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

AOPA UK

February/March 2023

This issue we're looking for **YOUR HERO**
Check out p12 for more info

The Ultimate P2010

Tecnam's luxurious P2010 Gran Lusso is a real head-turner. AOPA's **Tom Horne** puts it through its paces

1,000 MILES PER HOUR CLUB

David Hastings relives his day in an Electric Lightning and joining an exclusive club

RECOVERING SUNKEN AIRCRAFT

The USS Lexington Aircraft Recovery Project is looking to recover historic WWII aircraft from the seabed of the Pacific

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THE SURVEY RESULTS ARE IN

FOLLOWING on from my last Chairman's message when I asked you, our membership, to respond to the AOPA Members Survey, I'm delighted to report that approximately one quarter of our membership took us up on the opportunity to give feedback on what you thought of AOPA, how it's working for you and what you valued about what we do. It also helped AOPA discover more about the profile of our membership. Only members were invited to participate and participation was totally anonymous.

What did we learn about our membership? As suspected the age demographic was mostly over 50 which reflects other similar organisations, for example the LAA. Of those who were under 40, most were students. It also confirmed our expectation that our membership is based predominantly in the South and South East with a large representation from eight airfields, although in total, respondents flew from about 130 different airfields.

In terms of licences and ratings held, most are PPL holders, although a significant number also hold commercial licences. Surprisingly, a small number had never had a licence, some had lapsed and a correspondingly small number held NPPLs or LAPLs. MEP ratings were popular, as were IRR/IMC ratings, Night Ratings and of those who held a CPL or ATPL FAA ratings the FAA IR was fairly common.

Overwhelmingly 80% of the respondents either owned a whole aircraft or were a member of a syndicate. We also asked how many hours you were flying annually. There was a marked difference between those who flew privately and those with advanced licences which included commercial or instructor flying. Typically, around 50% of the respondents flew 40 hours or less.

Whilst this information is a good baseline, more importantly we asked how you interacted with AOPA. Again, most read the magazine and used the website. Some had asked for AOPA's help and benefitted from member discounts. A small number attend the Members Working Group meetings and there are those, fortunately a small number, who have no interaction whatsoever.

Whilst not relaxing on any laurels, respondents thought that the knowledge AOPA has and its effectiveness were either good or outstanding although there were some who thought there was room for improvement. Opinions were also given on what AOPA should be concentrating on which have been taken away for consideration and action. We also asked what the top concerns about GA were and there were three main strands, airspace access, increasing regulatory complexity and the loss of airfields.

Thank you to everyone who took the time and effort to respond, it's been a valuable exercise for AOPA. The next step is to translate the results into actions along with the evolving strategy to map out activities and services to help AOPA grow and develop to better represent our membership. More on that at a later date. ■

Pauline Vahey
Chairman, AOPA UK
pauline@aopa.co.uk

AOPA UK

EDITOR
David Rawlings
editor@aopa.co.uk

ART EDITOR
Dan Payne
dan.payne@aopa.co.uk

CONTRIBUTORS
John Walker, Mike Powell, Tom Horne, David Hastings

PUBLISHED BY
AOPA UK
c/o 1 Jason Close,
Orsett, Grays,
Essex, RM16 3DY
+44 (0)20 7834 5631

ADVERTISING & SUBSCRIPTIONS
AOPA UK
c/o 1 Jason Close,
Orsett, Grays,
Essex, RM16 3DY

HEAD OF ADVERTISING
David Impey
+44 (0)7742 605338

PRINTING
Ruddocks
56 Great Northern Terrace,
Lincoln LN5 8HL
+44 (0)1522 529591
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Articles, photographs and news items from AOPA members and other readers are welcome. Please send to the Editor. Inclusion of material in AOPA Magazine cannot be guaranteed, however, and remains at the discretion of the Editor.
Material for consideration for the April issue should be received no later than 1st March 2023.

INSIDE THIS MONTH

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EDITOR'S COMMENT

IT'S GOOD TO BE BACK

After two years away from AOPA, I was pleased to discover upon my return that the board is still fighting the good fight for General Aviation as well as pilots and aircraft owners. The work that AOPA does behind the scenes is very admirable and I'm proud to be a part of the organisation again.

Personally, I feel that this first issue of 2023 has so much to offer you, the member. We have everything from David Hastings reliving one of his amazing flying adventures, Tom Horne flying the Gran Lusso – Tecnam's latest version of its P2010, and we have a feature looking how a project to recover at least four historically-important aircraft from the bottom of the Pacific Ocean. All three great reads taking on very different parts of aviation.

However, this is your magazine, so if there is anything you want to see featured in the next issue, don't hesitate to get in touch.

David Rawlings
Editor, AOPA Magazine UK
editor@aopa.co.uk

LIKE DEATH AND TAXES, AIRSPACE CHANGES ARE INEVITABLE

The DfT has announced that they have engaged a consulting company to study and review the potential benefits of SBAS to the entire transport sector. What could this mean for GA?

REAL POLITIK? Airspace, aerodromes and navigation systems such as GNSS/EGNOS form part of the critical infrastructure that is needed to support all aviation operations, including GA.

The DfT recently announced that they have engaged a consulting company to study and review the potential benefits of SBAS to the entire transport sector. AOPA has, along with other industry bodies, been invited to engage in this piece of work.

Had we retained our position in relation to EGNOS/Galileo then maybe this activity would be unnecessary and the conclusion at the end of the study could be a recommendation that the UK re-joins the EGNOS system, particularly if in doing so it represents good value for money to the British tax payer - only time will tell. In my honest opinion, given the millions of pounds this Government has wasted on projects such as OneWeb and the amount of stranded investment due to the withdrawal of EGNOS, this study may lead to a positive outcome.

Airspace changes are required to follow a process known as CAP1616. In a recent communication the CAA has announced its intention to review the CAP1616 process, the outcome of which, we hope, would be one which leads to a simplified and more cost efficient methodology. We also think this should include a review of CAP725, which is not proportionate and takes a long time to achieve an outcome. AOPA will be responding along these lines given the clunkiness of the current system.

The CAA have also been consulting on the Barnsley Regional airspace, however we can see no obvious wins. Given the number of infringement hot spots in the area we think there is merit in amending the Manchester LLC from D to G. Airspace continues to be a challenging subject and where airspace proposals often seek to enlarge controlled airspace, it's almost a futile task responding under CAP1616, commenting on the shape and size of CAS in order to trim a bit here or cut a bit there when all we really want is access. Therefore, the owners of CAS need to provide a service to all aircraft requiring access.

GA has and continues to invest in transponders and electronic conspicuity devices, making us visible to ATC and other traffic systems. And as CAS requires a controller to provide access through a clearance then a radio ie two way comms is also needed. Therefore, the CAA should, as part of this process, insist that the owners of CAS provide the necessary means to give GA access. If this means that they need another controller then so be it – that is the price they need to pay for removing Golf airspace. This may mean that applicants take time to really consider whether they need the airspace or not. We are aware that controller workload should not be increased but we need a new approach to managing the traffic in the lower airspace. The introduction of EC means that the lower airspace is becoming a known traffic environment. The use of radio provides the means for the controller to know the intent of the pilot. To improve the management of the lower airspace we need to understand the best way to use the information. This is going to get more complex when we introduce UAS into the mix and it beggars belief that AAM (unmanned air taxis) will carry fare paying passengers in Golf airspace without additional protection. EC is not, in itself, a collision avoidance system. There is also a relationship with capacity between the upper and lower airspace. Sticking to the existing ways of airspace management will hinder the modernisation process, and although new technology will help to drive the future, this will also require more procedures.

UNLEADED FUEL

The UK and Europe appear to be lagging behind the USA when it comes to the development and testing of unleaded, high-octane aviation fuel, following the recent announcement in the US where Congress has approved $10 million for testing and evaluation of unleaded high octane aviation fuels, stating that, "all sectors currently involved in the effort can qualify for funding." AOPA UK has been pushing the DfT/ CAA to start addressing this issue in the UK but it is clear that it is not yet a priority. According to AOPA US, President Joe Biden has signed the bill that funds the executive branch for the coming year on December 29 2022. "The bill also recognises the collaborative industry-government effort to move general aviation to a fleetwide drop-in, lead-free fuel solution no later than 2030."

CARBON NET ZERO

If you have been following the news then it will not have escaped your attention that the Government is pushing all sectors of industry to achieve Net Zero carbon emissions by 2050. Aviation is equally required to achieve this goal, but for domestic flights the date is 2040. We are still waiting to see the General Aviation Emissions report by Fraser Nash, commissioned by the DfT. The Government is likely to set some targets but we are unaware of what these may

"The UK and Europe appear to be lagging behind the USA when it comes to the development and testing of unleaded, high-octane aviation fuel"

look like or im what time frame such changes may be introduced. Whilst there is a lot of interest in electric aero engines, these too are way off into the future given the current battery technology.

COST-SHARING

The CAA is continuing to work on amending the current rules on cost sharing. Following an initial discussion, the CAA plans to bring forward what it considers to be a workable solution. A number of changes are being considered but there are some measures that we feel need re-evaluation, based on actual data. Rules that are not enforceable or even policeable cannot work. Most of what is in CAP2391 is not evidence-based and would be unacceptable as such in a court case. AOPA does not want to see hard law being introduced when it is not necessary. I say this because, if it becomes a legal requirement for a pilot to retain forms that passengers are required to complete prior to each flight, and subsequently if those forms are not available when requested by the CAA, then what would the penalty be? What breach will the pilot have committed? Would the CAA pursue the pilot for an illegal PT flight? It's these areas that we wish to discuss in more detail with the CAA. When Ryanair started offering seats at £1 many industry people claimed that they must be cutting corners and therefore impacting safety or breaking the rules etc., nobody can sell a seat for £1. Yet today, Ryanair is the largest of the European airlines and carries more passengers each year than any other European airline. In a meeting with the Irish Aviation Authority, Ryanair was challenged about their working practices and their response was that Ryanair never go beyond the law. Platforms such as Wingly offer positive benefits for GA and we know that many people have benefitted. The vast majority of the cost-sharing flights begin and end at the same location. The CAA would need to ban cost-sharing platforms like Wingly, but they are not in breach of the rules, in the same way that a car manufacturer is not responsible when a driver breaks the road speed limit. The CAA must collect the data that proves that a legal change is necessary. A risk-based proportionate approach should be adopted by the CAA who will need to produce a Regulatory Impact Assessment (RIA) as well. Cost-sharing has existed for eons and I have it on good authority from within the CAA that they are not planning to kill it off. Therefore we support an approach that is based on soft law, supported by guidance material (GM) underpinning a code of conduct.

AOPA has never supported illegal public transport flights and the tragic event involving the footballer (Sala) was an illegal public transport flight in a foreign registered aircraft. The organiser of the flight was found guilty and was given a custodial sentence following a successful investigation and prosecution by the CAA.

NET ZERO - AIRSPACE

The CAA has been working on new plans for modernising airspace to take account of the Government's objectives towards Net Zero and noise reduction, particularly around airports that serve commercial air transport. Changes to our airspace structures have the ability to alter the size and structure of controlled airspace which also affects the airspace around it. There is going to be a need for trade-offs and it's likely that the volume of class G airspace will continue to reduce. This is why we need a new approach to how access to all airspace is provided, especially where new technology enables traffic information. So, the drivers for change such as capacity and efficiency, whilst dealing with Net Zero, will be the real challenges for GA. The Government wants to see the airspace tackle emissions as a priority in planning terms above 4,000 feet, whilst below this height, noise reduction should be the primary consideration.

Whist we continue to support the Government's objects around the next generation of aviation professionals, and for the UK to be the best place in the world for General Aviation, there must be a lot more engagement that leads to a properly considered and costed plan... assuming these are genuine Government objectives!!! ■

Martin Robinson
CEO, AOPA UK
martin@aopa.co.uk

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Welcome to the UP FRONT section of the magazine. Bringing you help, advice, and other insights from the world of AOPA, in an honest and 'up front' way to help you stay flying. Something to say? Please contact us at ***editor@aopa.co.uk***

WORDS Mike Powell, Licensed Engineer & Member of AOPA Maintenance Working Group

NEW YEAR, NEW YOU, BETTER AIRCRAFT

Michael Powell looks into how you can better treat the love of your life

HERE WE are at the start of a new Year – time to promise each other that this year will be different, and better! Well, there is one way in which it can be both different and better while adding to your enjoyment with your feet off the ground.

This is the year when you could take greater interest in your flying machine – both on the ground and in the air. This will not only add to your pleasure as a pilot and aircraft owner, but it will also reduce your maintenance costs.

There is much that the owner/pilot can do before a costly Licensed Engineer has to be drafted in. Firstly, a thorough examination of the airframe looking for signs of incipient corrosion is a good start and could save expensive repairs if corrosion is allowed to take hold. Places to look include where aluminium skins overlap on wings and tailplanes, leading edge of propellors, flying wires and external turnbuckles (on vintage aircraft), terminations of struts and jury struts, engine mounts and so on. Corrosion may be spotted by, among other signs, bubbling of paint, thread-like corrosion under paint (filoform), and grayish residue around rivet heads (smoking rivets). Remedial action includes removing the corrosion, treating with a good etch-primer, followed by priming and finishing with an appropriate top coat.

Oil and filter changes are generally recommended to be carried out at 50hr or six-monthly intervals – but do you? Most aircraft engines have crankcase breather pipes to prevent the crankcase becoming pressurised and forcing oil past the piston rings. The breather also allows moist air to enter the crankcase and mix with the engine oil to form an emulsion which will damage the engine bearings and could result in an expensive engine strip-down.

An oil change starts with draining the old oil. If you are lucky, the sump will have a quick-drain fitting so all you need is a bucket to catch the old oil. If the sump still has a drain plug then you will have to remove the plug – be ready to catch the oil.

Spark plugs do not last for ever and a regular check may prevent an inconvenient rough-running engine at a remote airfield.

Lubrication is never wasted and going round the aircraft with an oil can on a monthly basis is time well spent. Pay particular attention to flap tracks, undercarriage torque links and wheel bearings. Lubrication of wheel bearings generally requires removal of the wheels and a strip-down of the bearings but is not difficult and could save a significant sum of money. When re-fitting the wheels make sure that the wheel nuts are properly torqued and new split pins used.

While around the undercarriage area, check that the brake calipers (disc brakes) are free to move as these are self-adjusting and if prevented from moving will reduce braking effort and may damage the discs.

In the cabin check that the seat adjustment rails are not worn beyond limits – usually indicated by an ovalling of the holes in the rails, which could allow the locking pins to slip out of the holes. This could allow the seat to head rearwards as the aircraft accelerates down the runway! The insurance claims following an accident when the pilot's seat (and pilot) headed for the back of the aircraft as it accelerated nearly bankrupted Cessna. ■

Visit AOPA .co.uk for even more **hints and tips**

There's plenty you can do to keep your aircraft flying, without having to visit a Licensed Engineer

WORDS AND IMAGES Mike Powell

WHAT YOU CAN AND CAN'T DO – WHEELS AND BRAKES

In the fifth episode of **Michael Powell's** series of what you can do to your aircraft, we look at the only bit that should touch the ground

THERE WAS an interim article in the last issue of AOPA – *More Pilot Maintenance* – but we are now returning to the main series, discussing the various maintenance actions which the pilot/owner may legally carry out. I should add a proviso at this point noting that the owner/pilot should only carry out those maintenance actions which he/she feels within their ability.

To begin with we will look at wheels and brakes. Both these items may be dealt with legally given some fairly basic tools but the aircraft will have to be jacked up to allow the wheels to be removed. Most aircraft have jacking points under the wings or on the undercarriage legs but you may have to borrow jacks from a helpful local engineer. Make sure that the jack is securely in place and the aircraft firmly chocked to prevent any movement. In most cases it will be possible to jack one side at a time. Nosewheels may be raised off the ground either by lowering the tail or by using an engine hoist attached to the engine lifting lug. Do not attempt any of this work without help.

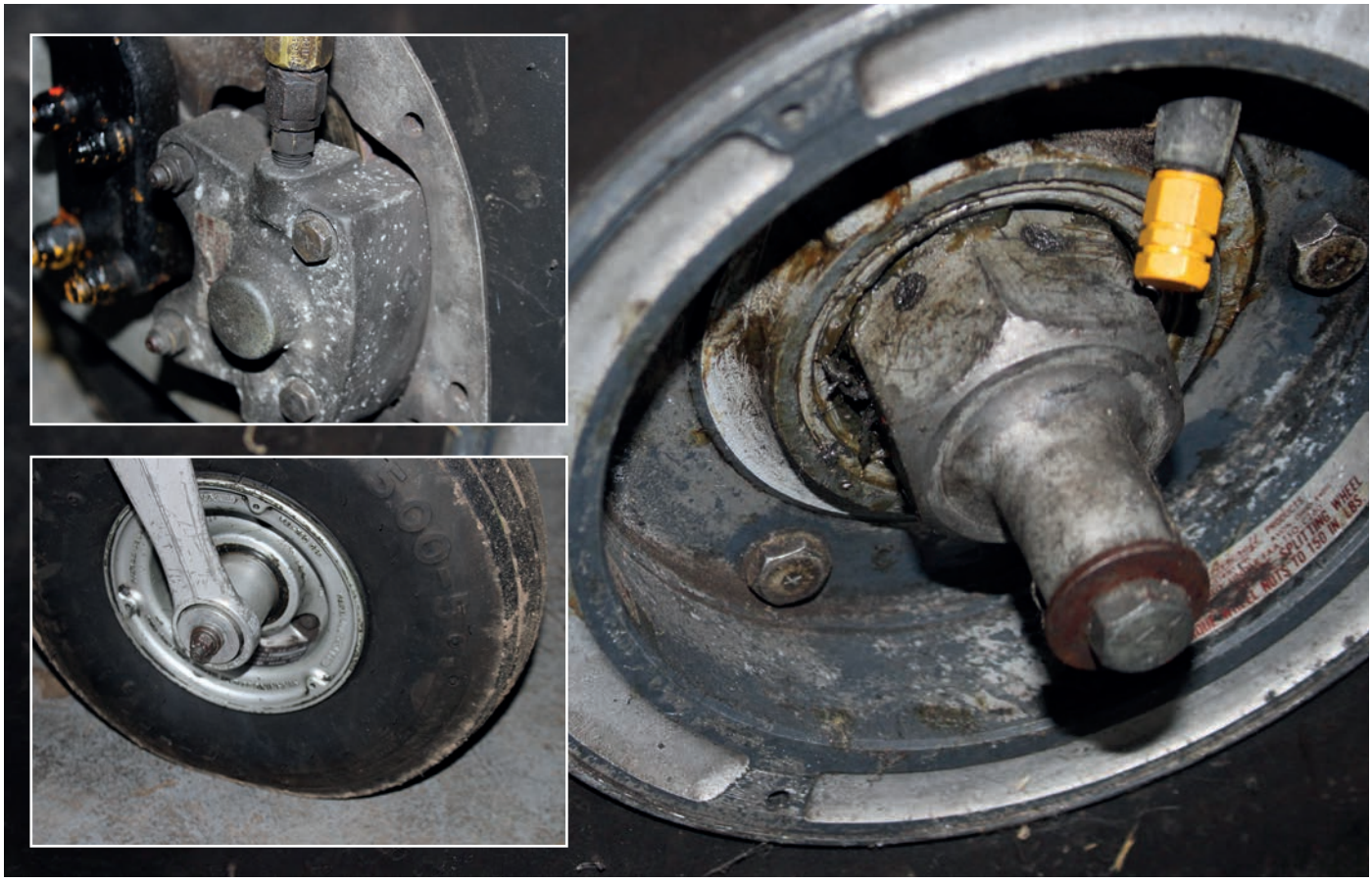
If no jacking point can be found then the aircraft may be raised one side at a time by placing a block of 2"x4" wood (around 18 inches long) under the main spar and in line with the main wheel, placing the jack at the mid-point of the block.

"The main undercarriage may have to be raised six or seven inches off the ground to allow torque links to fully extend"

The main undercarriage may have to be raised six or seven inches off the ground to allow torque links to fully extend or the undercarriage leg to extend sufficiently for the wheel to clear the ground.

Note that some microlight aircraft wheels are fitted with sealed bearings and therefore do not require maintenance.

If the aircraft has disc brakes then before the wheel is removed the brake calipers



Top Inset: The brake calipers will need removing (fig 1). Bottom insert: The nosewheel (fig 3) Main: Fig 2.

must be released. (Fig 1). It is not necessary to disconnect the hydraulic brake line. When the caliper bolts are removed then the inner brake shoe will part company with the caliper, which may then be removed (while still connected to the hydraulic line) allowing the wheel to be removed. Make sure that the brakes cannot be operated as this would force the pistons out of the calipers. Cable brake wheel-drums require the cable to be disconnected at the brake drum.

In most cases the wheel (Fig 2) nut is secured with a split-pin and this must be removed to allow the wheel nut to be undone. The wheel may then be removed complete from the stub axle and taken to a suitable work-bench for strip down and cleaning. In most cases the wheel bearings are held in place by a large circlip which may be removed using a pointed probe or small screwdriver. There will be an inner and outer bearing for each wheel. With the circlip removed the grease seal may be removed and the caged (outer) part of the bearing removed. Lay these parts out on the bench in order of removal so that you can see how they go back together. It is a good idea to do each complete bearing (inner and outer) in turn so that parts of the two bearings do not get mixed up.

All parts of the bearing should be thoroughly cleaned with a suitable parts washer available from motor factors (the use of Avgas is not advised due to flamibility and chemicals such as TEL). Using a 1" paint brush, assuring that all the old grease is removed from the caged bearing and other parts of the bearing. The inner shell of the bearing will remain in place in the wheel, but all old grease should be removed. Fresh grease is then pressed into the caged bearing by finger and thumb pressure ensuring that the grease fully fills the bearing. Grease is also applied to the other half of the bearing and the caged bearing placed in position. A layer of grease is applied to the outer part of the bearing and the grease seal and circlip replaced.

These actions are repeated for the other bearing and then the other wheel and nosewheel. The nosewheel (Fig 3) may be raised by bearing down on the tailplane (put something soft under the tailskid) or by using the engine lifting lug and an engine hoist.

While the wheels are off there is an opportunity to check brake linings for wear. Replacement linings may be obtained from LAS but you will also require the appropriate rivets, and you will need a riveting tool part no. W404 at £32 plus VAT.

Hydraulic brakes call for a regular check of fluid level (Fluid 41 from LAS). The fluid reservoir is either attached to each brake pedal (Cessna) or is a small 'can' attached to the front of the firewall (Piper and others). The Cessna reservoirs are hard to get at and it is important to stuff plenty of rags under the reservoir to catch any small items that would otherwise disappear below the floor never to be seen again! A small plastic syringe to 'inject' brake fluid into the reservoir is vital.

Replacement of the wheels is, not surprisingly, the reverse of removal. Push the wheel as far onto the stub axle as possible and tighten the nut finger-tight and then a further half a turn. Finally check that there is no play when rocking the wheel and tighten further if necessary. Fit a new split-pin.

In the next article we will look at oil, fuel and air filters. ■

WORDS David Rawlings
IMAGES Courtesy of Cirrus

OUR HERO

Calling all pilots, we need YOUR HERO! From this issue onwards we're introducing a new feature into Up Front that's focused on your best friend in the sky...

Tell us what's always your go-to aircraft and why? Give us a little bit of history and background as to why it's your favourite (around 50 words), and also some facts (4-6 is good) to explain why you love it and we'll do the rest. Don't forget to include your name and where you're from, on the email. Send Your Heroes to **editor@aopa.co.uk**

To get us started, were looking at the Cirrus SR22, which was an evolution in the PPL's choice of aircraft. ■

1

ENGINE

The SR22 comes with a Continential IO-550-N engine that produces 310hp bolted to a three-blade Hartzell prop.

2

AVIONICS

The Garmin-powered Cirrus Perspective displays connect the pilot visually and aurally with the information needed.

3

LUGGAGE

The latest version on the SR22 comes with a remote-unlock keyless baggage door and incorporates a deeper pocket.

4

SPEED

The SR22 boasts a Max Cruise Speed of 183Ktas with a max operating altitude of 17,500ft and a useful load of 1,328lbs.

5

INTERIOR

With comfortable, leather seats, the SR22 is a fantastic cruiser, and boasts technology to connect your devices.

6

RANGE

The SR22 has a maximum range of 1,169nm, which will easily get you from the UK to the far south of Italy.

7

TECH

Cirrus was an early adopter for the parachute system. Since first installed, the CAPS system has 'saved' 241 people.

WORDS David Rawlings

PENCIL IT IN... 2023 DIARY DATES

After more than two years of restrictions, the world is returning to some sort of normality. Here are some places to visit this year...

HERE IS a rundown of some of the major aviation events for the upcoming year.

WHAT: SUN 'N FUN
WHERE: LAKELAND, FLORIDA, USA
WHEN: 28 MAR–2 APR

Staring back in 1974 SUN 'n FUN has grown into one of the largest and most successful aviation events on earth. We are Florida's largest annual convention of any kind, and each year over 200,000 visitors flock to what has become known as "Aviation's Season Opener."
flysnf.org

WHAT: EASTER BUNNY FLY-IN AND EGG HUNT
WHERE: SHUTTLEWORTH, UK
WHEN 7-11 APRIL

Join like-minded pilots at Shuttleworth Collection and Gardens for this unique and lively event, suitable for children of all ages.

Follow the Easter bunny's helpers into Shuttleworth Gardens and find the eggs they left behind through the Swiss Garden. Once you have collected three Easter eggs, take them to our Discovery Hub and claim a chocolate surprise from the Easter bunny. Alternative gifts can be provided for those with dietary requirements.
shuttleworth.org

WHAT: AERO FRIEDRICHSHAFEN
WHERE: FRIEDRICHSHAFEN, GERMAN
WHEN: 19-23 APRIL

Considered Europe's largest Aviation Expo, the event is filled with the latest aircraft, avionics and everything to do with General Aviation. It also hosts plenty of conferences and there are more than 630 exhibitors from around the globe attending.
aero-expo.de

WHAT: PRIVATE FLYER FEST
WHERE: WYCOMBE AIR PARK, UK
WHEN: 19-20 MAY

Private Flyer Fest Leeds is a family-friendly showcase of the best that General Aviation has to offer, from microlights to turbine aircraft.

There is a second show taking place at East Leeds Airport on 7-8 July.
privateflyershow.com

WHAT: FRANCE AIR EXPO
WHERE: LYON BRON AIRPORT, FRANCE
WHEN: 1-3 JUNE

Discover over three days at Lyon-Bron Airport, the industry's latest developments and innovations in general and business aviation through the companies showcasing their latest products and services.
franceairexpo.com

WHAT: AERO EXPO UK
WHERE: SYWELL AERODROME, UK
WHEN: 8-10 JUNE

Aero Expo will be showcasing the best in General Aviation over three days at its new location of Sywell Aerodrome. Get up close and see the latest aircraft on the market and browse a wide range of related aviation products and services from the top suppliers.
aeroexpo.co.uk

WHAT: GUERNSEY AIR RALLY
WHERE: GUERNSEY AERO CLUB, GUERNSEY
WHEN: 9-11 JUNE

The Guernsey Aero Club welcomes You Magnificent Men (& Women) in Your Flying Machines to Guernsey for a fun weekend. This extremely popular event will follow a tried and trusted format providing entrants with a weekend of activity. The air rally is geared up to cope with the experienced and novice pilots and we welcome you all.
guernseyaeroclub.com

WHAT: PARIS AIR SHOW
WHERE: LE BOURGET, FRANCE
WHEN: 19-25 JUNE

This bi-annual show returns to Paris for the 2023 edition. With more than 140 aircraft on display and over 300,000 visitors it is one of the biggest aviation shows in Europe. Mainly aimed at business aircraft, this show still puts on a great air display each year.
siae.fr/en

WHAT: DUXFORD SUMMER AIR SHOW
WHERE: DUXFORD, UK
WHEN: 24-25 JUNE

Historic Duxford's Summer Air Show is an extremely popular event with pilots, spotters and anyone who just loves aircraft. And this year promises to be extra special as it is celebrating 50 years of air shows.
iwm.org.uk/airshows

WHAT: EAA AIRVENTURE OSHKOSH
WHERE: WITTMAN REGIONAL AIRPORT, OSHKOSH, USA
WHEN: 23-30 JULY

EAA's AirVenture is the world's biggest fly-in of the year. But for one week each summer, EAA members and aviation enthusiasts totalling more than 500,000 from 80 countries attend EAA AirVenture at Wittman Regional Airport in Oshkosh, Wisconsin.
The World's Greatest Aviation Celebration has it all when it comes to aircraft. Warbirds. Vintage. Homebuilts. Ultralights. Some you would normally find in a hangar at your local airport, others so unique they are one of their kind.
eaa.org/airventure

WHAT: DUXFORD BATTLE OF BRITAIN AIR SHOW
WHERE: DUXFORD, UK
WHEN: 16-17 SEPTEMBER

In the air, on the ground, and even in the clothes you wear! The Battle of Britain Air Show brings the 1940s to life. From vintage aviation and the stories of those who served at RAF Duxford, to living history groups and entertainment from the era. Duxford Battle of Britain Air Show is presented by IWM Duxford, the former RAF site that played a leading role in 20th century history - serving as a base for many of the Spitfire and Hurricane pilots during WWII.
iwm.org.uk/airshows

WORDS John Walker

THE LATEST NEWS ON UK AIRFIELDS

THERE ARE airfields across the UK currently under threat from developers and local councils.

DONCASTER SHEFFIELD

The aerodrome has been notified as being without any aviation related facilities with its associated airspace reverting to Class G. An application for a Judicial Review and an injunction against the aerodrome's closure was refused on 1 December 2022. An ACP application has been made to permanently delete the aerodrome and associated airspace from relevant documents.

DUNSFOLD

Planning application for mixed use development with 1,800 homes on site approved by Waverley Borough Council on 14 December 2016 but called in for a Public Inquiry the result of which was Central Government approval for the application on 29 March 2018. Protest groups appealed these decisions in the High Court but the Court rejected these challenges on 5 November 2018. The development has now been granted Government Garden Village status. A Supplementary Planning Document for the development was adopted by the Council on 22 February 2022.

FAIROAKS

Land owner of part of the site gave notices to vacate by February 2022 to some hangar and aerodrome building tenants which action did not affect the operation of the taxiways and runway which are in separate ownership. Public consultation ended on 9 May 2022 on Surrey Heath Borough Council's draft 2038 Local Plan Preferred Options document which states that the aerodrome is earmarked as a locally important employment site and notes its established use as an aerodrome.

HALFPENNY GREEN

In September 2018 South Staffordshire Council approved a Site Allocation Document expanding on the previously adopted Core Strategy within the Local Plan which states that the aerodrome is allocated and protected for employment purposes. A planning application for the construction by MCR Property Group, the site owner, of 112 homes on south-west corner of site and aerodrome improvements, including construction of 3 new hangars, was refused on 28 October 2022.

PANSHANGER

HE Developments has bought the aerodrome site from Mariposa Investments. A public consultation by Welwyn Hatfield Borough Council ends on 15 February 2023 on major modifications to the draft Local Plan which includes providing additional housing on the site precluding its use as an aerodrome. An outline planning application to re-open the aerodrome has been submitted. ■

AOPA INSTRUCTOR REFRESHER COURSES

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 Course and pass an assessment of competence.

NEXT DATES

The next dates for the course are

14-15 March 2023, 5-6 September 2023 and 21-22 November 2023

Approval has now been obtained from the CAA to run these courses using Zoom during the current pandemic. It is therefore imperative that any candidate is up to speed on using Zoom prior to commencing the course. Further information can be obtained from the Course Administrator, Mandy Nelson, on 020 7834 5631. Please book the course online at **www.aopa.co.uk**

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 courses start at 0930 and end at 1700 each day.

AOPA NEWS

The BBMF's Hurricane. Photo: John M Dibbs

PHOTO John M Dibbs

DRONE PILOT PLEADS GUILTY TO ENDANGERING BBMF

A man has been arrested and now charged with endangering an aircraft and operating an aircraft out of the visual line of sight

A DRONE pilot who could have caused a serious accident at a memorial flight in Buxton has pleaded guilty to endangering an aircraft.

The incident happened at the Buxton Carnival in July 2022, during a fly-past by the RAF's Battle of Britain Memorial Flight Hurricane.

At the time, the fly-past had been protected by a short-term airspace restriction which banned all other flying in the area, including drones.

Images captured on the day showed the drone flying dangerously close to the wing of the Hurricane, which was being watched by an estimated 20,000 people.

Officers worked to identify the drone operator, a 49-year-old man from Buxton, and his drone was seized as part of their investigation. Analysis showed it was flying over Buxton at the time of the fly-past.

Mark Bagguley of Fairfield, was arrested and subsequently charged with endangering an aircraft and operating an aircraft out of the visual line of sight.

"Anyone using a drone must follow the rules to make sure they fly safely"

He pleaded guilty to both charges before magistrates at Chesterfield Justice Centre and is set to appear again in February for sentencing.

Following the case, the CAA and police are reminding drone operators of the need to fly safely and legally. Matt Moore, Flight Safety Manager for the Derbyshire Constabulary drone team said: "The way the pilot flew his drone was unsafe, illegal and totally unacceptable. Anyone using a drone must follow the rules to make sure they fly safely. As a police drone unit, we know the benefits drones can bring to society but people using a drone in this way not only threaten the safety of aircraft and the public they also damage the future use of drones." ■

HYDROGEN RACE HEATS UP

TWO SUSTAINABLE aviation competitors are set to begin hydrogen-powered test flights of their twin turboprop regional airliners.

Competitors Universal Hydrogen and ZeroAvia are honing in on a sustainable aviation future fuelled by hydrogen-electric power.

UK-based ZeroAvia first hit the scene in 2018 and completed its first zero-emission flight of a six-seat aircraft. Since then, ZeroAvia has established itself as a major player in the industry thanks to partnerships and investments from major players like American Airlines and Shell.

Following successful ground testing, ZeroAvia secured a Part 21 permit from the CAA in December to fly its 19-seat Dornier 228, retrofitted with the company's prototype hydrogen-electric powertrain powering the propeller on the left wing. On the right wing was a Honeywell TPE 331 stock engine that the company says is used for: "appropriate redundancy to allow the safe testing of the novel propulsion technology."

ZeroAvia's founder and CEO Val Miftakhov said;

"The company expects to have a certifiable powertrain submitted by the end of 2023"

"Earning our full Part 21 permit to fly is a critical milestone as we develop a zero-emission aviation propulsion system that will be the most environmental and economical solution to the industry's climate impact."

The company expects to have a certifiable powertrain submitted by the end of 2023 and hopes to begin delivering powertrains for commercial use on nine- to 19-seat aircraft by 2025.

Universal Hydrogen, founded in 2020, also received an equity investment from American Airlines in 2022 and has big plans for its converted Dash 8-300 in 2023. The company confirmed that it had rescheduled its first flight for January.

Universal Hydrogen aims to produce hydrogen-powered iterations of the 50-seat Dash 8 aircraft and hopes to begin delivering converted 70-seat ATR 72 and ATR 42 twin turboprop aircraft in 2025. ■

ZeroAvia's hydrogen-powered Dornier 228

AIRFIX'S NEW SPITFIRE WILL BE MANUFACTURED IN UK

THE FAMOUS scale model company, Airfix, which has wowed children for many years, has announced it will be creating a new Supermarine Spitfire Mk.IXc model and it will be produced in the UK. Meaning that it will be the first kit manufactured by Airfix in the UK for more than ten years.

The 433-part 1:24 scale Super Kit will be manufactured in a factory on the UK's south coast. Carrying a retail price of £94.99, the premium aircraft model will measure 397mm (15.6in) in length with a 469mm (18.5in) wingspan and will be available in five design options.

Dale Luckhurst, Head of Brand at Airfix, said, "For various business rationale, Airfix models have been manufactured overseas since the mid-90s. However, when we decided to produce this new Spitfire, it felt right to move the production of the British icon back to the UK."

Airfix is offering anyone who purchases an Airfix Gift Set or Starter Set through the Airfix website, the option to be entered into a prize draw to win a once-in-a-lifetime flight in a Spitfire. ■

AOPA NEWS HIGHLIGHTS

- Over in the US, the FBI has arrested a man from Long Beach, California for repeatedly pointing a laser at numerous aircraft over the last year, to crack down on this crime.

- Breitling has launched a 747 watch in celebration of Boeing's legendary aircraft. It's limited to 747 pieces and has AOPA's logo representing its heritage as a pilots' watch.

- Blackpool airport has been nominated for a prestigious business award as one of the top six transformation projects in the country by Lancashire Business View.

CUBCRAFTERS ACQUIRES SUMMIT AIRCRAFT SKIS

In an attempt to better meet its customers needs, CubCrafters has invested heavily in the purchase of Summit Aircraft Skis, giving its back-country aircraft more landing options

CUBCRAFTERS, ONE of the leading manufacturers of backcountry aircraft, recently announced it has acquired Summit Aircraft Skis in a deal that includes assets, patents and intellectual property.

"We are very excited and pleased to welcome Summit's customers and products into our family here in Yakima," said Patrick Horgan, CubCrafters president and CEO. "It has been a joy for our team to work together with Mike Custard, Summit's founder, to coordinate a smooth ski manufacturing transition. Adding Summit Skis to the CubCrafters product line-up allows us to better meet our customers' needs and adds a new profit centre. We see great potential for growth with the Summit brand that we want to be a part of going forward."

According to Horgan, the acquisition of Summit Aircraft Skis "improves value for consumers," as the skis will be made available to all CubCrafters and competitor aircraft.

Custard stated that unlike other skis on the market, the company's product utilises a patented bolt-on attachment bracket that eliminates the need for welding the ski onto the landing gear.

"Our like-minded drive for high-quality innovation is one of the main reasons we chose CubCrafters as our successor," said Custard. "CubCrafters' leadership, its people, and facilities are all outstanding. The tooling and construction techniques are familiar to the CubCrafters' composites facility and staff."

"We see great potential for growth with the Summit brand that we want to be part of going forward"

Although the ski manufacturer is the newest acquisition of the popular backcountry aircraft manufacturer, Summit Aircraft Skis have been a long-time favourite of aircraft owners.

"I've been using Summits' skis for some time now and they have enabled me to adventure further afield and discover and land in new, fresh places," said Bob Breeden, an Alaska backcountry flying expert. "I really love these skis and I'm very pleased to hear that they will be in CubCrafters' capable hands going forward. I know the team there will keep the innovation going and will ensure the skis are supported in the future." ■

The Carbon Cub FX showing off its new footwear

11-BLADE PROP TAKES FLIGHT

GERMAN-BASED MT-Propeller performed the first test flight of its new 11-blade propeller installed on a Piper PA–31T1 powered by Pratt & Whitney PT6A-135 turbine engines. MT-Propeller holds more than 220 supplemental type certificates worldwide for certified and experimental aircraft, and manufactures OEM propeller systems for companies like Diamond, Pipistrel, Tecnam and Extra.

During the test, the company claims its 11-blade design showed a 15-percent increase in static thrust over the standard five-blade propeller and had an "impressive noise and sound signature."

The 11-blade system, when paired with a low-revolutions-per-minute powerplant like a turbine or electric engine, "opens new possibilities for performance, efficiency and noise," the company said in its statement.

The company offers two-blade to seven-blade hydraulically controlled variable-pitch propellers and two-blade to four-blade electrically controlled variable pitch propellers. In 2019, the company tested a nine-blade propeller design; however, neither the nine-blade nor the 11-blade propeller is offered for sale at this time. ■

MT-Propeller's impressive 11-bladed prop took to the skies

CARAVAN HITS NEW MILESTONE

CESSNA HAVE hit 3,000 sales of the Caravan with the latest sale of an Grand Caravan EX to a Brazilian company.

The 3,000th Caravan was delivered to Azul Conecta, based at the airport of Jundiai in São Paulo. Azul Conecta transports travellers from smaller cities and remote locations across Brazil.

The Caravan was launched in 1981 and designed for use in remote areas with extreme weather changes, mountainous terrain and rough landing conditions. The aircraft's versatility became renowned in all corners of the world, and the Caravan continues to see wide use.

Lannie O'Bannion, senior vice president of Sales and Flight Operations at Textron Aviation said: "The Caravan's versatility and reliability have made it popular in the utility turboprop category.

"This Grand Caravan will proudly fly the Brazilian skies and connect our 158 destinations, many of which are made possible by the aircraft," said Flavio Costa, chief technical officer of Azul and president of Azul Conecta. "As a longtime customer with a fleet of over 25 Cessnas, we are happy to be a part of this milestone." ■

NEILL LEARY 1934-2023

ON 2 JANAURY 2023 Sqn Ldr(Ret'd) Neill Leary, DFC, FRIN, former Membership Secretary of the RIN and member of the Air History SIG, passed away.

He was an RAF navigator from the early 1950s, flying Valettas out of Singapore during the Malaysian conflict from 1955, followed in 1958 by Beverleys at Abingdon, ultimately becoming responsible for all their navigators' professional standards. From the mid-'60s he flew on 99 Sqn Britannias, becoming Deputy Nav Leader, and from the early '70s was a Flight Commander on 36 Sqn Hercules, responsible for the standards of Special Forces crews. Amongst various MOD appointments, he went on to command No 1 Aeronautical Information Documents Unit (AIDU), with over 100 staff compiling and distributing aeronautical information to all MOD aviation assets and allies worldwide.

In 1958, Neill was awarded the DFC for his service in Malaysia; he also received the Queen Elizabeth II Silver Jubilee Medal in 1977.

On leaving the RAF in 1985, he joined the CAA.

He joined the RIN in 1992, becoming an active member of the General Aviation Navigation Group (GANG). Neill joined the staff, becoming the first Secretary to the European Union Group of Institutes of Navigation, and was responsible for administration of the European Radionavigation Plan.

Neill bought much expertise to the Institute as well as being very helpful and good company. The RIN would like to pass its condolences to his family, including his daughter, Heather, who also joined RIN's staff for a handful of years. ■

Outgoing CO Wg Cdr David Montenegro (l) congratulates his successor

RAF APPOINT NEW COMMANDING OFFICER

Commander Adam Collins has been given one of the most prestigious jobs in the RAF, as he is awarded the position of Commanding Officer of the Red Arrows

A NEW Officer Commanding of the Royal Air Force Aerobatic Team is carrying out his first full day in the position.

In the role, Wing Commander Adam Collins has responsibility for both the air and ground teams that deliver the Red Arrows' world-class displays, busy engagement programme and "soft" power capability.

He will command the 140-strong unit that includes RAF regular and reserve personnel, Civil Servants and contractors.

The former frontline Tornado pilot succeeds Wg Cdr David Montenegro, who completed his scheduled two-and-a-half year posting with the team in January.

The two officers have been carrying out a long-planned handover at the Red Arrows' home base, at RAF Waddington.

Wg Cdr Collins said: "I am delighted to have taken command of the Royal Air Force Aerobatic Team and honoured to be leading such a hard-working and talented team.

"We are all proud to represent the Royal Air Force and the United Kingdom and will continue to endeavour to inspire our audiences both at home and overseas.

He said becoming the Officer Commanding (OC) was an opportunity to continue to help inspire future aviators through the team's work.

Wg Cdr Collins said: "My interest in aviation was sparked from an early age when, as a child, I'd watch jets flying from RAF Valley near my grandparents' house in Anglesey. This is when I first focussed on becoming a fast-jet pilot and learned to fly with the Air Cadets when I was 17-years-old.

"It's very important we continue to harness that curiosity and encourage the next generation."

The Red Arrows are preparing for the 2023 display season, which is expected to begin in late-May, following their return from a successful tour to the Gulf supporting a range of UK interests.

"It's very important we continue to harness that curiosity and encourage the next generation"

Departing OC Wg Cdr Montenegro said: "I'd like to pay tribute to the current team, for their dedication and hard work – these are extremely talented people, found in every section and role in the Royal Air Force Aerobatic Team.

"From the impact of the pandemic to moving to a new base and two challenging overseas tours in consecutive seasons, the last two-and-a-half years have been full of unprecedented challenges.

"However, the team has never lost its focus to safely deliver displays and events. I wish Adam and the team the very best for the future." ■

BLADES DISPLAY TEAM TO CLOSE AFTER 17 YEARS

THE BLADES Display Team is to be desolved due to the current economic crisis.

In a statement by 2Excel Aviation – the parent company – it said: "With heavy hearts, 2Excel Aviation is announcing that 2022 was the final full season for The Blades Aerobatic Display Team.

"The decision has not been taken lightly. The Blades have been important and iconic for the business since 2Excel was founded. They debuted in 2006 and have been the one constant during the Company's expansion from just four aeroplanes and five people to the 30 aircraft and almost 500 employees the Group comprises today.

"While it will never feel like the right time to draw a line under this world-class team – the epitome of aerial excellence – the challenges to global economies, the worsening cost-of-living crisis and the protracted hit to disposable incomes this is causing have exacerbated the challenges facing The Blades.

"The decision has not been taken lightly. The Blades have been important"

"This comes amid the continued degradation of the air show circuit, with more and more events being lost, meaning fewer opportunities to display and showcase our sponsors to the public."

The statement went on to explain that the Blades employees are highly valued within 2Excel and it hopes to be able to redeploy them elsewhere within the business.

Andy Offer, 2Excel's co-founder and director, said: "During the 17 flying seasons the Blades delivered, millions of people saw the team display and thousands have ridden onboard our aircraft. We owe a debt of gratitude to every one of them. But, most importantly, we must pay tribute to the pilots who have flown with the team and to the ground staff who supported them over the years – especially to those who delivered the final season with The Blades' traditional professionalism and flair. They will be missed." ■

The Blades will no longer be performing

ALL YOUR NEWS ON THE MOVE

CHANGED YOUR EMAIL or recently set one up, please let us know via the AOPA UK website *(Membership, Change of Details)*, and keep up-to-date on all the latest news, guides, opinions, features and more

Update us now at www.aopa.co.uk

AOPA NEWS HIGHLIGHTS

- Nuncats, the Old Buckenham-based electric aircraft project, has carried out the successful first flight of its 'Electric Sky Jeep' based on a two-seat Zenith CH750 kit aircraft.

- Civil Air Support, the volunteer pilot charity, is flying photographic missions to show the extensive flooding across the country including the Midlands, Cumbria, and the far North.

- The UK drone industry has published its own 'White Paper' demanding a national integrated strategy for drone technology to be connected across land, sea and air.

BOOK INFO
Title: Experimental Test Pilot
Author: Chris Taylor
RRP: £30.00
Avaliable: 30th April 2023

TESTING MILITARY AIRCRAFT

Christ Taylor returns with his second book on his career as a test pilot in the Military

Chris Taylor has had a successful career as a Royal Navy officer, helicopter pilot, test pilot and instructor. His first book, Test Pilot, concentrates on anecdotes and incidents from the most recent phase of his career. This book is the prequel and is his account of his ten years' service as an experimental test pilot, from 1994 until 2004, at MoD Boscombe Down, the UK's tri-Service home of military aircraft testing and evaluation.

In this book, Chris explains what led to his passion to be a test pilot and how, with tenacity, he plays the cards he was dealt as well as he could. The story captures the difficulties and challenges associated with being selected for the single annual place at the Empire Test Pilots' School (ETPS) and the dedication required to then complete the very demanding course.

Chris was one of only three helicopter experimental test pilots posted to the Experimental Flying Squadron (EFS). It was there that he worked with scientists from the Defence Research Agency (DRA) at Bedford and Farnborough on a number of cutting-edge technologies,

"Chris was one of only three helicopter experimental test pilots posted to the EFS"

specialising in ship/helicopter interface testing. In addition to flying the Westland Wessex, Lynx and Sea King, Chris was able to act as an evaluation pilot in the Hunter, Jaguar, Andover, Hawker Siddeley HS748, and the Comet. During his time as an active test pilot, EFS was merged into three platform squadrons which gave Chris the chance to play a full part in conventional 'release to service' activities in a wide variety of rotorcraft.

Asked to take on the role of a Flight Test Instructor (FTI), Chris served at ETPS where he made sweeping changes to the syllabus, acquired a new helicopter type and had to deal with a number of students who could not cope with the rigours of the course. In his first year he suffered a 'flame out' in a Hawk jet, an engine failure during his first flight in the twin-engine Basset and crashed the school's Westland Scout helicopter– all of which are fully discussed.

Following four successful years teaching helicopter flight test, Chris was recruited to manage the ETPS short course portfolio. This required the design, sale and delivery of numerous flight test courses, while also introducing innovative teaching methods and the use of civil registered aircraft. In this new, exciting and rewarding role Chris taught both fixed wing and rotary wing students and the book explains the difficulties of learning the additional skills and flight test techniques required of a fixed wing test pilot. ■

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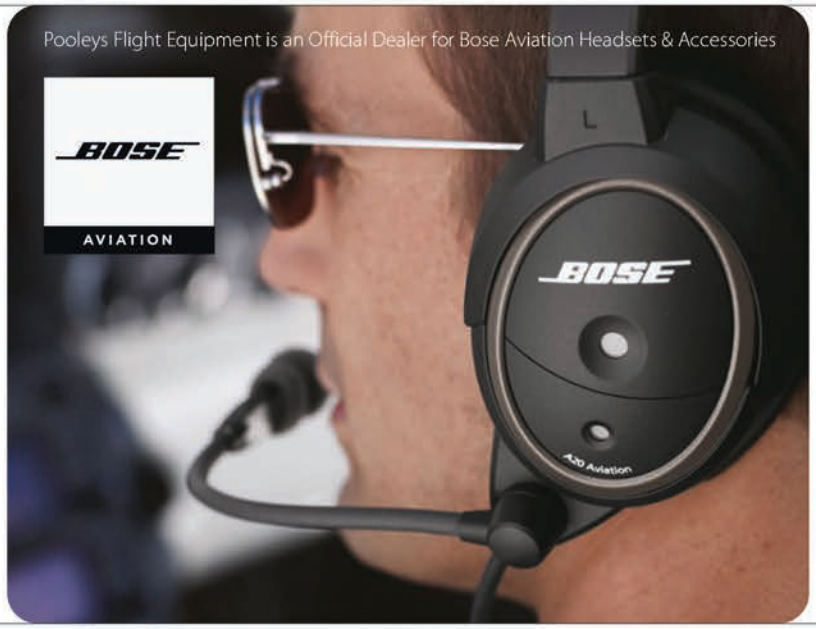

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WORDS David Hasting **IMAGES** Various

A 1,000 MPH CLUB MEMBER

David Hastings has been on many flying adventures... one of his favourite was joining the 1,000mph club in a Lightning at RAF Cotishall

IN MY log book there is an entry for 27th February 1968 which was unbelievable.

Unbeknown to me, my wife Jean had chatted with Group Captain Mike Hobson, the Station Commander at RAF Coltishall and they had arranged a birthday treat for me with a flight in the Mk4 two-seat version of the supersonic Lightning fighters that were based at Coltishall. I arrived thinking that this would be just a very exciting quick trip, had the medical, was kitted out with everything and then had a full briefing from a Flight Sergeant who obviously did not like the idea that this mere Royal

Observer Corps officer in the reserve was getting a flight. In his briefing he pointed out in great detail everything that would go wrong if I made a mistake and by the time he had finished, I was convinced that this was the day when I would have to eject. Then into Mike's office for the final briefing, when he announced that I was going to join the 1,000 Miles Per Hour Club. I would be the 999th member, as after Vivienne Whyer, the WRAF Air Traffic controller had become the 1,000th member, the club was closing, as by then people were flying Concorde. We were then all going to a great party in London at the weekend. Reheat take-offs were rationed because of the noise, but again Mike told me he had reserved one and we walked out to the Lightning T4 XM997 on the apron and I could not believe that this was happening.

The Lightning is a tight fit with the side-by-side seating, and Mike soon got me strapped into the right-hand seat. This included the check of "am I strapped to you?" check – vital to ensure we avoided our leg restraints becoming linked, a very painful ejection. I remember thinking that, with my long legs, if I did eject, the instrument panel would take my knees off.

I was nervous yet terribly excited, but once we went onto full oxygen the fear subsided and we taxied to the hold for runway 04. The briefing was, if I can remember; the speeds, line up, advance both throttles and check for stabilisation, brakes off and then push the throttles forward and then left into reheat, rotate the nosewheel at 135 knots, lift off at 165 knots, gear up and then speed to 350 knots before pulling the stick hard back into your stomach. I can remember Mike telling me to pull harder and we rocketed vertically through the low cloud at the amazing climb rate of 25,000 feet a minute. First time in my life had I ever seen an altimeter spin round in a blur or seen fuel gauges visibly dropping. Jean actually heard

"Reheat take-offs were rationed because of the noise, but again Mike told me he had reserved one and we walked out to the Lightning"

us take-off at Salhouse! I think we cancelled reheat at 32,000 feet and then zoom climbed up to 42,000 feet over the North Sea and I was just staggered – what a way to climb, it was unbelievable.

Mike then said we would do our supersonic run up the North Sea and to qualify as a Club member I had to fly it above Mach 1.6 for a minimum of three minutes. Into reheat once more and we easily went through the sound barrier with no feeling at all, only a slight jump in the instruments as the shock wave went down the fuselage. I held on grimly to the stick, thinking I would just keep straight and level for three minutes and all would be well, but Mike was not letting me get away that easily and told me to move it about the sky.

I actually let my airspeed increase by mistake to Mach 1.66 which Mike said was deliberate to match the Battle of Hastings in 1066, but this was certainly a fantastic experience – I was just so lucky.

When we ended the supersonic run and throttled back, I was amazed how hard the harness cut into your shoulders and then came the only fright of the day. As we started our descent back to Coltishall there was suddenly a severe shudder and noise from the engines and I thought here we go, Mike is going to say: "Eject, eject, eject!" and I am out with my bad back. But he quickly said: "Sorry David, I forgot to warn you that the Rolls-Royce Avons do at times rumble on throttling back," what a relief!

The descent was just as impressive and we flew a GCA approach in the rapidly lowering cloud base, before overshooting and then landing after the next GCA with a low fuel state.

Forty minutes of a truly unbelievable experience for a small aircraft civilian pilot and I will never be able to thank Mike enough.

"To qualify as a club member I had to fly it above Mach 1.6 for a minimum of three minutes"

Taxied in, unstrapped, put in the ejector seat safety pins and then climbed out. Take off all the flying kit and down to the Officers Mess for lunch and I was given my certificate and 1,000 mph tie. Mike flew Vivienne Whyer on the Thursday and at the weekend we all stayed at the Royal Air Force Club in London for a party provided by Rolls-Royce and English Electric. At that time the Royal Saudi Air Force were being trained on their Lightnings at Coltishall. Somehow that evening we ended up at the luxury Garden House Hotel in Park Lane sitting on the floor of Prince Faisal's private suite and eating what I found out much later were sheep eyes and watching a stunning belly dancer. Back home to Jean late on the Sunday nursing a thick head, but what an amazing and wonderful week thanks to the kindness of Group Captain Mike Hobson and the Royal Air Force. ■

The 1,000 Miles Per Hour Club

Whereas the 1,000 Miles Per Hour Club has been formed to honour those who have achieved this speed in an aircraft of conventional configuration

And whereas Observer Officer D.J. Hastings (hereinafter called "the New Member") has achieved this speed in the Lightning aircraft

Now in pursuance of these presents and in consideration of the natural respect to which the New Member is entitled this deed witnesseth as follows:

1. The New Member is admitted, appointed and installed as a Life Member of the 1,000 Miles Per Hour Club together with all the rights and appurtenances thereto

2. The New Member is eligible and entitled to wear the official club tie at any time and in particular on those occasions when the claim of the Member is likely to be challenged and further the New Member is entitled to call upon other Members of the Club for aid and assistance in meeting and repelling the remarks defamatory or otherwise of Non-Members

In witness whereof the Common Seal of the Club has been hereunto affixed by Order of the Board of Management in the presence of

W.J. Galpin Mc. Secretary

President

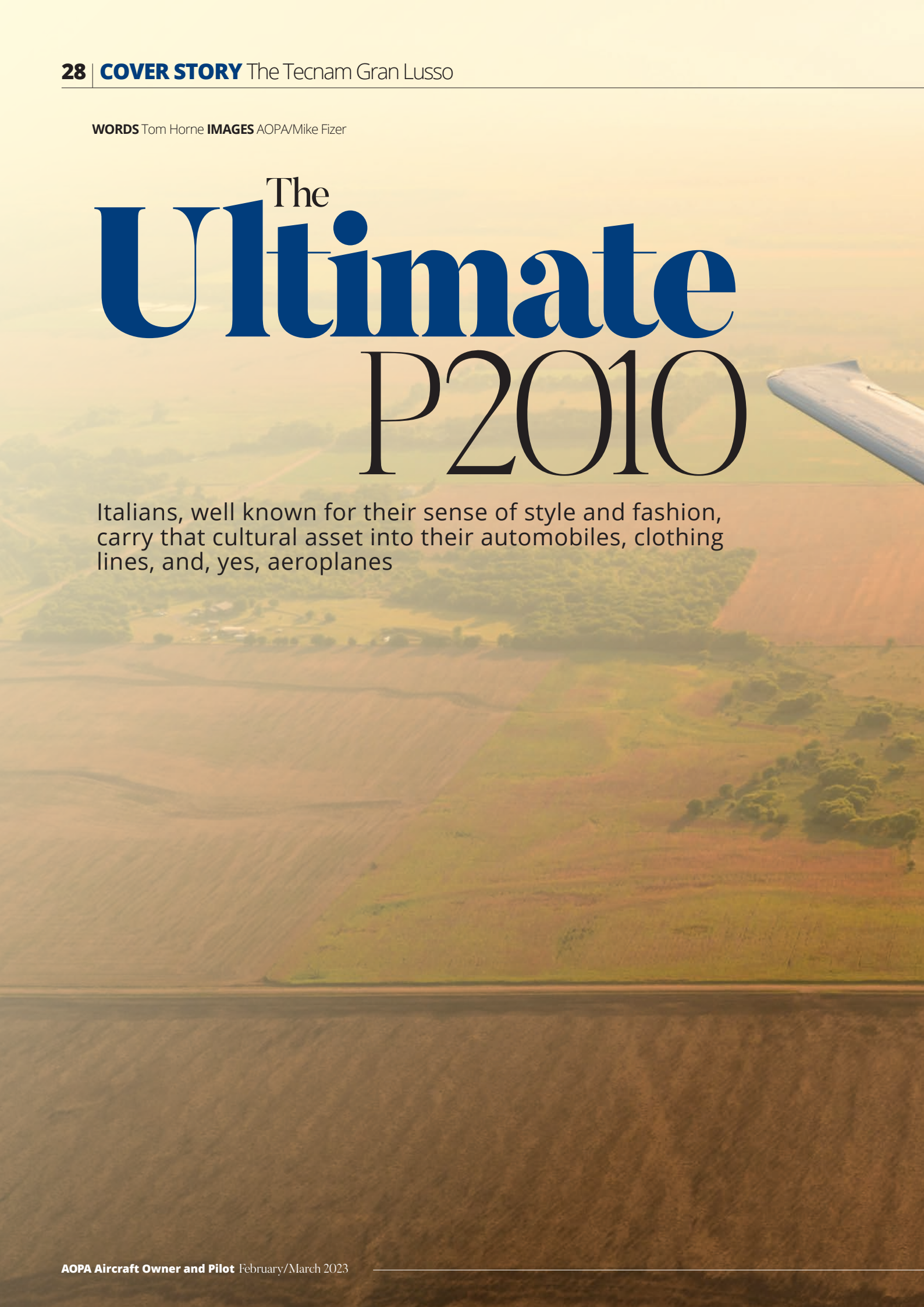
1. David's certificate and proof of his membership to the 1,000 Miles Per Hour Club
2. The English Electric Lightning served as an interceptor in the RAF during the 1960s, 70s and into the 80s
3. Flight International in 1968 claimed that the Lightning probably had the fastest rate of climb of any combat aircraft

One thousand members exactly joined the 1,000 Miles Per Hour Club

WORDS Tom Horne **IMAGES** AOPA/Mike Fizer

The Ultimate P2010

Italians, well known for their sense of style and fashion, carry that cultural asset into their automobiles, clothing lines, and, yes, aeroplanes



TAKE TECNAM'S new Gran Lusso (translated: "Grand Luxury"), unveiled at EAA AirVenture Oshkosh this past summer. It's the latest in the Italian manufacturer's P2010 line of high-wing, fixed-gear four-seaters, and the most ambitious. That goes double for the Gran Lusso's swanky leather interior, which its brochure assures us is "cool, with a flair for beauty and Dolce Vita."

FEATURES

That's a fair statement because the seats are comfortable, the interior trim distinctive, the ergonomics exemplary, and it's roomy, too. The front seats can be raised or lowered by means of an electric motor; the parking brake and rudder trim controls are conveniently located at the aft end of the centre console; and a tasteful, leather-trimmed shelf runs from door-to-door and across the subpanel. There's also a separate aft door that gives passengers easy access to the rear seats and roomy baggage compartment. One look at the Gran Lusso's interior and you realise that in terms of unity of design and attention to detail, its cabin surpasses those of competing piston singles.

Its exterior lines are sleek and its surfaces clean – save for the vortex generators on the vertical stabiliser. So, while other strut-braced, fixed-gear single airframes may look dated and angular, the P2010 is a study in slipperiness. One goal was to keep the doors flush with the airframe for both drag and noise reduction. So, to keep them snugly fit, there are three latches around their perimeters.

FRONT OFFICE AND MORE

My chance to fly the Gran Lusso came in the middle of the aeroplane's demonstration tour of the US in August. Wichita, Kansas, was just coming off one of its famous 100-degree-plus heat waves, and surface temperatures were pushing 90 degrees. I hopped into the left seat, and Tecnam demo pilot Michael Jackson got aboard as I was searching for the glow plug pushbutton for the Continental CD-170 turbodiesel engine. Because they don't have spark plugs and instead use the heat of piston compression for ignition, diesels use glow plugs to heat up their combustion chambers. Usually there's a dedicated pushbutton, which you hold down until you get an annunciation that the cylinders are warm enough to fire up by turning on the starter motor.

"The seats are comfortable, the interior trim distinctive, the ergonomics exemplary, and it's roomy, too."

With the CD-170, there's a single pushbutton that combines glow plug and starter functions. You just push the starter button, and the glow plug heats up while the engine turns. In about three to five seconds the engine lights off. After that, engine management is pretty

Head over to the team at **technam**.com for more details and info

1. The aircraft's aerodynamic efficiency means that little power is needed in the pattern
2. The Gran Lusso's engine makes a cool, subdued turbine-like whine – a guaranteed head-turner on the ramp
3. The new P2010 is simple enough to be used as a trainer, but capable enough as a cross-country explorer

The Gran Lusso may just be the best-looking fixed-gear, strut-braced piston single on the new market today

much automatic, thanks to the dual-channel FADEC. There's a single power lever, no propeller rpm lever, and no mixture control. Instead, the FADEC controls run the show, keeping the engine within operating limitations and providing the proper mixture for ambient conditions and the power setting you've selected.

To maximise power, efficiency, and fuel economy, the Gran Lusso's four-cylinder, 170-horsepower Continental CD-170 engine burns Jet A and regular diesel fuel (testing for sustainable aviation fuel use is in the works) and has a turbocharger and common rail fuel injection. For cooling, there's an intercooler to tame the turbo's hot intake air and liquid coolant for the engine block. If the coolant overheats you get an annunciation, and on this steamy day we saw it briefly.

"Instead, the FADEC controls run the show, keeping the engine within operating limitations"

The Gran Lusso offers a luxurious interior with well-produced leather seats

DETAILS

Up at 6,500 feet, power was set for maximum cruise (90 per cent), airspeed settled down to 137 KTAS, and the fuel burn was 8.7 gph. Then again, it was a toasty 19 degrees Celsius/ISA plus 17 Celsius. At long-range cruise power – 63 per cent – we saw 122 KTAS burning 5.5 gph. Tecnam advertises a long-range cruise of 115 KTAS at 60 per cent power and 9,000 feet, burning 5.2 gph. With a 64-gallon fuel capacity, this can translate into an impressive still-air range of some 1,000 nautical miles, assuming a light load and standard conditions.

For someone new to the P2010s, I'd say there are two rather modest learning curves. One is the aeroplane's free-castering nosewheel. For taxiing, you need to steer using differential braking. The nosewheel isn't connected to the rudder pedals, so it's just along for the ride. You'll get the hang of it in short order – especially if you have time in other free-castering types, like Grumman singles.

The other quirk relates to the aeroplane's aerodynamic efficiency. This helps explain why so little power is needed in the pattern. A 25-per cent power setting, which seemed awfully low at the time, gave a normal descent rate on final. All this speaks to the P2010's low drag; too much power means less sink and more airspeed on final. Instead of the target 75 knots, you could easily find yourself pushing 90 knots if power is left at, say, 50 per cent.

Tecnam says the Gran Lusso is simple enough to serve as a trainer, yet capable enough to be a respectable cross-country machine. At a base price of $626,750, it ain't cheap, but neither are competing singles. Besides, customers buying new aircraft these days are looking for new technology and innovation, and are willing to pay for things like FADEC-controlled turbodiesels, Garmin G1000NXi panels with an autopilot, plus electronic stability protection (ESP) and a Level button to stay within the flight envelope. All of which is standard in P2010s. Then there's the whole luxury thing. At 2022's AirVenture a Tecnam spokesman said that orders were taken for 20 Gran Lussos.

"Tecnam say the Gran Lusso is simple enough to serve as a trainer, yet capable enough to be a respectable cross-country machine."

Tecnam appears to be on a roll. In 2021 it introduced its new P2012 Traveller, a big piston twin. Then came its P-Mentor, a two-seat IFR trainer. An electrically powered version of the P2012 is in the works under a partnership with Rolls-Royce, as is the P2010 H3PS, a hybrid-power design that uses a Rotax 915 iS teamed with a Rolls-Royce electric motor. It seems Tecnam has all the bases covered. ■

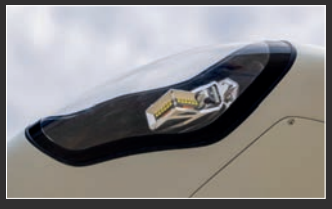
TECH SPEC Tecnam P2010 Gran Lusso

SPECIFICATIONS
Base price: $626,750
Powerplant: Continental CD170, 170 hp
TBR: 1,200 hours
Propeller: MT three-blade, constant speed, composite construction
Fuel: Jet A-1, Jet A, Diesel
Length: 25.98 ft
Height: 8.66 ft
Wingspan: 33.79 ft
Seats: 4
Cabin length: 7.54 ft
Cabin width: 3.74 ft
Empty weight, standard: 1,841 lb
Max takeoff weight: 2,646 lb
Useful load: 805 lb
Max baggage: 88 lb

PERFORMANCE
Max cruise speed: 140 KTAS
Max operating altitude: 18,000 ft
Takeoff distance, ground run: 1,394 ft
Takeoff distance: 2,211 ft
Initial rate of climb: 740 fpm
Landing distance: 1,791 ft
Max range: 961 nm

Limiting and recommended airspeeds. VS0 (stall speed, landing configuration) / 53 KIAS. For more information: tecnam.com. All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.




WORDS Taras Lyssenko, Dr. John T Dorwin, PhD, Ed Ellis, (Capt. USN Ret.), Joe May
IMAGES Courtesy of Paul Allen

A GREAT CHANCE TO RESCUE HEROIC NAVY HISTORY

A propsal to recover at least four World War Two aircraft has been launched by the USS Lexington Aircraft Recovery Project – this is their story...

IN OCTOBER 2022, in accordance with the regulatory guidelines under the Sunken Military Craft Act of 2004, a proposal was submitted to the Underwater Archeological Branch of the Naval History and Heritage Command (NHHC) for the recovery and presentation to the American public of Douglas TBD-1 Devastator Torpedo-Bombers and a highly significant Grumman F4F-3 Wildcat Fighter aircraft.

The team who submitted the proposal consist of staff from The Naval Aviation Museum Foundation, the Kalamazoo Aviation History Museum (Air Zoo), A and T Recovery, and other experts with the combined experience and knowledge in conducting and completing such efforts. From their mission, it would seem that they would be more than willing to be a part of the effort.

The mission of the Naval History and Heritage Command Is to: "collect, preserve, protect and make available the artifacts, documents, and art that best embodies our naval history and heritage for present and future generations; advance the knowledge of naval history and heritage through professional research, analysis, interpretation, products and services; make naval history "come alive" for our Sailors and Marines to enhance readiness and esprit de corps; and remind America of its need to maintain a strong Navy and Marine Corps to protect its citizens, their freedoms and the nation's maritime commerce."

The project team has set its sights on the U.S.S. Lexington (CV-2). The carrier had been the American side's loss at the Battle of the Coral Sea, where she went to the sea floor, 9,800 feet deep, with over a dozen TBD-1 aircraft parked on deck.

In late 2017, some of the team were searching the Navy's records of the Battle of the Coral Sea at the National Archives and Records Administration, College Park Maryland. They came across the Destroyer Squadron reports of the sinking of the U.S.S. Lexington (CV-2). Those reports revealed the location of the sunken ship. The team immediately scanned the documents and emailed them to the leadership of Paul Allen's search crew. Several months later, the crew of the R/V Petrel notified the world that they had located the Lexington and many of her aircraft.

The Lexington's wreck lies in four sections plus a large debris field. The main section of the wreck lies upright at a depth of about 9,800 feet on the bottom of the Coral Sea. The bow and stern sections as well as a portion of the bridge are approximately one-half kilometre from the main section with the subject TBD-1 Devastators and F4F-3 Wildcat even further removed. The locations of the aircraft are separated by a substantially safe working distance of over a half kilometre from the wreckage of the Lexington, as well as another 100 metres from the bow and stern sections, therefore ensuring that any potential war grave would remain undisturbed. Note that the aircraft had been spotted, unmanned, on the bow of the flight deck after recovery from combat operations. Therefore, these Devastator and Wildcat aircraft are not war graves.

Sadly, Mr. Allen passed away and the team thought all hope for recovery was lost. However, in June 2022 another prominent American indicated that he would be willing to greatly assist in the effort, if the Naval History and Heritage Command upper management wished to bring it to fruition. And so the team painstakingly drew up a comprehensive proposal and plan.

"Several months later, the crew of the R/V Petrel notified the world that they had located the Lexington and many of her aircraft"

The Navy's Devastator

The U.S. Navy's Devastator fulfilled the dual aircraft carrier borne tactical roles of either torpedo attack or horizontal bombing – hence the Devastator's designation as a torpedo-bomber. This was the flexible tactical theory of the era, an age of rapid evolution aircraft in design. Debuting in 1937, the Devastator was revolutionary with hydraulically folding wings as well as wheel brakes for faster deck handling. It also was the first naval aviation aircraft possessing a full metal construction and a single wing. Other advanced features were a fully enclosed cockpit and semi-retractable landing gear. Each Devastator had up to three aircrew: a pilot up front who also aimed and dropped the torpedo; the bomb aimer in the middle cockpit; and the radio operator/gunner in the rear cockpit – with torpedo attack missions often omitting the bomb aimer. The U.S. Navy accepted delivery of a mere 130 TBD Devastator aircraft by the time the United States found itself at war.

In its torpedo delivery role the TBD was armed with a single Mark 13 torpedo which was more a handicap in early World War II than a threat through no fault of the TBDs or aircrews. Mark 13s of the time often ran at the surface, which severely diminished their accuracy, or their magnetic exploders would malfunction. During horizontal bombing missions the bomb aimer would slide to a position under the pilot's cockpit to use a Norden bombsight through a pair of opened bomb sight doors.

During the first few months of the Pacific War, the U.S. Navy employed Devastators in daring surprise aircraft carrier raids against occupied island bases, requiring Japan's military forces to quickly alter planning and targets. This set the stage for the Battle of the Coral Sea.

The pinnacle of Devastator effectiveness was the accurate delivery of several torpedoes which assisted in the sinking of the Imperial Japanese Navy (IJN) aircraft carrier, Shōhō, during the Battle of the Coral Sea. The U.S. Navy was able to deliver a coordinated attack of Dauntless dive bombers and the TBD squadrons were able to execute a classic "anvil" attack in this battle. Remarkably their Mark 13 torpedoes "ran hot, straight and true." Targeting with a Mark 13 was no simple task and a task made much harder if not approaching from dead ahead. The Mark 13 did not possess high speed, only getting up to 33 knots, so targeting a fast moving ship from the side meant a large offset angle (60° +) – slowly overtaking at a large lead angle leaves a slim margin for error. Compounding the challenge to Devastator crews was the preference to drop at 600 yards from the targeted ship. TBD crews had to fly straight and level at a consistent (slow) airspeed for a minute or more to accurately drop their torpedoes so they would arm

and close with the ship – then peel away a mere 12 seconds of flying time from the target, if not directly overflying it. Each TBD crew would expect to fly through the escorting screen an aircraft carrier or other ship not once but twice. They deserve to be remembered and honoured.

Along with the Lexington's TBD Devastators is an historic Grumman F4F-3 Wildcat. This fighter had been flown by LT Edward 'Butch" O'Hare, LCDR John Smith "Jimmy" Thach, LT Noel A. Gayler, and LT Albert Vorse, all Aces and revered Naval Aviators. O'Hare became the Navy's first Ace of WWII and was awarded the Congressional Medal of Honor.

On 4 May 1942, the Battle of the Coral Sea opened as Task Force 17 attacked the Japanese Tulagi Invasion Force, sinking four smaller vessels and damaging four others. The Yorktown's Air Group lost two Wildcats and one Devastator. That same day, Japanese transports sailed from Rabaul, for Port Moresby to carry out Operation MO as it was designated by the IJN.

The Battle resumed on 7 May as RADM Fletcher's force turned north to engage the IJN Carrier Strike Force. Dauntless and Devastator aircraft attacked the Japanese, and sank the carrier Shōhō, off Misima Island.

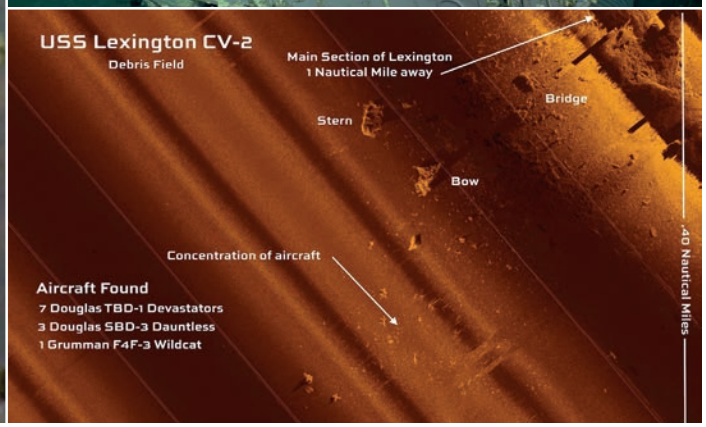
The Battle continued into 8 May after a Dauntless pilot from the Lexington sighted the Japanese Carrier Strike Force, formed around the large aircraft carriers Shōkaku and Zuikaku. Dauntless aircraft from the Lexington and the Yorktown damaged the Shōkaku and forced her retirement. Japanese dive bombers and torpedo aircraft, however, penetrated the screening aircraft and ships of the U.S. Navy, and damaged aircraft carriers Lexington (bombs and torpedoes) and Yorktown (bombs).

Lexington was further damaged when aviation fuel vapour ignited and triggered massive internal explosions.

"This fighter had been flown by LT Edward 'Butch' O'Hare, LCDR John Smith 'Jimmy' Thach, LT Noel A. Gayler, and LT Albert Vorse, all Aces and revered Naval Aviators"

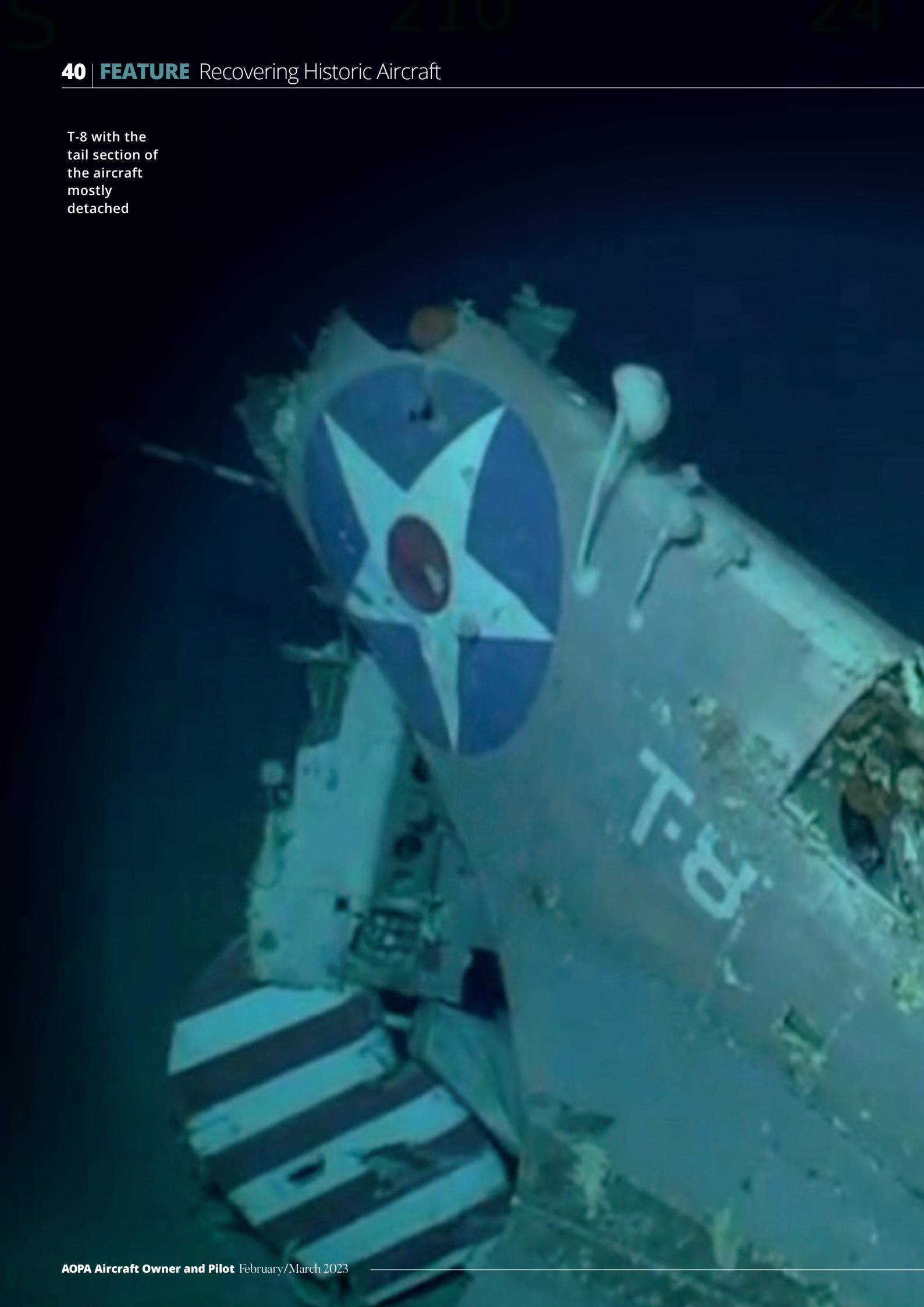
She was later abandoned when her fires blazed out of control. All of her surviving crew members were rescued by escorting ships. The Lexington was then scuttled by the destroyer U.S.S. Phelps (DD-360) with the launching of five torpedoes. As the ship sank the aircraft which had been on the forward portion of the flight deck windmilled away from the ship as they also sank – ultimately settling a substantial distance from the wreck's location.

The significance of the Battle of the Coral Sea and even its victor has been the subject of much debate and has changed through time. At first it was thought to have been one more in the string of IJN victories because more American ships were lost, and the loss of the Lexington was far more devastating than the Japanese loss of the Shōhō. It was, however, acknowledged that Japanese expansion had been stopped for the first time. Subsequently, historians have



1. The Wildcat indicating the number of enemy aircraft it took down, it also shows it was flown in one bombing mission
2. TBD-1 Devastators from Torpedo Squadron Two T4 and T-9 to the rear, which is inverted
3. The debris field of the U.S.S. Lexington at a depth of 9,800 feet

T-11 with its vertical stabiliser in poor condition



T-8 with the tail section of the aircraft mostly detached

concluded that Coral Sea was the first naval engagement in which the opposing ships never saw each other or exchanged gun fire. Additionally, Imperial Japan was forced to cancel Operation MO, the invasion plan for Port Moresby. This battle had such significance that Australia began Coral Sea Week to commemorate the Battle. The battle was seen as having saved Australia from Japanese invasion.

The proposal, presented to NHHC, highlights the strategic significance of the Battle and the important contribution the Douglas TBD-1 Devastator played in Naval Aviation. Knowing the extreme depth of the recovery site, the team has requested the support and assistance of the Navy's Supervisor of Diving and Salvage, and the Director of Salvage Operations and Ocean Engineering. It puts forth what will be needed for the conservation of the aircraft and explains that according to the standards set forth by the Smithsonian Museum, the aircraft should be restored to as close as possible condition at the time they went to the sea bed. Additionally, there is detailed information concerning the expertise of the team from recovery, conservation/restoration, through public educational outreach.

Aviation development rates were high before and during WWII, but the Devastator's design was quickly outclassed by more modern fighters by 1942, the year of the Battle of the Coral Sea and the Battle of Midway. Yet, in 1942, when these battles took place, it was the torpedo bomber most in place and available for carrier operations by the USN. The Navy's Devastator aircrews flew them into harm's way by pressing attacks against Imperial Japanese Navy aircraft carrier forces in these battles, although at immense disadvantage against Mitsubishi A6M interceptor aircraft and anti-aircraft artillery due to their lack of speed, and Mark 13 aerial torpedo launching limitations. Only 130 were produced for the USN and none are displayed in museums, in public or private spaces, or under restoration. Devastator crews made historic differences in the dire opening days of World War II for the United States with their aircraft. The Devastator has been unjustly maligned when its performance was simply overtaken by events – although it was the weapons delivery system at the time which could be used as torpedo attack aircraft in concert with dive bomber aircraft. Recovery, restoration and display of Douglas TBD-1 Devastator aircraft will fill a significant gap missing in the world's museums and bring largely absent remembrance of the dedication of their aircrews in the highest tradition of the Navy – a remembrance which can best be illuminated by actual aircraft, especially these historic battle veteran aircraft. ■

Visit: lexingtonaircraftrecoveryproject.com

"Only 130 were produced for the USN and none are displayed in museums, in public or private spaces, or under restoration"

1. The very famous F4F-3 Wildcat Fighter which was flown by many respected Naval Aviators
2. The U.S.S. Lexington after being bombed by the Japanese Navy
3. The insignia of the Torpedo Squadron No. 2, which was aboard the Lexington

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