire District Council adopted 2036 Local Plan. Marshall Group is considering relocating from Cambridge to the site.

PETERBOROUGH/SIBSON

Huntingdonshire District Council submitted an unsuccessful bid for a 2,500 home Garden Village on site. The Council subsequently withdrew their support for the proposal but the site is still listed in the Council's Housing and Economic Land Availability Assessment.

REDHILL

Tandridge District Council public consultation on four potential Garden Village sites including Redhill ended on 9 October 2017. The definitive 2033 Local Plan submitted for Public Examination on 18 January 2019, with hearings starting on 8 October 2019, has ruled out the site for a Garden Village and allocated it protected status as an Important Employment Site. The current draft Tandridge Local Plan earmarks the aerodrome for employment purposes and notes that the site is within the Green Belt with a high risk of surface water flooding. Part of the site is within the boundary of Reigate and Banstead Borough Council whose Local Plan proposal to safeguard the site for housing has been rejected by the Planning Inspector examining the plan.

WYCOMBE AIR PARK

Site lease holder (Helicopter Aircraft Holdings Ltd) has agreed new leases with the land owner, Wycombe District Council. After Public Examination, the 2033 Local Plan was adopted by the Council in August 2019 and provides for an industrial/warehousing complex on the southeastern part of the site, resulting in loss of a runway and relocation of gliding activities. ■

WORDS George Dunn

BE PREPARED FOR THE ANNUAL INSPECTION

It can be an unsettling experience when the annual inspection rolls around

MAINTENANCE TIME – some words from the AOPA Maintenance Working Group. This section is now a regular feature of the AOPA Magazine, bringing you up to date with issues surrounding maintenance of our aircraft.

There can't be many GA aircraft owners who face the next annual check without a degree of apprehension, as you can never rule out the possibility of unexpected and costly remedial maintenance or component replacement being required.

The rationale behind scheduled maintenance is aimed at minimising the occurrence of unscheduled maintenance, and/or the degradation of operational safety.

QUESTIONS

So, once the aircraft goes into the maintainer's hangar, the vital questions, following the inspection, are: "What needs doing, how much is it likely to cost, and how long will it take?" Whatever the outcome, judging from the fact that AOPA receives no more than two or three complaints from members each year about maintenance issues, and that over 1500 annual and other checks are performed on AOPA owners' aeroplanes, a satisfactory resolution is the general result. From this, it can be assumed that relationships between aircraft owner/customer and maintainer are mainly as they should be.

WHAT NEEDS DOING?

However, forewarned is forearmed, and it may be useful to be aware of some of the relatively rare situations that have arisen in the past where all has not run so smoothly on the maintenance and engineering side, and that is what this article is about. When it comes to "What needs doing", this should be fairly straightforward once the initial inspection has been carried out. An itemised work schedule will normally be available, with associated man-hours and component costs.

You'll always have questions, but it could stop little unexpected surprises later

"Equally, it may be that a particular component needing replacement is not immediately available"

HOW MUCH?

This leads on to the second question: "How much will it cost?" – not forgetting that the inspection itself requires man-hours to undertake. If this is not forthcoming, or a list of work required is provided without associated costs, then an amber light should start flashing. A few cases in past years have come to AOPA's attention where the final invoice payment total was substantially more than the value of the aircraft. In hindsight, these unfortunate situations could often have been prevented by more frequent and constructive dialogue between owner and maintainer. The article in the June issue of AOPA UK entitled "Helping to keep owners flying" refers to the AOPA Code of Practice for Maintenance and Repair (see also the AOPA website) which, even if not adopted by the maintainer, can form a useful basis for establishing basic ground rules for a productive relationship.

HOW LONG?

The answer to the third question, "How long will it take?" this would normally be readily forthcoming once

It's more helpful if you know the organisation you're taking your aircraft to

If a component is difficult to get hold of, expect to be waiting longer than you first anticipated

the work involved is known. However, the time taken to release the aircraft to service does depend on a couple of factors. Your aircraft may be just one of many that are undergoing maintenance by the same organisation, and when a lot of flying is happening, as during long spells of fine weather, the various regulatory checks come around more frequently. Equally, it may be that a particular component needing replacement is not immediately available; in this case, it can aid progress for the owner to chase up the missing part independently. Even so, it does happen on rare occasions that an aircraft remains grounded for long periods, a year or so being not unknown, for seemingly inexplicable reasons. The owner has no option but to do some research as to why this should be – maybe talk to other owners using the same maintainer to check if it is a common problem. It needs to be borne in mind, however, that maintainers themselves can have their own problems which impact on their business.

WHAT ABOUT GROUPS?

For group-owned aeroplanes, when it comes to maintenance and engineering, much responsibility rests with the group's nominated engineering coordinator. Needless to say, it is important for him or her to keep the other members of the group fully apprised regarding decisions and progress on engineering matters; it is not unknown for large bills to be run up without proper explanation, or even unnecessarily. What you need to ensure is that everyone is kept informed, and remember, communication is key! ■

AOPA FLYING INSTRUCTORS REFRESHER SEMINARS

For revalidation of an FI certificate, the holder shall fulfil two of the following three requirements:

1 At least 50 hours of flight instruction during certificate validity as FI, TRI, CTI, IRI, MI or Examiner;
2 Attend a Flight Instructor Refresher Seminar within the validity of the certificate; and
3 Pass an Assessment of Competence within the 12 months preceding the expiry of the certificate.

For at least each alternate subsequent revalidation, an assessment of competence must be undertaken. In the case of a renewal you should, within 12 months before renewal, attend a Flight Instructor Refresher Seminar and pass an assessment of competence.

NEXT DATES

The next dates for the seminars are

3-4 December 2019, 10-11 March 2020, 7-8 July 2020, 24-25 November 2020.

All seminars are now run at the AOPA offices at 50a Cambridge Street, London SW1V 4QQ – only 5 minutes' walk from Victoria Station.

To register for a place on any of the seminars please call the AOPA office on 020 7834 5631 or join online at WWW.AOPA.CO.UK.
The seminars start at 1100 and end at 1800 each day to facilitate travel.

AOPA NEWS

General Aviation news from around the world

Yaks now come under the LAA's register

YAKS' AIRWORTHINESS NOW LAA'S AUTHORITY

The much-loved aircraft has had its Permit to Fly moved to the Light Aircraft Association's responsibility

by **AOPA News Team**

THE EVER-POPULAR Russian Yaks and the Chinese-built Nanchang CJ-6A will now receive a Permit To Fly from the Light Aircraft Association (LAA).

At the recent LAA Rally, which was held at Sywell, Rachel Gardner-Poole of the CAA General Aviation Unit confirmed that the continued airworthiness of UK-registed Yaks and Nanchang CJ6As with Permits to Fly has been delegated to the LAA.

The aircraft have, until now, been regulated directly by the Civil Aviation Authority (CAA). The LAA already has airworthiness oversight of kit-built and vintage aircraft, including other types similar to the Yak.

The move follows cooperation between the LAA and the CAA's General Aviation Unit to ensure there is continuity of relevant technical requirements. The agreement was formalised at this year's LAA Rally.

There are around 50 Yaks and Nanchangs of various types on the UK aircraft register that are potentially covered, including several display teams.

The owners of these aircraft will be kept informed with full details of the changeover.

Commenting on the announcement at the LAA Rally, Gardner-Poole said: "The LAA has the technical knowledge and experience to incorporate Yaks into their existing areas of oversight and we are delighted to be able to once again delegate authority to frontline organisations like the LAA. This is in line with our principles of only regulating where necessary, deregulating where we can and delegating where appropriate."

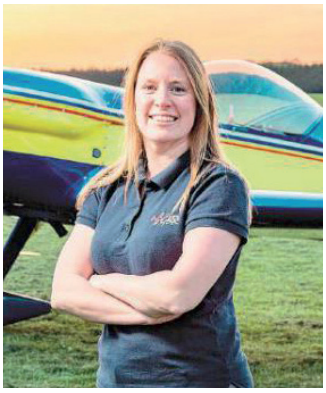
"The LAA has the technical knowledge and experience to incorporate Yaks"

Bob Davy, who owns a share in a Nanchang, believes it will be an easy transition. "Initially there will be hardly any difference from the viewpoint of owners. These aircraft are maintenance-heavy. That will not, and must not, alter, but I welcome the reduction in administration fees and the opportunity to work under supervision on the more menial tasks, which can nevertheless soak up a lot of cash for example changing 18 spark plugs! Longer term it will allow us to look at minor modifications already in wide circulation and perhaps different engine and propeller options. From my perspective; deregulation yes, but a reduction in safety, definitely not." ■

EMILY COLLETT 1983-2019

by **Pauline Vahey**

PAULINE VAHEY knew Emily Collett well and shares her thoughts on her tragic and untimely death: "It was a sunny afternoon and I was gardening at home in Henley-on-Thames when I heard the emergency services sirens – lots of them, continuing for some time, suggesting that there must have been a nasty accident close by, perhaps a car accident up on the Fair Mile. It wasn't until the following day, when called by a mutual friend, that I learnt of the tragic death of Emily. I've known Emily personally for nearly ten years. I remember her aerobatics display at the BWPA 60th Jubilee held at White Waltham in 2015. She was one of four female pilots from White Waltham who



Emily Collett was a popular member at White Waltham

went to BBC Caversham very early one morning to feature on the local BBC Radio Berkshire early morning show about why there were still so few female pilots. I'll never forget her performing that strange dancing, outside the clubhouse, that all aerobatics pilots do. Emily and Mike were always together sharing their passion for all things flying and aviation. A lot has been said elsewhere about Emily's talent as a pilot, and the respect and affection she was held in. She was an inspiration to others and always generous with help for those who wanted to fly and share her passion.

Long-time members of AOPA, both Mike and Emily taught the AOPA Aerobatics Certificate syllabus. Whilst AOPA has lost a supporter, our thoughts are with Mike, her family and friends.

It's inevitable that in participation in flying you are more likely to lose a friend, but when it's personal it becomes even more real. I have no doubt that there will be safety lessons to be learnt from this tragic accident that will help keep others safe in the future." ■

VOLCOPTER FLIES AT HELSINKI

by **David Rawlings**

THE 18-ROTOR electric Volcopter recently performed a flight at Helsinki International Airport and successfully integrated into both the Air Traffic Management (ATM) and Unmanned Aircraft System Traffic Management (UTM) system. Within the Single European Sky ATM Research (SESAR) programme this demonstration is the final leg of the Gulf of Finland (GOF) u-space project showing how ATM and UTM systems enable Urban Air Mobility (UAM). Urban environments require reliable solutions to enable safe airspace operations given the increasing number of drones and manned aircraft over cities. The GOF U-space flight trial demonstrated how ATM and UTM can act in combination to enable safe and efficient air taxi operation in urban environments, including airports.

The Volcopter flies at Helsinki Airport

"As air traffic continues to rise in number and kinds – especially with the arrival of unmanned aircrafts and air taxis, the technology and rules for using VVL airspace needs updating, " said project coordinator Maria Tamm from Estonian Air Navigation Services (EANS).

Volcopter performed a series of tests with three different leading UTM service providers, namely AirMap, Altitude Angel and Unifly, participating in the project for UTM systems and services for the VLL airspace. The providers were tested for compatibility, functionality and usability. ■

LOOK BACK... THIS MONTH 87 YEARS AGO

DE HAVILLAND DRAGON'S MAIDEN FLIGHT

On 12 November 1932 de Havilland's Dragon took to the skies for the first time.

Following the commercial success of its single-engined de Havilland Fox Moth that had first flown in March 1932, that aircraft's original commercial operator Hillman's Airways requested that a larger twin-engined version be built. It was a simple, light design with a plywood box fuselage using the same type of engine and similar outer wing sections of the earlier single-engined aircraft.

It was originally designated the DH.84 'Dragon Moth' but marketed as the 'Dragon"'.

The prototype first flew at Stag Lane Aerodrome (located in Edgeware, North London) on 12 November 1932; it and the next four aircraft were delivered to Hillman's which started a commercial service in April 1933. It could carry six passengers, each with 45lb (20kg) of luggage on the London-Paris route on a fuel consumption of just 13gal (49litres) per hour. The wing panels outboard of the engines could be folded for storage.

The Extra NG –a fully-carbon airframe

EXTRA UNVEILS NEW CARBON NG AIRCRAFT

The manufacturer is launching a successor to its world-beating aerobatic aircraft

by **Lucy Field**

EXTRA AIRCRAFT, which has a long and distinguished history in building world-beating aerobatic aircraft, recently announced the latest edition to its stable: the Extra NG.

The new aircraft, on show at EAA's AirVenture in July, will feature an all-carbon rigid base frame – another first in aerobatic aviation history. The Extra NG truly represents a quantum leap forward by offering its owner not just a stunningly beautiful silhouette, but also an ergonomically advanced cockpit. It is designed for maximum pilot comfort and equipped with state-of-the-art avionics. Improved aerodynamics permit an even higher degree of manoeuvrability and precise handling while also making the Extra NG a "really fast" aircraft.

"There's no steel structure—and all the ergonomics are improved," said Walter Extra, the German designer who founded the international aerobatic aircraft manufacturing company in the 1980s. "It's the most comfortable cockpit I've ever been in."

That comfort, he said, extends to the front passenger seat (the pilot in command typically sits in the rear seat in Extra aircraft).

Extra said he has been contemplating an all-composite aircraft design for five years, and he started building parts three years ago. He kept the project completely secret and stored physical parts in a separate part of the manufacturing plant.

The turning point came when Extra developed a method of using composite materials to provide the same level of safety as a steel frame. Extra has applied for a patent for that method.

Extra is seeking European Union Aviation Safety Agency regulatory approval for the NG. Airplanes imported to the United States will be flown under the experimental/exhibition category.

The NG will carry a retail price of $450,000 – less than the current top-of-the-line LX model.

"The NG has some manufacturing efficiencies that allow us to lower our building costs," Walter Extra said.

"The lack of a steel structure allows more curves and a more aesthetic appearance. There's also more internal volume.

"It's a really elegant design," Extra said. "We'll also offer a single-seat canopy – and you have got to see it to believe it."

Extra is facing stiff competition from other all-composite aerobatic airplanes such as GameBird and MX. GameBird is led by Philipp Steinbach, a former Extra employee. ■

The NG was unveiled at this year's Oshkosh

FRANCE DESTROYS OPPOSITION AT WORLD AEROBATIC CHAMPIONSHIPS

by **Robert Care**

THE FRENCH Aerobatics team was unstoppable at the 30th FAI World Aerobatic Championships as its pilots claimed victory in both the team event and three of the four other programmes.

French pilot Louis Vanel won the Mixed and Men's events, with Aude Lemordant – also on the French team – taking first place in the Women's competition.

In the Freestyle programme, Robert Holland (USA) once again climbed to the top of the podium to continue his years-long run as FAI World Champion in that category.

President of the FAI Aerobatic Commission (CIVA) Nick Buckenham was there to witness his winning performance. "Rob is an extraordinarily good pilot who knows just how to make the best use of his plane," he said.

Held at the Châteauroux-Déols airport in central France, this 30th edition of the competition involved some 11 teams and 17 countries including Australia, Russia, and the USA.

Split into five categories – Team, Men, Women, Mixed, and Freestyle – the event was blessed with dry, and often very hot, conditions and attracted tens of thousands of spectators.

"This year's event has been a huge affair involving more than 240 individual performances," Buckenham said. "Sports aviation has a strong presence in France, and the competition has attracted spectators from a wide area, so it's great to see the French team putting in a fantastic performance once again."

Local organisers – the Fédération Française Aéronautique (FFA) and Châteauroux Métropole also – put on a spectacular entertainment programme, highlights of which included demonstrations of other air sports, test flights and, on the final day, an air show including a wing-walking display and a superb performance by the Patrouille de France national aerobatic team. ■

The French team dominated the World Championships

P2012 ACHIEVES FAA CERTIFICATION

by **David Rawlings**

TECNAM ANNOUNCED that the FAA has awarded full Type Certification to the P2012 Traveller with the number A00076CE for Part 23 of the FAA Regulations.

Tecnam is now on track to commence deliveries.

The first few P2012 Travellers, already produced and ready to go, will fly from Capua to the Cape Air base in Hyannis, MA in the upcoming weeks.

Powered by two 375 HP turbo-charged Lycoming engines, the Tecnam P2012 Traveller features a modern design and state-of-the-art equipment, allowing single-pilot operations, depending on individual country regulations. The aircraft's simple and easily accessed airframe and systems, fixed landing gear, robust interiors and easy-to-replace parts, result in high efficiency and low maintenance costs. These attributes, and many more, make it the ideal aircraft for regional airlines.

"The FAA certification of the P2012 Traveller marks a significant milestone for the Tecnam team, our very first commuter airline aircraft. We have embraced new challenges and developed new skills. I am very proud, together with my father Paolo, to lead one of the most innovative and growing global aviation companies. We dedicate this important achievement to Luigi and Giovanni Pascale – the two brothers, my grandfather and my great-uncle – who started all this in 1948," said Tecnam's Managing Director, Giovanni Pascale.

The arrival into service of the next-generation 11-seat, twin-engine P2012 Traveller is much anticipated by a large number of airlines, who have been demanding a replacement for the many hundreds of 'heritage' aeroplanes in the FAR23/CS23 category currently in service around the world, that are proving difficult to keep airworthy. ■

The P2012 Traveller now has FAA certification

AOPA NEWS HIGHLIGHTS

COFFEE DIVERSION

A coffee spill on an A330 caused a mid-Atlantic diversion. The inconvenient chain of events damaged the aeroplane, and disrupted the travel plans of hundreds of travellers, heading to Cancun for some winter sun, from Frankfurt last February. Although the pilots did their best to mop up the spill, some coffee seeped into the communications gear in the console. It immediately took out the PA system and the radio.

NASA MOON MISSION

The hardware for NASA's Artemis 1 lunar mission is beginning to come together. According to NASA, the engine section of the Space Launch System (SLS) rocket is now assembled and ready to be joined to the rest of the SLS core stage. Assuming Artemis 1 is a success, the second mission, planned for 2022, will test Orion's critical systems. The programme's goal is to land astronauts on the Moon in 2024.

SHANNON CELEBRATES

Shannon Airport is celebrating 80 years as a commercial airport. In July it was eight decades since the first landing of a passenger aircraft way back in 1939. A Belgian airliner – a tri-motor Sabena Davoia Marchetti S-73 – landed on the newly opened and then named Rineanna airfield. "We are hugely proud of history here at Shannon, and our pioneering reputation is recognised and respected across the world of aviation." said CEO Mary Considine

Matt Hall and his team celebrate after the final

HALL TAKES RBAR CHAMPIONSHIP

Australian team claims the title and Britain's Ben Murphy finishes fourth overall as the series comes to an end

by **David Rawlings**

AFTER FOUR Red Bull Air Race World Championship podiums including three near misses in second place, Australia's Matt Hall finally achieved the holy grail at the season finale in Chiba, Japan, defeating Yoshihide Muroya by a single point. To the delight of the weekend's 98,000 passionate fans, Muroya had his own moments in the spotlight as he won the race and took second in the World Championship. Martin Šonka of the Czech Republic claimed third place overall.

"I didn't even care where I came in the race – I just knew I had to make the podium, and then I heard about Pete's pylon hit. The conditions were tricky, and I thought that I could hate myself for the rest of my life if I made a penalty, so I tried to play it safe without letting up too much. Now I need to go and absorb this, but when I'm 90 I'm going to be telling everyone I'm the World Champion." Hall exclaimed.

"I didn't even care where I came in the race – I just knew I had to make the podium"

Hall's achievement came not a moment too soon. After 12 World Championship seasons and 94 races, the Red Bull Air Race will not be continued past 2019, making the race in Chiba his last chance for the iconic trophy. The crowds were on their feet even before the race started, and the first shock of the day came in the initial head-to-head, when Muroya, hoping to fly to the title from third place overall, lost to Great Britain's Ben Murphy by just 0.015s. The second stunner happened minutes later, when overall leader Martin Šonka slipped in his own opening round faceoff against Nicolas Ivanoff of France, pulling too hard for an Over G. The one-second penalty suddenly took the 2018 World Champion out of the running for a repeat crown.

Miraculously, when the Round of 8 took off, Muroya was still in the fight, having advanced as the fastest loser. The battle was between the Japanese superstar, who was determined to win his second career World Championship, and Australia's Hall, focused on his last-chance mission. Both made it through to the Final 4 – where they would face each other as well as the USA's Kirby Chambliss and Canada's Pete McLeod.

In the climactic round, McLeod crumbled with penalties. Muroya played it safe for a conservative 58.630s and Chambliss was 0.971s behind him. Hall needed only to finish third to take the title, and with the world on his shoulders, the Australian coolly did just what he needed to do, flying a 1:00.052 for his long-awaited honour.

While he did not win the World Championship title, Muroya's season was still remarkable, winning three races to Hall's one, and clinching his third home win. ■

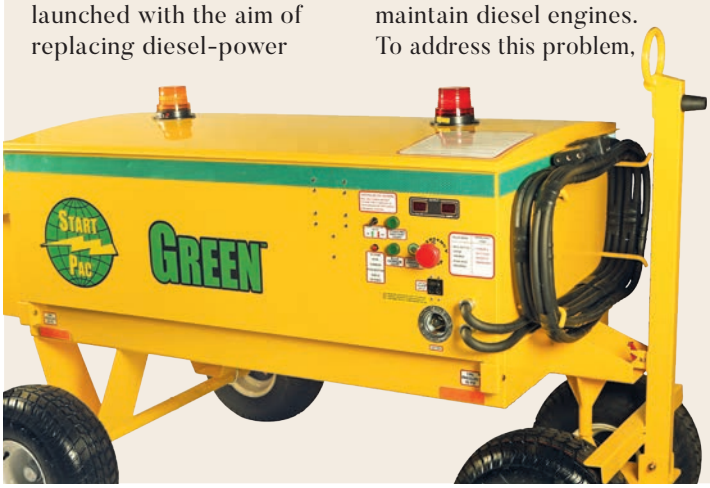
START PAC'S GREEN GROUND UNIT!

by **David Rawlings**

START PAC has designed and launched its Start Pack Green GPU, a battery-powered ground power unit to replace older diesel- and gas-powered ones.

The new unit has been launched with the aim of replacing diesel-power units, whilst providing a greener working environment as it is battery powered and does not require an engine for power.

Currently, most GPUs are powered with loud, environment polluting, expensive to run and maintain diesel engines. To address this problem, airports worldwide are requiring diesel- and gas-powered units to be replaced with battery powered electric models.



Start Pac claim this is the first of its kind and has been specifically designed to replace these old, polluting GPUs.

The Green has two battery banks, a larger battery bank for powering up the aircraft systems for extended periods of time and a smaller battery bank for engine starting, which can be removed from the ground power unit when a portable unit is required.

Pollution and emission standards are becoming stricter on traditional engines and therefore more airports worldwide are going "green" by replacing diesel- and gas-powered units with electric units.

Airports account for 10% of emissions in some urban areas and conventional fuel ground support equipment is the main source, even exceeding the emissions of aircraft. Start Pac also claim its Green GPU offers emission-free operations and consumes electricity with an efficiency of approximately 80%, while fuel-powered vehicles are typically limited to efficiency below 20%.

The total cost of operation for the new GPU (including recharging the battery bank) is about half the cost of operating an equivalent diesel-powered unit. ■

NEW AVIATION MINISTER TO CHAMPION GA

by **David Rawlings**

THE NEW Aviation Minister, Paul Maynard MP, has said the Department for transport (DfT) is "committed to championing aviation, including GA". A shot in the arm for General Aviation, Maynard said: "This department is considering a wide range of policy options... which will support GA."

He said he looked forward to making "rapid progress" on this agenda.

His comments came in a response to the All-Party Parliamentary Group on General Aviation (APPG-GA), in which they outlined their priorities for General Aviation policy in the short term.

In their letter, the APPG highlighted a five-point plan for General Aviation in the UK. The plan urged Government to take measures to improve airfield protection and to urgently undertake a programme of airspace reform. They also encouraged Government to look at increasing the regulatory flexibility for GA and lower the level of taxation which GA is subject to, especially on pilot training. Lastly, the APPG called on the Government

Paul Maynard MP is the new Aviation Minister

to expedite the process of creating GNSS approaches to GA airfields.

The new Aviation Minister also said that he recognised "the benefits to young people of piloting unmanned aircraft", pledging to look "closely" at policies to encourage the drone- and model-flying communities.

Sir Roger Gale MP, President of the APPG-GA, said "as a group of parliamentarians, we feel urgent policy decisions need to be made in these five key problem areas for General Aviation if the industry is to grow to its full potential.

We look forward to working with the new Secretary of State and new Aviation Minister to make these aspirations a reality in the coming months." ■

RAF PHOTO COMP

by **Lucy Field**

MORE THAN 1,000 still photos were entered into this year's RAF Photographic Competition and judging has just taken place. The best nine images were selected by industry professional judges and will now go head-to-head online to win the 'Peoples' Choice' category.

Nick Bunting, secretary general of the RAF Association, the charity that supports the RAF family, said: "Every one of the hundreds of entries reminds us of the skill, professionalism and sacrifice of our serving personnel, so we're thrilled to be supporting this competition."

This year's judges included freelance photographer Edmond Terakopian, Martin Keene from the Press Association and Jim Hedge, picture editor at The Guardian. ■

Simon Hall won the Amateur Military Category

ANOTHER RECORD YEAR FOR OSHKOSH

by **AOPA News Team**

IT HAS been another bumper year for EAA's annual AirVenture with attendance hitting 642,000 – up 6.8 per cent on 2018. "EAA members and aviation enthusiasts attended in large numbers, and stayed throughout the week. On July 22, we thanked Oshkosh residents for 50 years of support with free opening-day tickets, and more than 8,700 of them attended, which equates to 13 per cent of the city's population. Throughout the rest of the week, our efforts to create unique attractions and aviation highlights across the grounds were incredibly successful in creating only-in-Oshkosh moments," said EAA's CEO and Chairman, Jack Pelton.

Planning for 2020 has already begun – to take place on 20-26 July – Pelton said: "Planning is well underway for next year's event, including discussions about possible features." ■

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WORDS & IMAGES: David Hastings

ALL THE WAY ROUND THE USA

A short phone call and a quick question was all it took for David Hastings to change his plans, and stay on in the USA so he could go for the record of becoming one of the few pilots who have flown all the way round the USA

DAVID HASTINGS PPL HOLDER SINCE 1964 **COMPLETED NATIONAL SERVICE IN THE RAF** FLOWN OVER 29,000 MILES IN THE US

BACK WHEN I was planning my annual visit to the USA, David Patterson, my friend and wartime B-24 pilot who had allowed me to fly his superb C-337 Cessna Skymaster twin for several years, asked if I could extend my stay.

I asked "why?". He replied that he had always wanted to go for the record and fly all the way around his great country, but he had never done it, so was I willing to try it with him! I quickly said yes.

In early September we arrived at Pacific States Aviation on the regional airport of Concord in the Bay area at 0600hrs, to find Sarah (the Cessna's nickname) had already been pulled out of her hangar, cleaned, refuelled and oil checked. We were airborne at 0715hrs climbing north east, with the dawn turning the haze around Mt. Diablo into a glorious gold, while to port the fog still lay over San Francisco. We soon settled into our usual routine of check and double check and by 0830hrs we can see the foothills of the High Sierras.

INTO THE HIGH SIERRAS

At this height we were close to the imposing mountain peaks, but the air was still as smooth

What a view of Salt Lake! This is what our author saw on his way to Ogden

as silk and by 0930hrs we were talking to Reno, passing the Reno Stead airfield and home of the famous races on our port side.

Leaving Reno, we entered the wild part of the Rockies in Nevada, passing the VOR beacons at Battle Mountain, Lovelock and Wells on airway Victor 6, but this was not the place for a forced landing.

Then as we cleared the last ridge we entered Utah and enjoyed our first coffee of the day, as we then got a glimpse of the beautiful Salt Lake – its colours were amazing.

Somewhere in the haze ahead lay the airport at Ogden, where we were due to refuel, and a great causeway across the lake gave us a good heading to steer. 1050hrs and Salt Lake Center cleared us to start our descent, with Ogden on our nose and the Hill AFB out to starboard, and even further out was the massive Salt Lake International airport. Ogden has an airport elevation of 4,470ft and I was cleared to land, looking ahead at the 12,000ft peaks we would have to cross on our next leg.

We landed safely and taxied to the tower to be met by a great Flight Line service, who were waiting with the refueller, as well as a lunch ready for us in their crew room. This was service indeed. At 1330hrs we were taxying out. We were cleared to 9,500ft, which is the minimum height for entering this superb canyon on our way to the highest and most difficult part of our route, but what views to both port and starboard. The autumn is surely one of the prettiest times to fly in these great mountains. Leaving the canyon Salt Lake cleared us up to 11,500ft, the rough air began with a vengeance and we went on to oxygen. After the Green River we flew over the airport at Rock Springs, with its single long runway where we had landed in previous years, but with three-quarter full tanks and a 60kt tailwind we just kept going. We were then handed over to Denver Center, who cleared us to 13,500ft and at last at 1800hrs local we saw the end of the Sierras in sight at Laramie and the difficult part was behind us.

We landed at North Platte in Nebraska and taxied up to the FBO, who refuelled us and had booked us rooms at the nearby Holiday Inn. Within a few minutes the minibus arrived and we paused to admire the sunset, after a really superb full day's flying, across some of the world's most fantastic scenery. What a great day it had been. We had our usual thorough debrief over supper and then we turned in exhausted.

We were airborne next day at 0910hrs, being cleared to 5,500ft so we got a great view of the Platte River, before we flew over barren scenery as we crossed into the state of Iowa. Next we passed over Lincoln just south of Omaha, with its huge military airfield, and then the Missouri River at Shenendoah; and we had another perfect day for flying with a very happy crew. Then at 1140hrs we got our first sight of the huge Mississippi River.

By 1430hrs we were talking to the tower at the huge Dayton International Airport and back to mixing it with the big jets. Radar vectors slotted me easily on to the ILS with a Boeing 737 as our number two and this time David decided that he ought to do a landing, so I just relaxed and watched how the expert does a real greaser. At 1505hrs we were down and one third of the way. That

evening we were lucky as the 453rd Bomb Group of the 2nd Air Division USAAF, who were based at Old Buckenham, were holding a convention and we were invited to join them for dinner. General Andy Low and the famous "Moose" Allen made some great jokes after the meal, about the exploits of "these two old pilots who have just flown in from California", but as always it was really great to be with our 2nd Air Division friends and we enjoyed a very memorable evening.

THE SECOND LEG

The next morning the weather was awful. Start-up clearance was given at 1200hrs, and to our joy, our flight plan is approved despite the awful weather. We wer airborne at 1210hrs and our radar vectors took us straight towards the blackest cloud in the sky, so we tightened our harness and turned up the cockpit lighting, hoping that the Met was right about there being no embedded cu-nims. Dayton Center cleared us to 9,500ft and we had over two hours of solid instrument flying, occasionally breaking out into gaps in the clouds with a brief glimpse of the ground, before plunging back into the murk. Sarah was running well and we were not picking up any ice as we suddenly broke out of the tops of the cloud high above Virginia.

"At 1200hrs, and to our joy, our flight plan is approved despite the awful weather"

At last the lovely Blue Ridge Mountains were below as we cleared the clouds exactly as forecast, with a clear blue sky ahead, which made it a perfect afternoon for flying.

We soon flew over the massive Robins AFB just outside Macon and then Atlanta cleared us down to 3,000ft and we could see the tiny little airport at Moultrie in the Deep South. Moultrie is the home of Jim Reeves, one at the senior officers at the 2nd Air Division headquarters at Ketteringham Hall in the war, who had kindly offered to look after us. After our landing, Jim is waiting to greet us.

Instead of a hotel we were going to stay with Jim and his wife Edna at their home, and the southern hospitality was out of this world.

Next morning we were airborne at 0900hrs. Soon we were passing the Chattahoochee River at Eufaula and next we had the large city of Meridian; and then at 1100hrs we crossed the huge Mississippi River, glinting in the morning sunshine. At 1230hrs we were under the control of Fort Worth Center, being cleared down to 4,500ft and talking to the huge US Air Force base at Barksdale. We passed through their zone and began our descent to Shreveport, which has two

FROM TOP ANITCLOCKWISE: Leaving California; landing at Tucson; the Rockies and coming back to Concord

airports and we had chosen the Downtown one beside the Red River, as it was close to our nightstop at the Hilton.

For a few days we had become worried about hurricane Emily which was moving in from the Gulf, so we were back out to the airport very early the next morning and the Met assured us that if we left immediately we would get clear. So we filed our flight plan all the way to Tucson, do our preflight checks and then started up. Climbing out we were cleared by Fort Worth Center to 6,500ft in really smooth air, as we looked down on the quiet town of Shreveport; and we were now on the third and last leg of our trip round the USA, heading southwest across Texas to the Mexican border. Hurricane Emily was letting us go and we both just relaxed on another perfect morning.

As we approached Dallas we are cleared to 10,500ft and held there, despite informing the center that this put us in and out of the tops of the cumulus. Still they insisted that we remain at that height, so we enjoyed an hour of playing in the cloud tops.

"They insisted we remain at that height, so we enjoyed an hour playing in the cloud tops"

By 1145hrs the cloud had gone and we were over the Texas oilfields, heading towards the Mexican border. Now we could see El Paso, and the most southern part of our route. Clearing the town and its huge airport, we passed the famous Twin Peaks before turning northwest on airway Victor 16. As we approached the High Sierras we admired the lovely cloud patterns being traced on the barren ground with dry lakes below, but we could see for miles and miles. At 1500hrs as we passed over the last ridge, we saw Tucson in the distance, with the huge Davis-Monthan aircraft boneyard over to starboard, quite an amazing sight.

THE FINAL LEG HOME

Start-up and taxi clearance were at 1715hrs. The weather was just unbelievable, the air was silky smooth and we could see for miles, so we just sat back, relaxed and enjoyed the stunning mountain scenery in this "other world" while Sarah did all the work.

We crossed the mighty Colorado River and realised we were back in California. Below us was some of the most breathtaking mountain scenery I have ever flown over. We were now under the control of Los Angeles Center and confirmed that we would be landing at Palm Springs.

Next day we wanted to get away before the heat of the desert made flying unbearable. Soon airborne, we were climbing at full power. We called Edwards Air Force Base for clearance to overfly the 18-mile-long shuttle runway and it was given. Finally we left the High Sierras at Bakersfield and were back once more in the fertile plains of California, flying just above the broken cumulus clouds. What a way to end this wonderful journey.

We could then see Mt. Diablo ahead and realised we had just 200 miles to go.

Oakland asked for a high-speed descent at 200mph to 4,500ft, for sequencing in with the busy Bay area traffic and we slid past Mt. Diablo to starboard, changing to Concord Tower, who gave us a very warm welcome and congratulations, as well as a straight-in approach. At 1130hrs I landed smoothly and we were both very sad to think that our great adventure of flying "All the Way Round the USA" was over. Back on the chocks, and neither of us could believe that we had completed 9,500 miles in just over a week; it was 42 hours flying in some of the most stunning scenery I have ever seen – certainly a trip I will never forget. ■

BELOW ANTICLOCKWISE: XB70 at the Wright Patterson USAF museum; Dayton International Airport and Palm Springs

A world-conquering British classic

WORDS David Rawlings **IMAGES** Britten-Norman

The Britten-Norman Islander has been in the skies for more than 50 years. Here CEO William Hynett OBE talks to AOPA UK about why the aircraft is the quintessential British success story

BRITTEN-NORMAN is a British success story. It began life in 1954 surrounded by other aircraft manufacturers. It went up against the big boys and now prevails, as the sole independent commercial aircraft producer in the UK.

The company has worked hard over the years to ensure production has been continuous and the Islander, which first flew in 1965, is a prime example of 'if it ain't broke, don't fix it'.

A BRIEF HISTORY

The company was started by John Britten and Desmond Norman, both de Havilland trained, who started developing crop-spraying equipment using Tiger Moths that they had modified.

Britten and Norman made a detailed analysis of the aviation market and decided there was demand for a twin-engined utility aircraft with the minimum of complex systems that could operate from short, rough airstrips and also be used for high-density commuter flights. This brief developed into the BN-2 Islander, which began life in 1965 and still flies today.

"British Aircraft manufacturing is a pretty empty field, but we're happy to play our part in trying to fill it," said William Hynett OBE and CEO of Britten-Norman.

Britten-Norman has survived because it's been very wise

in its manufacturing and its business model. “We’re now 54 years in [production of the Islander] and we’ve built a number in that time – not lots by American standards, but by British standards we have a very successful product. We’ve built just coming up to 1,300 aircraft. And I think what makes us unique is that we have continued to manufacture throughout that period,” he explains.

The company purposely manufactures low volumes. Its target output is one aircraft per quarter, but should the need arise the company is able to gear up production rates..

Between the first flight of the Islander and today, Britten-Norman had several other designs made including the Nymph, a four-seater touring aircraft to compete with established types such as the Cessna 172 and Piper Cherokee. A single prototype of the BN-3 Nymph was built and flown in 1969, but failed to attract significant orders.

Following the failure of the Nymph, Britten-Norman continued to develop and improve the Islander design, which was enjoying great success. This culminated in 1970 with the Trislander, a trimotor version with greater range and capacity. In 1975 Britten-Norman won the Queen's Award to Industry for technological innovation for the Trislander. There was also a point in the 1960s when the company was involved in the development of hovercraft; its machine, the CC1, was the world's second ever hovercraft. However, the Islander is where Britten-Norman has had the most success.

WHY SO POPULAR?

The company is close to having its 1,300th Islander roll off the production line

"By British standards we have a very successful product. We have built just coming up to 1,300 aircraft"

and it seems as if there is no slowing down soon. So why is this 50-year-old aircraft still so popular? “It’s the simplicity of design,” said Hynett. “It was originally built as a rugged utility vehicle. It was intended for the African bush, and had to be easily maintainable. It was designed to be simple to manufacture and simple to maintain. Our operators tend to be in very remote, challenging locations so having a workhorse that you can effectively fix yourself, makes sense."

The Islander is at its best operating out of places with hard landing terrain, and strong winds. “It’s built like the proverbial outhouse and as a result it copes with those conditions amazingly well.”

Hynett is also aware of where the Islander is not so competitive. “Where we don’t fare so well is in, what I’d call, first world operations – big airports with long runways

In the 54 years the Islander has been flying, almost 1,300 have been built – small numbers by American manufacturing standards, but a huge number for a British manufacturer

The Islander is instantly recognisable and much-loved around the world

The Channel Islands Air Search takes delivery of its brand new Islander

aren't so relevant to us, but put us into a beach or a dirt strip in the middle of nowhere and we're in our element," he explained.

MOST COMMON USAGE

The Islander is a utility aircraft that is available in many forms including search and rescue, and as an air ambulance, but despite those capabilities, it's not the most common use. "The most requested version is the commuter/cargo interior. This is the bedrock of our operations. But the attributes that make the aircraft successful for the commuter/cargo role also make it successful for several other mission roles, including search and rescue," added Hynett.

Aside from the Islander there is also the Defender. The Defender is another classic as it has been flying for close to 50 years. The Defender has military applications. It is based on the Islander, but benefits from a larger airframe with four underwing hardpoints for pylons to attach 2,500lbs of fuel tanks, bombs, missiles, 0.3-inch machine-gun pods, rocket pods, flares, sensors and other stores.

"The most requested version is the commuter/cargo interior. This is the bedrock of our operations"

The BN-2B (piston version) and BN-2T (turbine version) are used in military, coastguard, and police operations in several countries.

SEARCH AND RESCUE

The latest version to roll off Britten-Norman's production line is a bespoke search and rescue aircraft for the volunteer-led Channel Islands Air Search (CIAS). Under Britten-Norman's EASA Part 21 Approval, the company partnered with CIAS to create a bespoke aircraft design to meet the exact needs of the 24-hour rapid response service. The Islander's safe and low-speed handling, coupled with its capacity to hold equipment, make it a great flight profile for search and rescue operations.

The aircraft needed to meet the exact needs of the 24-hour rapid response service. "The customer wanted to have the latest search and rescue equipment installed but whilst sticking to a tight budget, as they are a charity. The challenge for Britten-Norman was to be as sensitive as we could be when we were mission-fitting the aircraft."

The new aircraft is fitted with the latest role-specific equipment to enhance CIAS' capability. A new modification has incorporated both an electro-optical/infrared sensor and a marine radar in the nose of the aircraft. The multisensor Wescam MX-10 feeds live information to two operator consoles to

The Islander is the quintessential British aircraft. It's hard working, resilient, robust and can be flown into anywhere – testament to the design of the aircraft is that it's still in production

display data in real time. As with all new Britten-Norman Islanders, the aircraft is also equipped with a Garmin G600 TXi touchscreen foundation flight cockpit which incorporates electronic instrument displays and the multifunction GTN series nav/com/GPS.

The equipment is perfect for searches. The team can achieve daytime, low-light thermal imaging and can help identify stricken vessels, but when coupled with the mission management system they can use CarteNav mapping. That allows the team to locate any vessel in the sea and overlay the mapping over the top, which considerably increases their capability.

CIAS is also looking at adding more functions with a piece of equipment that will allow them to do a lot more with mobile phone tracking. "Even if the phone dies or doesn't have coverage, the team will still be able to track it, which is very useful if there is an incident," explained Lara Harrison, Britten-Norman's Head of Business Development, who has been working closely with CIAS.

"We take whatever technology the customer has identified and integrate it with the aircraft"

HOW BRITTEN-NORMAN IS DIFFERENT

Britten-Norman prides itself on the fact that the point of sale is only the beginning of the relationship. "Britten-Norman try to do what another OEM might not; we take whatever technology the customer has identified and integrate it with the aircraft. We guide customers and offer advice about how to get the most out of our aircraft. We then have a dedicated Customer Support team to support our operators around the world," said Harrison. "We are an aircraft manufacturer, but a considerable amount of our business is also around designing, modifying and upgrading older aircraft. We offer new capabilities to a client's existing aircraft. For example, with CIAS we will continue to partner with them by exploring different technology that could be integrated to keep the charity at the forefront of search and rescue capability. The reason the Islander is so popular in that sort of role is that it's unpressurised and therefore, easy to modify."

Testament to the Islander is that there are still a lot of older Islanders flying. Back in the 1970s, Britten-Norman was building around 100 aircraft a year and many of the aircraft are still operating today.

"Most other manufacturers outsource the relationship to a third-party provider, whereas we have an opposite model; we want to stay in direct contact with the customer. We do this through the range of services we offer, including pilot training, maintenance training and mission-type operation training."

After 54 years of constant manufacturing and around 160 employees in four countries, operating in more than 100 countries, the Islander doesn't look to be leaving our skies soon. ■

TECH SPEC BRITTEN-NORMAN ISLANDER

GENERAL
Crew: 1 or 2
Capacity: up to 9 passengers
Length: 35 ft 8 in (10.86 m)
Wingspan: 49 ft (14.94 m)
Height: 13 ft 9 in (4.18 m)
Wing area: 325 ft² (30.2 m²)
Aspect ratio: 7.39

Empty weight: 3,675 lb (1,667 kg)
Loaded weight: Up to 6,600 lb
Max. take-off weight: 6,600 lb
Powerplant: 2 × Lycoming O-540-E4C5

PERFORMANCE
Maximum speed: 170 mph (147 knots)
Cruise speed: 160 mph (139 knots)

Stall speed: 40 mph (35 knots)
Minimum controllable speed: 45 mph (39 knots)
Range: 874 miles (756 nm, 1,400 km)
Service ceiling: 13,200 ft (4,024 m)
Rate of climb: 970 ft/min (295 m/min)
Take-off run: 215 m
Consumption: 90 litres per hour at 133kt

The Islander has moved with the times. It now has state-of-the-art instruments


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KEEPING YOUR LICENCE CURRENT

Nick Wilcock guides you around the latest issues involving your PPL and how to ensure that you stay within the law. You don't want to get caught out

NICK WILCOCK BOARD DIRECTOR IAOPA FCL REPRESENTATIVE AT EASA **FORMER RAF PILOT**

NICK WILCOCK is the Vice Chairman of the AOPA Training Committee, a Master Air Pilot and Liveryman of The Honourable Company of Air Pilots, formerly the Guild of Air Pilots and Air Navigators (GAPAN), and has for many years been a member of the Guild's Education and Training Committee. He is also Chairman of the NPPL Policy and Steering Committee and represents IAOPA at the EASA FCL Partnership Group.

After leaving the RAF in 2003, Nick became a part-time self-employed aviation consultant, working primarily as an air-to-air refuelling subject matter expert on the Airbus A310MRTT mission computer system and associated ground training systems.

After 40 years and almost 10,000 hours of flying, in 2008 Nick decided to take a rest from flight instruction and instead to devote his efforts towards guiding AOPA members through the stultifying and often bewildering legislation emanating from EASA. Having held instrument flying qualifications continuously since 1971, he is a staunch advocate of the UK IMC rating and works with other aviation organisations, as well as the CAA, in attempting to ensure that current levels of safety enjoyed by UK pilots will continue to be available into the future.

These qualifications make Nick the perfect author to tell you about the latest changes from CAA and EASA and to ensure that you remain in the sky legally. If you need more information it can always be found on AOPA's website ...

PILOT MEDICAL DECLARATIONS

The introduction of the Pilot Medical Declaration scheme has, it seems, taken some pilots by surprise as they are amazed that our friends at Gatwick have come up with such a straightforward system.

If you are content to use your UK-issued Part-FCL or 'old style' national UK pilot licence purely for private flights in G-registered aircraft under VFR in UK airspace with no more than four PoB, then you may do so if you make a straightforward declaration to the CAA. But you are declaring that you have

The medical declaration is essential if you wish to keep flying

determined that you are sufficiently fit to meet normal DVLA driving standards for a private car, so it is up to you to ensure that you don't put yourself or any passengers at risk. You don't need to have one of those "You're overweight, drink too much, smoke too much and your blood pressure is too high – now fill this little bottle" sessions with a doctor and prove that you can read AECONHTL off row 6 of the eye chart; the ball is firmly in your court, but remember that penalties may apply for false statements!

Can you submit a PMD if you've lost your Class 2 or LAPL medical? Yes you can, believe it or not. There are some more restrictions if you wish to fly aircraft of 2,000-5,700kg MTOM, but below 2,000kg MTOM the only restriction is that you must not be taking prescribed medication for any psychiatric illness. That's it! But remember: 'A person must not act as the member of the flight crew of an aircraft registered in the UK if they know or suspect their physical or mental condition renders them temporarily or permanently unfit to perform such functions or to act in such capacity, including unfitness'.

At the time of writing, the CAA website is a little out of date with regard to the use of a PMD when flying an EASA aircraft, such as a PA-28. The document which extends use of PMDs for this purpose is ORS4 No. 1283 which is valid until 8 Apr 2020 unless 'varied, suspended or revoked'. Please note that, where the document states 'Licence holders must have previously made a medical declaration in accordance with Article 163(3) of the Order which remains valid and has not been withdrawn', that is simply legalese which means that you must have made a PMD before you actually fly within the terms of the document.

"the CAA is a little out of date with regard to the use of a PMD when flying an EASA aircraft"

There's no reason to think you're flying has come to a halt after losing your medical

So how do you make a PMD? It's very simple – first, view the CAA web page 'medical requirements for private pilots' and read the section titled 'Self-declaring your medical fitness using the Pilot Medical Declaration'. Then follow the link at https://apply.caa.co.uk/CAAPortal/terms-and-conditions.htm?formCode=PMD . You will get an automatic response from the CAA; print out a copy and keep it with your licence, so that if necessary you can prove that you have made your declaration. If you are under 70, the PMD is valid until your 70th birthday; thereafter it is valid for three years.

The CAA is quite happy with the PMD system, which has been working well for quite some time now. So if you thought that your flying had come to a halt after losing your medical, take a look at ORS4 No.1283 and perhaps think about making a declaration? ■

PPL SEP/TMG CLASS RATING REVALIDATION

IT SEEMS that there are still a number of PPL holders who do not understand the requirements for revalidating their Class Rating privileges. So perhaps a reminder might be in order.

Firstly, 'revalidation' is the process by which the validity of existing privileges is extended, whereas 'renewal' is the process by which lapsed privileges are regained, which may only be achieved through a Proficiency Check with an examiner. A Proficiency Check may also be used for revalidation, but most pilots prefer to revalidate through 'experience' and refresher flying. Originally EASA required that the dual refresher training for revalidation by experience required a training flight of at least an hour. IAOPA lobbied for this to be changed to a total of one hour, completed over as many flights as required, as we considered that spreading the refresher training throughout the second year of validity might help many pilots to maintain proficiency, particularly at clubs with restrictive recency requirements. EASA accepted this and took it forward; meanwhile the UK adopted an Alternative Means of Compliance, which permitted the training to be conducted within three flights, all of which had to be with the same instructor. However, EASA's regulatory change eventually appeared in European Union Law and is rather more flexible than the UK AltMoC. So the AltMoC was revoked in July 2018 – see http://bit.ly/2masb3Y. This means that the old 'three flights with the same instructor' is no longer mandatory. The wording of FCL.740.A(b)(1)(ii) of the Aircrew Regulation states:

'For revalidation of single-pilot single-engine piston aeroplane class ratings or TMG class ratings the applicant shall:

(ii) within the 12 months preceding the expiry date of the rating, complete 12 hours of flight time in the relevant class, including:

- 6 hours as PIC,
- 12 take-offs and 12 landings, and
- refresher training of at least one hour of total flight time with a flight instructor (FI) or a class rating instructor (CRI). Applicants shall be exempted from this refresher training if they have passed a class or type rating proficiency check, skill test or assessment of competence in any other class or type of aeroplane.'

If you hold both SEP and TMG Class Ratings, you may complete the revalidation requirements in either class or a combination thereof and achieve revalidation of both ratings. The instructor(s) with whom you receive refresher training is obliged under the terms of AMC1 FCL.050(i)(10) to sign the 'remarks' column of your log book accordingly; if you have completed all other revalidation requirements and the instructor holds FCL.945 privileges, he/she is required to sign your Certificate of Revalidation upon completion of refresher training. Otherwise an authorised Flight Examiner may sign. However, if you hold a Part-FCL licence issued by another EASA Member State then only a Flight Examiner of that Member State may sign your Certificate of Revalidation, if revalidation has been achieved by experience. Alternatively, a UK Flight Examiner may sign if revalidation has been achieved by Proficiency Check, provided that the specfic requirements of the State of Licence Issue as described in the EASA Examiner Differences Document are also met.

It's easy to forget the requirements to keep your Class Rating privileges valid

"The AOPA Training and Education Committee has written a paper on the subject, which has been forwarded to the CAA"

But what should be included in the scope of the refresher training? Remember that this is NOT a 'pass/fail' test, it is intended to help you maintain or improve your flying skills. The content of any refresher flight should be discussed with the instructor beforehand, so that the flight will include any items which you feel will be of particular help. To help you to decide, the AOPA Training and Education Committee has written a paper on the subject, which has been forwarded to the CAA for comment. We anticipate that it may appear in a future edition of Training Com, as well as in a future edition of this magazine. Meanwhile, think about the items which would give you the most benefit, ask your friendly instructor(s) to discuss and include any CAA 'flavours of the month', but above all enjoy the opportunities that refresher training should provide for you. ■

KEEPING CONTROL OF YOUR OPERATIONS

It can be hard keeping track of aircraft if you run a school or own a fleet. Henry Simpson has a look at CouldBase GA to see if it can help

Product CloudBaseGA
Maker CloudBaseGA

HAVE YOU ever returned from a cross-country to find the clubhouse deserted and the aircraft log misplaced? Or perhaps there have been discrepancies in the times? These circumstances may be familiar to many pilots but become even more complex when dealing with the operations of a flying school. CloudBase GA is an online application for usage by flying schools, clubs and groups to record and manage data for aircraft operations.

The system is based around an AutoLog – a small box that is installed in an aircraft and connected to the master power bus. The system uses GPS data to record the times for brakes off, take-off and landing whilst brakes on is determined as when the master power is switched off. The AutoLog automatically establishes a GPS fix and connects to a mobile network once master power has been switched on, with no pilot interaction required. Once master power is switched off, the recorded information is transmitted by mobile network to CloudBaseGA's base station. A returning signal confirms receipt of data, automatically switching off the AutoLog. If a mobile connection is not available, the flight data is retained by the AutoLog until a connection is available when the aircraft is next powered up. The system also accounts for flights with multiple take-offs and landings (circuits), ensuring that it produces a single flight record from first take-off to the last landing. In addition, short-term power interruptions such as alternator recycling are ignored.

The installation of the box and its GPS/GSM antenna are covered by EASA CS-STAN regulations relating to the installation of "Lightweight Flight Logging Equipment" and "Antennas", with CloudBaseGA providing all the necessary paperwork to customers. For those with non-EASA aircraft the installation is the same and covered by the relevant body.

Once the information from the flight has been transmitted to the server, it is uploaded to CloudBaseGA's online portal. Here the total flight log is available to access using the customer's unique log-in details. It is on the online portal that the system's value becomes clear – the software contains a variety of built-in functions for flying schools, clubs and groups. It contains an invoice system that generates invoices for a particular flight, with the option of charging from brakes off to brakes on or from take-off to landing. The system will also track an individual aircraft's flight hours meaning that in-system warnings can be generated for when a service will soon be due.

In terms of maintenance the system also generates an online tech log, again automatically filled out for each aircraft (aside from the pilot's details). The system comes in two forms: a simpler version for flying clubs and groups, and a more complex system for flying schools that includes the generation of training logs for student records. The ability to generate online student records makes tracking a student's progress simple

as well as acting to guide future training plans and monitor overall student achievement. In the flying-club version there is a handy aircraft booking system whilst for flying schools the system is expanded to include the booking of instructors.

The system administrators at the school or club provide log-in details to other pilots and can set privilege levels so only certain parts of the system can be accessed by members. As Chris Waldron, who is behind the system, states: "Everybody who needs access to the data, for an aircraft can be given it in a controlled way." This aspect of the system even extends to the ability to share an aircraft's data such as airframe, engine and propeller maintenance records, with third parties – for example – engineering organisations or an aircraft's owner (for leased aircraft).

The immediate advantage of the system is the removal of human errors in records and calculations. In addition, it also removes the need for paperwork at the club as it can be done from home or remote locations.

Having an online copy of the data also removes the potential issue of missing paperwork, although CAA surveyor approval of electronic records is on a case by case basis. Where hard-copy tech logs are maintained, the system aims to provide relevant parties with the information to reproduce their records with greater accuracy, reducing administrative work and in a form that is accessible.

The system was developed in conjunction with flying schools and this design approach is clear with a comprehensive set-up that enables schools to tailor the system to their needs.

When I trialled the system, I found the booking system very intuitive and well laid out. Similarly for maintenance planning, the number of hours to an aircraft's next check and the type of check required – 50 hours for example – is clearly displayed, with a red flag for an aircraft close to, or due, a service.

Another useful function is the noticeboard where members can post items for everybody to see, such as a planned fly-out. In addition, reported faults are visible in the tech log, where pilots who are about to fly the aircraft can view deferred defects. There is also a mass and balance calculator included in the system that can be set for each registered aircraft.

Overall this system has a lot to offer in making the GA community more organised whilst simultaneously saving in administration.

Currently the system is available at two levels of subscription. The first "low activity" is a fixed monthly fee of £12.50 and a cost of £1.50 per flight.

The second "high activity" is £25.00 per month and a charge of £0.75 per flight.

If an aircraft flies over 200 flights per annum the second option is cheaper. Typically a flying group would choose the low-activity option and a flying school the high-activity one. Users with multiple aircraft can choose the appropriate option for each aircraft. ■

Where cloudbasega.com
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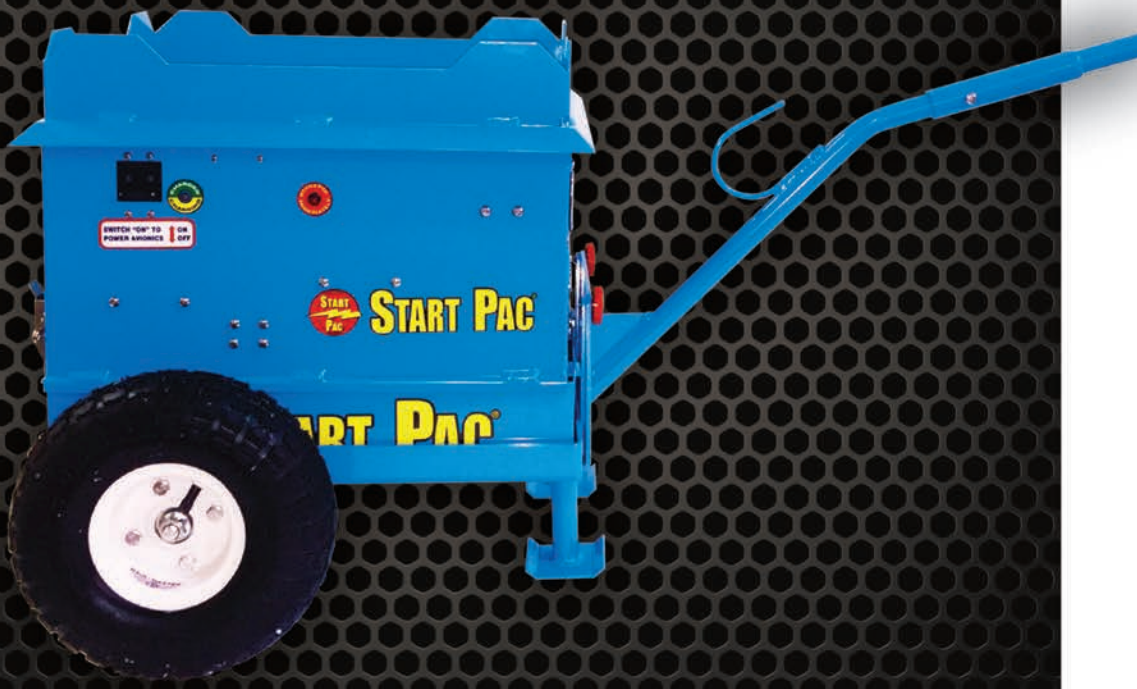

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