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AUTUMN 2016



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5 November - 8 November 2016

5TH ASIAN AUSTRALIAN ROTORCRAFT FORUM

Concord Hotel, Orchard Road, Singapore
<https://vtol.org/arf>

22 February -26 February 2017

HELI PILOT SHOW

Olympia, London, UK
www.helipilotshow.com

7 March - 9 March 2017

HAI HELIEXPO 2017

Dallas, Texas, USA
www.heliexpo.rotor.org

18 April - 20 April 2017

ROTORCRAFT ASIA

Changi Exhibition Centre, Singapore
<http://www.rotorcraft-asia.com/>

11 May - 13 May 2017

ELITE LONDON

Biggin Hill Airport, London
<https://www.theeliteevents.com>

1 June -3 June 2017

HELI UK EXPO

Wycombe Air Park, UK
<http://www.heliukexpo.com/>

19 July -23 July 2017

INTERNATIONAL CONVENTION OF HOMEBUILT ROTORCRAFT

Mentone Airport, Mentone, Indiana USA
<http://www.pra.org>

23 July -28 July 2017

ALEA EXPO 2017

Reno, Nevada, USA
<http://www.alea.org>

WORLD HELICOPTER DAY

20 August 2017

World Helicopter Day aims to raise awareness of the contributions that helicopters make to our society and celebrate the diverse range of people that design, fly and support them. This is event which can be hosted by any helicopter operator, helicopter related company, association, organization, museum, pilot(s) or person(s) in any country around the world.

(Any City, Any Country)

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HELICOPTER LIFE

AUTUMN 2016

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The Lord Glenarthur, DL
Jennifer Murray
Michael J. H. Smith
Malvina Nicca

EDITOR-IN-CHIEF / PILOT

Georgina Hunter-Jones
editor@helicopterlife.com

CREATIVE DIRECTORS

art@helicopterlife.com

COPY EDITORS

Gerald Cheyne, Jean Dubourcq

CONTRIBUTING EDITORS

Clive Bennett, David Oliver, Arjan Diksterhuis, Tim Scorer, HeliTech team, Ralph Arnesen, G Cheyne

CONTRIBUTED PHOTOGRAPHY

Time Scorer, Gerald Cheyne, Clive Bennett, David Oliver, Arjan Diksterhuis, Alan Norris, Ralph Arnesen, Neil Harrison, HeliTech

SPECIAL THANKS TO

Malvina Nicca ATPL, Gerald Cheyne, Ralph Arnesen

ADVERTISING

Telephone: +44-(0)23-9263-1713,
advertising@helicopterlife.com

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WEBSITE

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COVER PHOTOGRAPH

Alan Norris Union Jack Hughes 369 G-SWEL.
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Now the UK has voted to leave the European Union what will that mean for aviation in general and helicopters in particular?

Immediately after the result was announced to the shocked populations of the UK and Europe there was a statement from Airbus:

“Brexit will prove bad news for the aviation and aerospace industries as their activity is closely associated to the dynamism of Europe....” (see cover story).

Later the CAA set up a meeting with the DoT about the possible consequences of this vote and how to mitigate them as far as possible.

Representation has been made to the Prime Minister; Lord Glenarthur President of the BHA has spoken in parliament about the need for the government to make sure the UK continues its aviation representation and those helicopter operators who fly across Europe and anyone who buys and sells into Europe is wondering what the future will hold.

Almost immediately after the vote the markets fell and the pound went to its lowest level against the dollar since the 1980s. The markets have subsequently bounced back but the pound remains low, worrying those who holiday or buy goods abroad, but good news for those involved in the tourist trade within the country.

Even without the Brexit vote, 2016 has been a turbulent year with numerous terrorist attacks, a potential coup in Turkey, and the rise of new terrorist organisations across the Middle East. At one time it seemed that every day bought a new disaster. Now we have 2017 on the horizon with French and German elections and the likely Article 50 Trigger point.

On a more optimistic note several sources have highlighted the possibility of a new Scillies Isles helicopter to replace the service decommissioned in October 2012. A 2 million pound private sector investment plan was announced on 25th August 2016, and a planning application is expected to be

submitted this Autumn, following a public discussion in September.

The proposed site is at Jelbert Way, Penzance close to the former site of the BIH Heliport. The original service ran for 48 years before closing.

I was a H269 and S300 pilot, instructor and examiner for many years, so I have been very sad to see their slow demise after their purchase by Sikorsky Aircraft. When I saw that Lockheed Martin had bought Sikorsky Aircraft from UTC I did wonder if their fate would be the same as their former wunderkind. However, it seems this is not to be. Lockheed Martin are more than committed to the Sikorsky vision and believe that ‘together they are stronger’. There will be more on this after HeliTech International show in Amsterdam where the Operators Forum is likely to bring up some interesting discussions on the way forward for manufacturers, operators and owners.

Continuing our commitment to the gyroplane world we have a short piece from Chris Jones about new things in the gyrocopter world, including a new UK CPL(H) which will allow companies to access cheaper workers and work stations.

We also have an update on the progress of the Cabri G2, which has already produced its 175th helicopter and has, according to The General Aviation Manufacturers Association, produced more G2 Cabris in 2015 than the Robinson Helicopter Company produced R22s. An amazing feat considering Robinson has been market leader in this sphere since the 1980s. However, it should not be forgotten that Robinson have stated that they will be phasing out the R22s and are replacing them with the Cadet. Robinson have now delivered its first two production R44 Cadet helicopters to Heliflite Australia, a longtime Robinson dealer. The two-place R44 Cadet received FAA certification on 6 May 2016.



EASA certification is pending, hence Robinson will not accept orders from UK (or any other customers whose certification is still outstanding) until certification is complete. However, interestingly it is still acceptable to change your own R44 into a Cadet and use it for training as Advance Helicopters, based in Shoreham, has done.

Enstrom has now returned to testing the TH-180, which had stopped after an accident (due to the testing equipment) in the first prototype. They are now flying the second prototype and the third is in production. They hope to have certification by next year.

In South Africa, Rhino911 an anti-poaching initiative has selected a Bell 407GT to help fight back against poachers of rhino and other endangered animals. Rhino911's goal is to stop the poachers long before they reach their targets. They use the specially equipped Bell 407GT to find and intercept poachers at a distance, using advanced NV (night vision) and FLIR/WESCAM thermal imaging and other advanced sensors. The sensors on the Bell 407GT are capable of discerning and tracking personnel from extreme distances as well as analyzing and pinpointing possible hides and the entrance and exit routes that the poachers use, allowing timely and effective action by law enforcement authorities.

Love Your Neighbours

Tim Scorer looks at a case where flying becomes an ‘unreasonable nuisance’

Peires v Bickerton’s Aerodromes Ltd [2016]



The close neighbours of a major general aviation (GA) airfield took the airfield to court in March 2016. They alleged that some specific helicopter training operations were being carried out very close to their property (58 metres at the closest point), that repeated lift-offs and touchdowns on some sloping ground. The attendant high noise level had become a real nuisance and something should have been done to exclude or limit these operations.

Background

The operations were part of helicopter pilot training, practising lift-off and touchdowns on sloping ground. Usually they were not part of taking off or landing at the start or end of a flight. They created what was described by the Judge as an “excruciating” noise, which ruined the peace of the neighbours’ garden, and could even be heard within the house. The fact that the neighbours had acquired the house only a few years before, and that the airfield had existed for over 95 years, and been licensed over 28 years, did not restrict the claim.

Reasonable or unreasonable?

In a nuisance case like this, the test is one of reasonableness. Were these operations an unreasonable use of the airfield? Did they adversely affect the reasonable use of the neighbours’ property? There should be ‘give and take’ on both sides. The Judge heard that, for over 40 years, there had been complaints to the airfield. They had not been effectively dealt with, and the system did not result in complaints being followed up. The airfield said it was impossible to relocate the training area. The Judge disagreed.

While the neighbours were not seeking to close down the whole of the airfield operations, they said they wanted a more limited and predictable use of the training area, so that they could organise their affairs around the noise. But there was strong disagreement between the parties as to how long and how often the training exercises took place. The Judge indicated that he was looking at imposing time and duration limits on the operation as a way of resolving the case.

The airfield then put forward some defences, which they claimed under the Civil Aviation Act 1982 and the

Air Navigation Order. They pointed out that Section 76(1) of the Act says:

No action shall lie in respect of trespass or in respect of nuisance by reason only of the flight of an aircraft over any property at a height above the ground which having regard to wind, weather and all circumstances of the case is reasonable or the ordinary incidence of such flight as long as the provisions of any Air Navigation Order. . . . have been complied with.” (Editor’s underlining)

“These provisions cover the whole take-off and landing process”, remarked the Judge. However, it did not assist the airfield because he did “not accept that the training exercise on the “slope” is “flight” or any part of it. The section (of the Act) is plainly to cover journeys with aircraft passing over other property and the associated take-off and landing”. In considering the Rules of the Air Regulations 2015, especially the “low flying rule” (Rule 5) again, the Judge did not accept that the operations on the slope involved flying.

“Helicopters do not need to do the exercise (on the slope) to take-off; it was merely that it was convenient presumably for the pilots to do the training and then take-off. It follows that the procedures are not part of any incident of flying or taking off”.

Conclusion

In concluding this nuisance claim, the Judge made an Order limiting the operations to specified days of the week, and for a limited duration. Since the neighbours had succeeded in this claim, the airfield was ordered to pay their legal fees and costs. The airfield’s representatives requested permission to appeal against the Judge’s decisions in relation to whether the training exercises constituted “flying” or not. The Court of Appeal have given permission. The final outcome of this significant issue is awaited.

Editor’s note: the decision of the Court of Appeal on this case will be reported as soon as it is available.

(This article was first published in the Industry Directory 2016/2017 of the British Business and General Aviation Association)

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June 2016

Consultant, Kennedys Law LLP
tim.scorer@kennedyslaw.com

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Portsmouth, Fontwell and
the Coast.

AI out-thinks Pilot

Aircraft capabilities took a big leap forward when an expert fighter pilot found he was no match for ALPHA. The artificial intelligence system was developed by Psibernetix, founded by a University of Cincinnati graduate. Gene Lee, a retired Air Force colonel taking part in the research, said that ALPHA is unprecedented.



Terrafugia Revs Up

Terrafugia has received approval to certify its Transition roadable airplane as an LSA with a maximum takeoff weight of 1,800 pounds. The Massachusetts-based company announced this week the FAA approved its 2014 petition for exemption from LSA rules, which require a maximum weight of 1,320 pounds and maximum stall speed of 45 knots.

Antarctic Rescue

Polar station workers in need of medical care were successfully evacuated from the Amundsen-Scott station as the South Pole in July, according to the National Science Foundation. CBC reported that the Calgary-based Kenn Borek Air flew the two workers from Amundsen-Scott to Rothera, on the Antarctic Peninsula, a distance of some 1500 miles. The patients will be further transported to Punta Arenas, Chile, where they will receive additional medical care,

according to NSF.

Atlantic Crossing by Sun

Solar Impulse 2 landed in Seville, Spain in July, completing a 3160-NM trip across the Atlantic from New York in 71 hours. While the Solar Impulse team had initially hoped the transatlantic crossing would land in Paris in honor of Charles Lindbergh's 1927 flight, a stormy weather forecast resulted in choosing Spain as an alternate.

100 China Airbuses

Airbus will become the first foreign company to assemble helicopters in China, under a new deal to deliver 100 H135 aircraft. The deal is worth about \$788 million, according to The Wall Street Journal. "With the further opening up of the Chinese skies and the increasing growth in the civil and parapublic segments, China is gearing up to be the biggest market for helicopters in years to come," said Norbert Ducrot, from Airbus Helicopters.

NASA Rocket Ground Test

The world's most powerful rocket, designed for future manned spaceflight, had a successful startup test this week the latest milestone for NASA's Space Launch System. This final qualification ground test at an Orbital ATK site in Promontory, Utah, allows NASA to plan for a first unmanned test flight with its Orion spacecraft in 2018 in preparation for future missions to Mars.

Autonomous Aircraft

Fuel cells have long been discussed as a potential power source for vehicles, including aircraft, and researchers at the German aerospace center, the DLR, believe

that technical barriers can be overcome in the near term to make hydrogen a practical fuel source. Speaking at the first annual Sustainable Aviation Foundation symposium in Redwood City, California, this week, the DLR's Josef Kallo told attendees that research on practical hydrogen cells is much further along than many people realize.

Clean Sky2

Airbus Helicopters earlier this year passed an important milestone in the development of the high-speed, compound helicopter demonstrator currently being built as part of the Clean Sky 2 European research programme. A mockup of the breakthrough airframe design has just undergone windtunnel testing in an Airbus facility. The tests proved the viability of the chosen design in terms of efficiency, sustainability and performance, paving the way for a preliminary design review expected end of 2016. Meanwhile, the overall project has passed its first official milestone involving all core partners by reaching the end of its pre-design phase.

HelIPad for Sale

Comes with a building and a 360-degree view of the Atlantic Ocean. The Chesapeake Light House, 14 miles off the coast of Virginia Beach was put out to auction block in July. The building was bought by the U.S. Department of Energy from the Coast Guard in 2012 for \$90,000 in order to "create an offshore research facility, including a meteorological tower," explained Kathryn Walsh, spokeswoman for the Department of Energy. However, in 2014 the department discovered that the necessary structural upgrades would

PHOTOGRAPH BY PETER FOSTER

cost too much. So, instead the tower was prepared for auction by the General Services Administration.

RTW Balloonist

Fedor Konyukhov, who launched from western Australia on July 12 in an attempt to beat Steve Fossett's time for the round-the-world solo balloon flight, already has faced weather challenges and equipment failures as he reaches the halfway point of his journey. As he crossed the southern Pacific at night, Konyukhov encountered snow, ice and turbulence, which shook the propane tanks suspended from the gondola so violently that some of them had to be jettisoned. However, Fedor Konyukhov, 64, landed safe and sound near the small town of Bonnie Rock on 23 July at 16.15 local time (08.15 UTC) after a 11 day 8 hours and 42 minutes flight in a Roziere combined (hybrid) hot-air and helium gas balloon beating the 2002 performance of aviation legend Steve Fossett (320 hours 33 minutes). They are both the only pilots to have completed the solo circumnavigation.

Bernie Ecclestone's helicopter pilot

Bernie Ecclestone's helicopter pilot and the former head of the Helicopter Club of Brazil has been arrested after the failed kidnapping of Ecclestone's mother-in-law. Aparecida Schunck, the mother of Ecclestone's third wife, was held for a week and a ransom of 28 million was demanded. She was freed unharmed and several people were arrested. Kidnapping is common in Brazil.

Airbus Flying Taxi Service

Engineers based in Silicon Valley are working to develop "an autonomous flying vehicle platform," called Vahana, that could provide transport for both passengers and cargo, the company has announced. Flight tests of the first vehicle prototype are slated for the end of 2017. Ultimately, the system could operate similarly to car-sharing applications, with the use of smartphones to book a vehicle, Airbus claims.

Istanbul ATC Prize

Istanbul New Airport's Air Traffic Control Tower designed by Pininfarina and AECOM won the International Architecture Award from a shortlist of 370 projects.

PHOTOGRAPH COURTESY OF AIRBUS

Istanbul New Airport, which upon completion will become the world's largest 'greenfield' airport, has already started to draw attention and garner architecture awards. The new airport's Air Traffic Control Tower and Technical Building has been deemed worthy of the International Architecture Award 2016, granted by Chicago Athenaeum: European Centre for Architecture Art Design and Urban Studies.



Pilots Banned from 30,000 foot Selfies

After six pilots for a low cost Indian Airline Indi Go took pictures of themselves working in the cockpit the airline and posted them on social media the airline has banned their staff from taking pictures at work. A company operative said that the photographs were giving the wrong message.

China seeks Western Pilots

Airlines are reportedly offering experienced airline pilots more than \$300,000 a year, tax-free, to work for them and that might be just the beginning of a bidding war for cockpit crew. Any news on helicopter pilots?

First Flight for AVIC Helicopter

AC312E, a new light twin-engine helicopter developed by the Aviation Industry Corporation of China (AVIC) has completed its first flight, the company announced in August. The helicopter, is designed to carry up to nine passengers or more than 1,300 pounds of cargo, and is aimed at both the domestic and international markets. It can be used for a variety of missions, including medical assistance, search and rescue, police use and VIP transport. The first flight took place in Harbin, Heilongjiang Province, China on July 27 2016.

Pyers Croft, Compton, Chichester, West Sussex PO18 9EX, England.
 Telephone: 023-9263-1713 Email: editor@helicopterlife.com.
 Please include your name, and email or phone.

Letters to the Editor

Hotel Needing Helicopters

Dear Georgina
 Good Afternoon,
 This is an introduction to Raemoir House (www.raemoir.com) located on Royal Deeside, Scotland, less than 20 miles west of Aberdeen and 9 miles west of HJS Helicopters (www.hjshelicopters.co.uk), Aberdeenshire.
 Would such a venue would be of interest to your subscribers.

Many thanks

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Lockheed Martin Snaps

Dear Georgina
 Chances are that you are unaware that three F-35s (1 UK, 2 USMC) landed at REF Fairford just before RIAT. This is the F-38B's first transatlantic flight and a major new miles stone for the programme.
 I wanted to share a unique photo which was captured shortly after the jets landed and parked.
 The photo is courtesy of Lockheed Martin.

Best wishes,
 Mark Johnson



Kirkbride Airfield gets Fuel

Dear Georgina
 I hope you are well and keeping busy flying helicopters which most of us can only dream of getting our hands on.

I thought I'd drop you a line to say that we are now able to offer not only AVGAS but also Jet A1 here at Kirkbride Airfield, which as you know is just North of the Lake District and the gateway to Scotland.

As an introductory offer to your readers we are getting the ball rolling with Jet A1 at £0.70 plus 5% VAT per litre and landing fees of only £20 for helicopters.

Sundays are proving popular as the White Heather Hotel on the airfield offers an outstanding Sunday lunch but it is best to book a table 016973 51373. For anyone wanting to make a weekend of it overnight parking is available as are plenty of B and Bs and hotels which are a short taxi ride away.

PPR is required for refueling by calling myself Chris Jones on 07796 955805 or John Plaskett on 07710 672087 and then calling up on 124.40 ten miles out. Kirkbride airfield information is available on my website:

www.chrisjonesgyroplanes.com

Kind regards
 Chris Jones



Helicopters Beware!

There have been several near misses between helicopters and gliders and the UKAB and BGA want to warn helicopter pilots flying near gliding sites



Following a number of recent incidents that have compromised safety when aircraft over-flying glider sites have come into close proximity with winch-launching gliders, the UK Airprox Board (UKAB) and the British Gliding Association (BGA) seek to remind pilots about the dangers of over-flying gliding sites, especially as the summer months mean much greater gliding activity is likely.

Some recent Airprox incidents illustrate the risks:

- 2014013 – a glider aborted a winch launch at Tibenham, Norfolk when a PA28 overflew the site.
- 2014211 – an Augusta 109 helicopter came close to a glider winch launching at Dunstable, to the west of Luton
- 2015026 – again at Dunstable, an MD902 helicopter came close to a launching glider
- 2016036 – an unidentified light aeroplane over-

flew Lasham, the busiest gliding site in the country, during a winch launch.

- 2016074 – an R44 helicopter overflew Husbands Bosworth south of Leicester and caused a winching glider to abort its launch.

Four of these incidents were categorised in the highest risk category - A – where it was judged a serious risk of collision existed and luck played a major part in the fact that collisions didn't occur. The full reports are available from <http://www.airproxboard.org.uk> within 'Airprox Reports and Analysis', side heading 'Individual Airprox Reports', under the appropriate year.

The key point is that pilots should not rely on seeing the winch launch happening as they approach the glider site. A glider will go from ground to 1000-1500ft in about 20 seconds, so spotting it in the climb is too late to



How easily can you see this winch wire?

do anything about the conflict. Nor is the danger passed once the glider is released from the winch. Pilots are very unlikely to see the cable itself and, depending on the winch-launch height, the hazard from these continues for at least another 20-30 seconds as it descends under a small parachute that is effectively invisible. Some glider sites are capable of launching to altitudes of 3-4000ft, with associated increased cable descent times. Maximum launch altitudes are indicated on the 500K VFR chart with a forward slash and height; as an example, Lasham has a maximum winch-launch altitude of 3700ft, as shown on the above right graphic as /3.7.

Pilots should always assume that a gliding site is active. Ed Downham, who, as well as being a UKAB gliding member, is a Boeing 777 captain said: "So far, we haven't seen an actual mid-air, either between the aircraft or with the descending winch cable. But it could soon be a matter for the AAIB rather than UKAB. Be under no illusion, such an encounter is highly likely to be fatal for those involved". Chris Fox, another UKAB gliding member and an R44 pilot, also commented: "A recurring theme in these reports is that the powered aircraft pilot assumed that the gliding site would not be active – perhaps because the weather was less than perfect, or it was late in the day. Gliders can, and do, winch-launch in strong winds and any cloud base that permits the launch to be completed safely – often in conditions that would deter many other GA pilots."

The UKAB advice is to avoid glider sites at all times; only overfly them if you have timely, positive confirmation from the site itself that they are inactive. When

avoiding glider sites, beware of simply skirting the ground location by a narrow margin because there are likely to be gliders operating close to the site as they soar within gliding range and, even if a site has finished winch-launching for the day, it may have gliders returning from cross country flights, or motor gliders self-launching into the local area. Many gliders these days fly with a system called FLARM, which is a relatively cheap electronic conspicuity aid. The associated P-FLARM unit is also relatively cheap, easy to fit in any aircraft, and provides potentially life-saving audio and visual cues for those hard-to-see gliders.



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Around the World

Fastest Woman Thanks Yorkshire AA



The world's fastest woman has made a special return to Yorkshire to thank air ambulance medics after surviving a terrifying motorcycle crash at more than 200mph.

Becci Ellis was trying to beat her own land speed record of 264mph at Elvington Airfield, North Yorkshire, last August when the high-speed accident happened. After reaching an astonishing 254mph her powerful turbo-powered bike was hit by a gust of wind sending her veering off the track.

Spectators - including her husband and former racer Mick - watched in horror as Becci's Suzuki Hayabusa careered out of control for a quarter of a mile before, still travelling at around 90mph, the mother-of-two was thrown off.

Yorkshire Air Ambulance was quickly on scene and airlifted Becci to hospital in Leeds within minutes. Thanks to armour-plating inside her racing suit, the 49-year-old IT analyst miraculously escaped with a broken ankle, severe bruising and whiplash.

After an eight-hour hospital stay, she was trackside at Elvington again the following day to watch other competitors and to help raise money for Yorkshire Air Ambulance.

Becci said: "I had just gone through the speed gate at

254mph when the wind caught me and in less than a second the bike had gone onto the grass.

"I managed to keep the bike upright but I was still doing around 90mph when the bike finally dug into the dirt and I was catapulted off. I don't remember coming off or hitting the ground, but I landed on my front sliding for about 70 yards and blacked out briefly.

"The air ambulance was called and the paramedics were there very quickly. I was in Leeds hospital fifteen minutes after the crash."

Becci's recovery has been painful and slow, but with the help of a sports therapist and the support of her family she is now ready to ride again - although on a completely rebuilt bike.

The mother-of-two from Scunthorpe took the new bike to Yorkshire Air Ambulance's Nostell Air Base, near Wakefield, to show air crew and paramedics and to thank them.

Becci added: "Mick and I have been collecting for the Air Ambulance for about 12 years and the day after my accident we raised £500.

"The paramedics and pilots are just fantastic and I taking the new bike up was my way of saying thank you for being there for me that day.

Airbus 160 Next Generation



* Several key design assumptions confirmed and exceeded during flight tests

* Unprecedentedly low vibration levels to set new standards of flight experience for passengers and crews

* Aeromechanical configuration frozen and flight envelope fully opened

Airbus Helicopters announced the validation of the H160's aeromechanical configuration – a crucial milestone allowing the programme teams to con-

firm some key aspects of the next-generation, twin-engine helicopter's design and performance. "Thanks to more than 200 hours accumulated in flight-testing, and with the achievement of this formal programme milestone, we have been able to confirm several key design assumptions and even exceed some of them against a real-life environment", said Bernard Fujarski, Senior Vice President in charge of the H160 programme. "With the helicopter's flight envelope now fully opened, we are confident that our next-generation helicopter will

PHOTOGRAPHS COURTESY OF ANTHONY PECCHI

AW139 for Pakistan

Leonardo-Finmeccanica announced today that the Government of Pakistan has signed a contract for an undisclosed number of AW139 intermediate twin engine helicopters to be used for transport and EMS missions.

This event sets a major milestone for Leonardo and further expands the already successful presence of the AW139 and other models in the Country.



set new standards of flight experience for passengers and crews", he added.

During its ongoing flight-test campaign, carried out with two prototypes in the company's main site in Marignane, France, the H160 has demonstrated exceptionally low vibration levels along with remarkable aircraft stability levels, setting new benchmarks in the field.

"Vibration levels have been a key objective since the launch of programme, and observed results give us confidence that the H160 will set new comfort standards for all missions segments, from EMS to passenger transport

or private and business aviation. We can't wait for our customers to experience this exceptional level of comfort themselves", Fujarski added.

Next steps of the flight campaign will focus on hot weather trials, to take place over the summer, followed by continued performance testing of the Arrano engines – now equipping both prototypes – as well as cold weather tests later in the year. A third prototype will join the flight-test programme next year to support the certification process ahead of the H160's entry into service.

Yorkshire Air Ambulance Airbus H145



Yorkshire Air Ambulance will have their new Airbus H145 helicopter in operation in September. The new H145 helicopter G-YAAC is expected to commence operations from the Charity's flagship base on the Nostell Estate near Wakefield over the first weekend in September. It will then be joined by a second H145, G-YOAA, which is now expected before Christmas and will be based at the YAA's other Airbase at RAF Topcliffe near Thirsk.

The two new state of the art helicopters will replace the YAA's current aging fleet of MD902 Explorers. These are expected to be sold to aid the cost of purchasing the new H145's.

Mr Sunderland continues "We were delighted to accept G-YAAC from Airbus Helicopter UK at their based in Oxford on 1st August. As a Charity we have been working towards this day for so long."

The new aircraft – each costing around £6m – offers exceptional flight performance and will have significantly lower operational and maintenance costs. The H145 is night capable, enabling longer flying hours, and is used by military, police and air rescue services throughout the world.

The purchase and fitting out costs have been met through planned savings, grants, careful budgeting and the amazing generosity of the people of Yorkshire.

Captain Andy Lister, YAA's Director of Flight Operations added "The H145 is a larger aircraft with better endurance and a longer range than we're used to, which helps us cover Yorkshire's 5 million acres, but the overall footprint is small enough for reaching patients in tight areas."

The new helicopters will also come with a state-of-the-art Bucher medical fit out, which will provide critically sick and injured patients the most advanced treatment techniques. The YAA crew were very hands on with choosing their medical fit and equipment, to ensure not only was it state-of-the-art, but also practical and easy for the crew to use.

A specialist team of Doctors and highly skilled paramedics from the YAA's crew were actively involved in the selection of the equipment.

Clinical Operations Manager Pete Vallance explains: "The open cabin allows clinicians to have full access to the patient inflight and we have future-proofed the specialised medical equipment that is being fitted.

"We believe we have now got the best aircraft and the best equipment available to enable us to provide top-level clinical care across Yorkshire for many years to come."

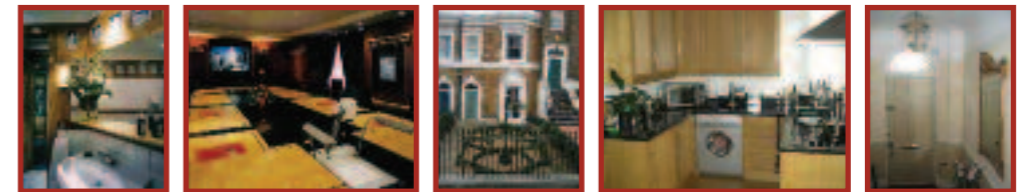
These final few weeks prior to commencing operations will see the YAA's Pilots will complete their final training with the Airbus team, before the paramedics start their familiarisation training with the helicopter. Operations are expected to begin from the Nostell Airbase over the first weekend in September, although a specific day has not yet been confirmed.

Yorkshire Air Ambulance still needs to raise £12,000 every single day to keep its helicopters flying. The charity serves 5million people across Yorkshire, attending on average, more than 1,000 incidents a year. The only help it receives is the secondment of its paramedics and Doctors from the Yorkshire Ambulance NHS Trust.



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One Dark Night in Vietnam

Words and pictures by Ralph Arnesen



Sometime during the beginning of my tour in Vietnam, most probably in 1969, I was scheduled for the Night Courier. Some guys liked this assignment as it gave them most of the days off to watch a ball game on TV, go to the Post Exchange, or just have the days off, most of the time it was a piece of cake. One of the captains in our company had met a young Vietnamese girl and he needed the day time to do the paperwork to marry and take her to the US. For most of the night you were on standby but the main mission was to take the correspondence from the US Army Headquarters at Long Binh to Saigon to be delivered to Washington D.C. or other places. This was important stuff.

Tom H and I were assigned this mission one night and it was looking good. We thought we would have the usual flight into H3 the heliport at Saigon Airport and sleep the rest of the night. What happened was that we were told to take an aircraft jack up to Song Be, a Green Beret camp about 80 miles north east of Saigon. We flew into H3 and shut down to load the jack. While we were doing this some soldiers asked us if they could have a ride but just about ran away when they heard we were going to Song Be. No way they wanted to go there.

The flight started out pretty good. We climbed up to an altitude that would give us enough terrain clearance as the ground rises up a few hundred feet on the way there. In the Saigon area there are lots of lights on the ground

and we were mostly VFR or Visual Flight Rules. Then it got dark, very dark once we were passed all the towns and military camps.

It was not that long ago that I had been in flight school learning the basics about flying on just the instruments. I wasn't that confident then and now I was getting a fast lesson in total darkness and the instruments are the only way to keep you from hitting the ground or losing control. Tom was into his second tour in Vietnam and was also getting nervous about our situation. Pretty soon, whoever was flying the aircraft was getting vertigo and calling out, "You Have It". The other pilot would take the controls and after a few minutes would shout "You Have It". So it went for at least five minutes or more. It was hard to keep the aircraft, a UH-1D, at the altitude and upright. Then the lightning started, we had entered a thunderstorm over the jungle with all the rain and turbulence we needed to keep us both busy.

Eventually we broke out on the other side. It was nice to see the stars but not much else. Where were we? We had no idea where we were or how far we had travelled. We might have been going up and down in one spot for all I knew. We discussed the problem and got on the radio to Saigon Radar and asked if they had us on their screen. Negative. So they asked us to put the transponder on the emergency squawk, 7700. They came back and said they had us and the distance and heading to Song Be

was 350 degrees and 25 miles. Funny how such details stick in your mind even after more than 45 years.

Tom and I landed at Song Be and unloaded the jack. It was for a C123 that had hit a mortar hole on landing at the airstrip there that day. We made a speedy take-off and had an uneventful trip back as heading toward Saigon and Long Binh; you could see them after a few minutes flying when you got high enough and no clouds in the way.

Like I said, most of the time the midnight courier was a piece of cake. However, the courier run on New Year's Eve or Tet could be very exciting.

Just imagine, it's New Years Eve. There are a few thousand GI's and anyone else with a semi automatic rifle or pistol with tracer bullets who have been celebrating in some of the bars of Saigon, and there were quite a few. At midnight the sky looked like there was an air raid with all the red flashes crossing the sky and here you were trying to avoid the worst of it. We usually turned off the exterior lights, no use giving them a target. I don't think anyone ever got hit but it sure made it interesting.

I guess that stuck with me for years as I had this fear of flying into a mountain when I first started flying in the North Sea, even though I knew there were none. It took a year or more before I became comfortable and began trusting the instruments.



Will Sikorsky become the new Schweizer?



G Cheyne examines the future for the commercial and military giant

Last year Sikorsky was sold by its parent company UTC (United Technologies Corporation) to the aerospace giant Lockheed Martin. Industry insiders asked does this mean the same fate for Sikorsky as its junior partner Schweizer? The oil and gas helicopter market, in which Sikorsky machines are very prominent, was and still is, going through an unstable period. Could it be that Lockheed Martin just wanted one part of the Sikorsky Company, would rebrand it, and ditch the rest?

I asked Dale Bennett, Executive VP of Lockheed Martin Rotary and Mission Systems if this was the case.

He replied it was definitely not, and that Lockheed Martin was totally committed to Sikorsky's goals.

"Sikorsky's commercial business is expected to recover and add value in coming years despite current pressures caused by low oil prices. These current pressures enabled Lockheed Martin to make this acquisition at a low point in the economic cycle, and all of these elements indicate significant opportunities for growth in the future, and value creation potential."

Bennett further explains that Sikorsky Aviation has now been given the ability to leverage on Lockheed Martin's scale, which will "ensure it remains a technology leader at the forefront of vertical lift."

Plus, this increase in scale is also beneficial for

Lockheed Martin itself:

"Sikorsky and Lockheed Martin are better together as we leverage our combine scale and serve as technology leaders at the forefront of vertical lift."

Even though Lockheed Martin is best known as a defence contractor, Bennett says the commercial element was one of the major attractions of the Sikorsky purchase. "Sikorsky enables Lockheed Martin to pursue its stated interest in increasing commercial business."

To emphasize this point he says: "Lockheed Martin's Chairman, President and CEO, Marillyn Hewson, has publically stated (that) our view is that we can take the core technologies and capabilities that we are doing on the defense side and transition them into the commercial side."

As well as the oil industry, Sikorsky is "pushing aggressively into the SAR, Head of State and international segments with the S-92 and S-76D aircraft."

The company is well aware that customers and operators require long-term commitment from the manufacturers and Bennett says that Sikorsky is "concentrating its efforts on providing superior aftermarket support."

In 2016, Sikorsky has seen a 20% increase in S-92 fleet flight hours and "Lockheed Martin continues investing in Forward Stocking Locations world-wide to ensure

part availability for our customer's critical missions." Moreover, Sikorsky's state-of-the-art Customer Care Center opened in March 2016 under its new parent company. The S-92 has been selected by the US Navy to transport the President of the United States and have ordered a fleet of 21 machines starting in 2020. The U.S. Navy awarded a \$1.24 billion fixed-price incentive Engineering and Manufacturing Development contract for 21 operational and two test aircraft.

The S-76 helicopter currently operates in more than 40 countries on five continents, fulfilling its many missions in varied environmental conditions found world-wide. More than 850 S-76 helicopters have been delivered across the world since 1979, contributing to nearly 7-million fleet flight hours, predominantly in offshore oil transportation.

With both aircraft, Lockheed Martin Sikorsky is committed to increasing helicopter viability, as well as "determining the roadmap for our next generation commercial product."

With their next generation product Lockheed Martin Sikorsky are moving further with the technology Sikorsky has already invested in: speed, autonomy and intelligence and their commercial applications. They are also working closely with their major customers to understand their needs and what is required from the next generation products to support their missions.

Sergei Sikorsky son of the company founder speaking in 2005



Lockheed Martin are committed to Sikorsky's vision of next generation technology



PHOTOGRAPHS BY GEORGINA HUNTER-JONES AND COURTESY OF LOCKHEED MARTIN

Brunei fills

the Jungle

David Oliver visits 7 Flight Army Air Corps

Photographs courtesy 7 Flight, WO2 P Stout PARA and the author



The Army Air Corps' 7 Flight (Brunei) is a small detached sub unit of the Joint Helicopter Command under the tactical command of Commander British Forces Brunei (BFB). Located in

Brunei Garrison, Seria, the Flight provides day/night MEDEVAC cover, trooping and tasking in support of BFB and other exercising units.

The British Army Jungle Warfare Training School

known as Training Team Brunei (TTB) is also located at the British Military Garrison (BGB) at Seria. Since its independence in 1984, British Forces have been stationed in Brunei at the request of the current Sultan in a renew-

able agreement lasting five years at a time.

In addition to 7 Flight, BFB comprises an Infantry Battalion, which is one of the two Royal Gurkha Rifles battalions. The climate of Brunei is well suited to jungle



7 Flight Bell 212 with underslung load

operations and the TTB run jungle warfare courses for all members of the British Army, the Royal Marines, and the SAS ranging between four weeks and three months.

Courses include the Jungle Warfare Instructors Course (JWIC) and the Jungle Warfare Tracking Instructor Course. The aim of the JWIC is to train officers and NCOs in the planning, instruction and supervision of jungle warfare in order to conduct operations in Close Country Tropical Environment (CCTE). From mid-2015 it has been running a new course to train teams that deploy deep into enemy territory.

The Long Range Reconnaissance Patrol Course (LRPC) uses the arduous and demanding conditions of the jungle to prepare troops to deploy anywhere in the world. The troops learn to live off the land, identifying edible plants and fruits, learning how to track and trap animals, collect water and build a fire, all of which enables them to prepare food to survive on.

The jungle training areas used by British and foreign troops are seen to be one of the most challenging envi-

ronments in the world to soldier in. Due to the remoteness of the areas used, the only way for soldiers to train within the jungle interior is through insertion and extraction by support helicopters. The jungle is both a dangerous place to live and operate in and aviation MEDEVAC is the only option, often requiring personnel to be winched from within the jungle interior by day, or by night through the use of Night Vision Goggles (NVG). The jungle specialist aircrew are permitted to operate to a Minimum Separation Criteria of 10 feet.

Personnel are assigned to the Flight for 2 years. The majority of aircrew and ground crew are already experienced in their field having worked on one of the Army Air Corps' mainstream aircraft, with the majority of pilots having previously flown the Lynx or the Bell 212 with 25 Flight that supports British Army Training Unit Kenya at Nanyuki.

The tasking of 7 Flight ranges from general trooping and resupply sorties to role specific functions, such as heli-abseiling, winching and under slung loads.



Anti-Tank Platoon Royal Gurka Rifles heli-abseiling

Additionally the Flight also contributes to Bruneian Government efforts fighting the seasonal jungle fires utilising bambi buckets. The latter task is part of a wider Humanitarian Assistance and Disaster Relief capability, used to great effect in Banda Aceh, enabling relief operations following the devastating tsunami in December 2004.

The unit is the Joint Helicopter Command's permanent jungle aviation unit, which maintains corporate knowledge of this specialist operational skill should it be required for future contingencies outside.

The flight is equipped with three Bell 212 Mark 1 helicopters that are owned and maintained by Cobham Aviation Services under a civilian owned, military oper-

Jungle Warfare Division troops emplaning for infiltration to the Ulu Labi training area. (WO2 P Stout PARA)



ated (COMO) contract. The Flight has used these particular airframes since 1994. As standard, the aircraft are rolled either for MEDEVAC, incorporating an internal hoist, or configured for trooping. The aircraft can lift up to six fully equipped soldiers in addition to the three crew members.

All scheduled deep maintenance takes place in the Flight's EASA Part 145-compliant facility at Medicina Lines, Brunei Garrison and is undertaken by the contractor. Each aircraft takes approximately three months to complete the full schedule, which is a mandated military requirement every six years.

The flight has a strong relationship with the Royal Brunei Air Force (RBAirF) and is often operating in similar areas within the Ulu Labi and Ulu Tutong training areas. Ground crew personnel from both 7 Flight and the RBAirF conduct regular training together, which enables

the RBAirF Blackhawk and BO105 helicopters to uplift fuel at the Flight's operating base and the Flight's Bell 212 helicopters to uplift fuel from Rimba Airbase in the capital Bandar Seri Begawan.

The Flight's personnel also meet with members of the detachment at the Brunei Airspace Safety Group, a unique military/civil quarterly air safety forum, attended by personnel from the RBAirF, the Royal Flight, Shell Aviation, Royal Brunei Airlines, Bruneian Civil Aviation Authority and other key aviation stakeholders in Brunei.

The ageing Bell 212 helicopters of 7 Flight are scheduled to be replaced by new aircraft under plans to extend its outsourcing arrangement called Aviation Support to British Forces Brunei (AS-BFB). The Prior Information Notice for this commercial activity was issued on in June 2015 via Defence Contracts Online and an Invitation to Negotiate was issued in accordance with Defence and

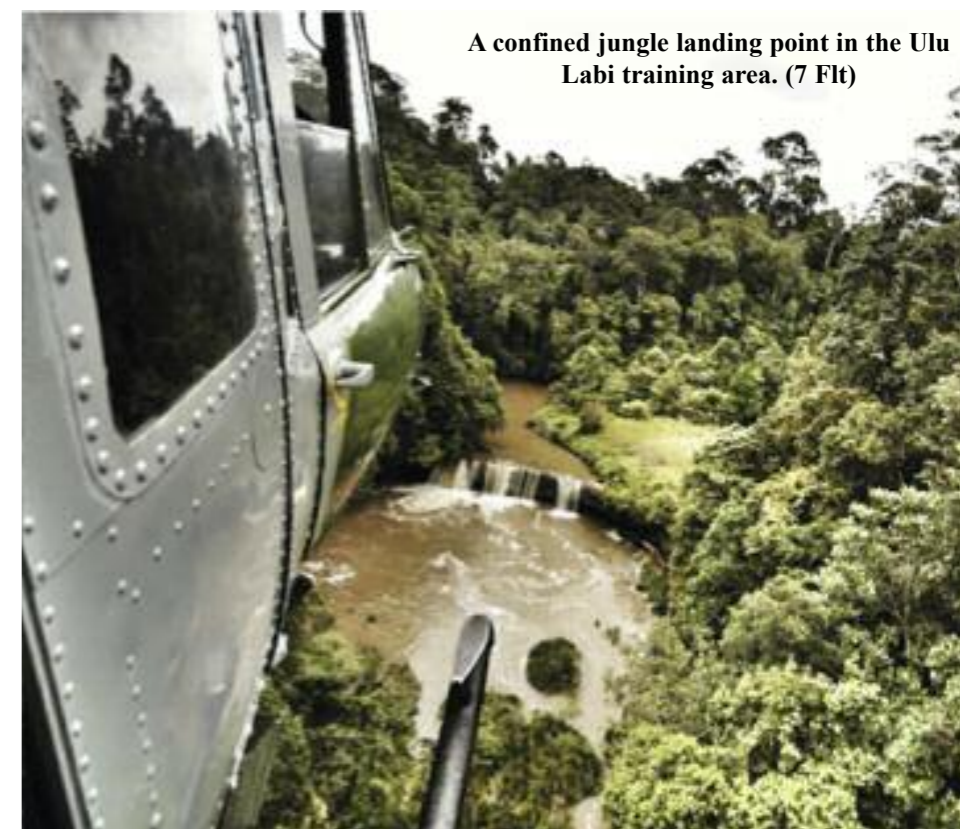
7 Flt Bell 212 on a hilltop landing pad in the Ulu Temburong training area. (7 Flt)



Security Public Contracts Regulations (DSPCR) in December 2015.

Potential bidders, in addition to existing service support provider Cobham, were expected to include AAR Airlift, Gama Aviation, British International Helicopter Services and Finmeccanica (Leonardo), were required to submit a bid by 25 February 2016. The contract, worth between £20- 50 million, until the end of September 2022 will be utilised for 1,200 flying hours, over a 320-day period each year for the full five years of the contract. A contract award is due by the end of 2016 and following a transition period, the new contractor will be expected to deliver full services from October 2017.

A confined jungle landing point in the Ulu Labi training area. (7 Flt)



Short Term Pain Long Term Gain



Helicopter Life looks at the future of the oil and gas industry and its allied helicopter companies

In the spring of this year, CHC and the Bristow Group admitted that they were surprised by the severity of the downturn in the oil and gas market, and Airbus Helicopters reportedly said they were not expecting the market to return to its peak until 2020.

Over the last few years there have been major changes in the way helicopters are used in the oil and gas industry. This is partly the result of helicopter accidents and mostly the result of a downturn in the oil market. However, this change has come quickly. In 2013, demand for new helicopters was so high there was a year long waiting list, and a new breed of leasing companies were created. The General Electric Company paid \$1.8 billion for Milestone Aviation Group, the largest helicopter-leasing company. Lockheed Martin bought Sikorsky, partly for its military expertise, but also for its commercial sales. Manufacturers were vying to produce helicopters that flew faster and further. At the time the oil price was about \$100 a barrel. Contrast that with the current price of around \$40 a barrel and it explains why O & G

companies around the world are shedding pilots and wondering what to do with an excess of machines.

With such bleak forecasts, helicopters going into storage and pilots being retrained or given early retirement, what is the future for the helicopter companies involved in the oil and gas industry?

The answer is surprisingly upbeat, in the long-term. Population forecasts estimate that by 2050 the world population will be 9 billion, and the majority of these will be young and in developing nations. As the quality of life increases in these nations, so the demand for energy will rise, and, assuming no credible alternative to oil and gas is found, there will be growth in this market and in the helicopter 'work-horse' market that supplies the oil and gas fields.

The IOGP (International Association of Oil and Gas Producers) forecasts that by 2040 the world will need 25% more oil (about 17.9 billion tonnes) as well as other alternative methods of fuel. Chris Hawkes, IOGP Safety Director, says: "We actually need to explore and produce

more oil and gas, if we want to be able to meet all the demand for our products."

However, he agrees that we "are currently facing a challenge, but our industry is used to cycles, and we have been in similar situations before: we are used to boom and busts."

On the short term cost side he said, "priority number one is safety, so there is no compromise possible on that," and that operators should have made provision for the cyclical nature of the industry.

On the subject of safety in the future Hawkes said: "There have been several advances recently in terms of equipment and procedures and our understanding of the causes of major incidents, but we cannot be complacent. IOGP continues to be at the forefront of the Industry's safety improvement efforts, and our main role is in understanding and improving the Industry's Health, Safety, Security and Environmental Performance."

In the long term, this is good news for helicopter operators and manufacturers. Even so, though, for the current large players there is growing competition from the same markets that are creating the demand. China, for example, has CHOOC (the Chinese National Offshore Oil Corporation) that owns a 10% stake of the North Sea oil production and is attempting to buy a 19% stake in Rosneft, the Russian oil company. (Industry insiders say that Russia is likely to agree the deal.) CNPC (Chinese National Petroleum Corporation) also has operations in the Middle East, Far East, Africa and Canada. For a long time building helicopters was an adjunct to other companies China is now building helicopter that are uniquely its own. Moreover, since the application of European sanctions, China has grown closer to Russia and is involved in joint ventures with Russian helicopter com-

panies.

Russian Helicopters CEO, Alexander Mikheev, said: "China is one of the oldest and largest partners for Russia's helicopter industry" and he expects new agreements to include: "new and advanced Russian helicopters to the Chinese market."

The Malaysia-based Weststar Aviation Services Sdn Bhd said to be is the largest provider of offshore oil & gas helicopter transportation services in Southeast Asia currently works with Bristow, as do many smaller players. At the moment the Asian O & G market has many small players but these too will be vying for position in a lucrative market.

Jakub Hoda, Bell Helicopter Managing Director for Europe and Russia remains upbeat about the future. He says that Bell see opportunities for new exploration in the Black Sea, Middle East and Africa. They feel that the O & G market is still there, but that "the emphasis has shifted because of the low price, however the demand is still there and in 2 -3 years it will rise again."

By that time, he believes, the 525 should be certified, so its certification would appear to be at the right time and with the best equipment for the time.

CHC were also upbeat having just celebrated their inaugural flight to the Mariner field, Statoil's first operated field development on the UK continental shelf, which is located 250 kms off the north east coast of Scotland. They see plenty of opportunities for the future, pointing out that exploration is still a buoyant market.

The conclusion, then, seems to be that oil and gas is very much alive as a future fuel source and that although things are a little challenging at present and in the near future, in the long term the market will rebound and more than compensate for the present lean period.



CHC's Sikorsky S92 flew from Aberdeen

PHOTOGRAPH COURTESY OF CHC



CHC and Statoil's inaugural flight to the Mariner field, 250 km off the north-east coast of Scotland

What Brexit could mean for

Georgina Hunter-Jones
looks at the possible implications of the UK decision
to leave the European Union

Helicopter Flying in the UK

HELICOPTER
LIFE

Autumn 2016

Photographs by Alan Norris, Georgina Hunter-Jones,
and Hilaire Dubourcq, and Neil Harrison



What will 'Brexit' (the British vote to leave the European Union) mean for aviation in Europe and the UK, and in particular for that much smaller industry: commercial helicopters?

Immediately after the news that the UK had decided to pull out of the European Union there was a statement from Airbus:

"Brexit will prove bad news for the aviation and aerospace industries as their activity is closely associated to the dynamism of Europe. Not only will airlines suffer, but also Airbus and the very large number of suppliers, which have for years orchestrated their development, based on British cooperation."

A few days later Lord Glenarthur, President of the BHA, called on the Government to do all in its power to ensure the voice of the UK's aviation expertise is not wasted, as the country withdraws from the EU.

"A reduction in our influence on aviation regulation will be massively detrimental. Our expertise will be missed and its loss much regretted by those EU countries with whom we have worked so closely and for so long."

He urged the government to "do all in its power to ensure that the influential and powerful voice of the UK's aviation expertise and the experience of our own Civil Aviation Authority – and those who work with them – are not wasted or become less influential as we

withdraw from the EU."

Clearly, in the years in which British aviation has become so integrated into the European Union model the UK has played a large and important role, and one that we do not want to lose. However, while airline companies, such as British Airways, have a lot of political clout, and can talk to and influence government thinking, smaller operators are dependent on their commercial bodies and associations for political representation.

Tim Fauchon, Chief Executive of the BHA says:

"We are paying strict attention and lobbying governments to ensure they do not forget the small operator and especially the helicopter industry."

It seems that there are four areas in which the UK helicopter industry may be challenged by the Brexit vote. Firstly, commercial nationalism, the desire of companies to keep work in their own sphere of influence, and the costs incurred, secondly, regulation, both between countries and within countries, thirdly, freedom of labour movement and, finally, with new (known as fourth generation) technology.

For Europe, one of the most challenging aspects of the current politics is the rise of Nationalism (of which the UK 'Brexit' vote is only one example) that could lead to a fractionalized Europe. While it is not certain that other countries will vote to leave Europe, there are national

Leonardo, formerly known as Finmeccanica, parent company of Agusta Westland will have to deal with the effects of Brexit



Some EU countries require written permission in advance for a helicopter to land 'off piste'

elections in France and Germany in 2017. There is also the EU's fraught relations with Greece, which has led to calls for a Grexit, and divisions in Italy and other countries. So, the possible break-up of the EU and its consequences are something that helicopter operators need to be considering in advance of the year 2017.

Even without a European break, one potential effect of Brexit for helicopter operators, is a possible return to the challenge of restrictions on free movement of helicopter companies across borders. Much of the work of UK helicopter companies is transporting people from outside Europe to countries within the EU, if this was hampered by border crossings, customs and currency differences it would be more time consuming and expensive.

Furthermore, differing financial regimes may lead to the need to pay VAT, even where previously this was unnecessary within the EU. The extra regulation needed to put all these barriers in place will lead to higher costs and could eventually get to a stage where the business of running a commercial helicopter company in the UK becomes uneconomic.

The EU already has some differences in regulation between participating countries, which have caused challenges for operators, and in some cases this has led to helicopters being unable to perform their full functions.

For example, 'landing sites:' Here the regulation varies from country to country being 'over-severe' in many European countries for historic rather than safety reasons. Simon Mitchell, from the commercial operator Starspeed explains:

"In the UK we are in a good position regarding landing off-airfield, we can land virtually anywhere with owner's permission provided the appropriate safety issues are complied with. This, however, is different in many countries in Europe, where it is necessary to send in 'paperwork' requesting a required site, sometimes months in advance. This, given that clients will often make last minute decisions to fly somewhere on business, means that it is very rare to be able to land off-airfield in some countries, such as, for example, Italy."

The downside of landing on airfields rather than off-airfield is the potential distance from the destination, which then involves a further taxi ride. The subsequent extra costs often mean it would be more economic for the customer to take an aeroplane rather than a helicopter.

If the UK no longer has a voice in the aviation regulation in the EU it is unlikely that the above differences in regulation will be highlighted and ameliorated. This is a potential disadvantage for all helicopter operators across

A privately owned Sikorsky S-92 managed and run by the UK based company Starspeed



the EU, as well as in the UK.

Ironically, Brexit voters who were also pilots might have been hoping for a return to the CAA of the 1970s, but this cannot happen. The current CAA is now a small, regulatory body and not capable of creating new legislation. In the past there were independent 'Air Service Agreements' between countries and in theory it might be possible to return to this sort of picture. However, in practice this would be too difficult and costly to manage. Instead, options open to the UK are either to join a 'triangle' of Northern Atlantic operators with Greenland, Iceland, Norway and the Faroe Islands or to stay affiliated with EASA, or (least likely) to try and make some kind of special union with the FAA.

Given its recent past history, and their many shared regulations, it is more likely that the UK aviation industry will stay within EASA but have no vote on its issues. They will become in effect a passenger in the system, able only to be ruled by EASA but no longer with a say on the way things are managed.

An added disadvantage to this, as one small helicopter operator pointed out, it will now be possible for European competitors to place obstacles in the way of UK helicopter companies working in the area of the EU, something they tried to do before it became legal to 'play the competition game'.

Another Brexit challenge is finding staff and in particular pilots. In the past, UK commercial companies, the police and the air ambulance used to recruit ex-military pilots, who had a good varied breadth of experience with many years of flying different types of machine in difficult and challenging circumstances. Over recent years this trend has been declining with the reduction of government spending on military assets. Consequently, many British pilots currently employed in the UK are of an older age group, with a wide variety of experience but close to retirement age. Younger pilots tend to be European, as there is higher government spending in Europe, in particular in Eastern Europe, than in the UK. If, instead of being able to easily employ foreign nationals companies had to apply for work visas there would be added delays and expense for the company.

While the experience level of pilots in the UK is currently an advantage, in the future the UK may find itself penalized as the older pilots retire and companies can no longer easily employ younger European pilots as a result of the loss of freedom of movement. The government could overcome this problem by increasing the size of their military aviation divisions, but given recent cuts in The Services it seems unlikely.

The latest developments in manufacturing and the creation of '4th Generation technology' in helicopters is



Be aware of the potential drawbacks of BREXIT and make plans

changing the industry and reducing the cost of maintenance and training. The new technology, while possibly a challenge for pilots and aircrew to get used to in the short-term, is of considerable overall benefit in the long run as it is easier to fly and cheaper to maintain. The helicopter market generally is optimistic about fourth generation technology, and operators are poised to benefit from decreased costs, higher speeds and increased passenger comfort.

However, as the majority of the helicopters used by the UK market are manufactured outside the country this new technology may come to UK operators at an increased price. The pound is currently low against the Euro and the UK may now have to pay VAT on machines and parts, which would reduce the financial gain of the fourth generation technology, perhaps to an uneconomic level.

In their Brexit statement Airbus said: "For Britain, there will obviously be growth opportunities in other markets, but they are further away and are more uncertain."

There have been some moves with India and other countries to introduce new markets, but the current G20

conference showed that the UK still has a long way to go to interest the USA, and has many reservations about China and Russia. Here, as the Chinese say: "the future will be interesting."

Most of the fallout of from the Brexit vote will be on the commercial operators but what of the private owner, the student doing his IR training in France and the day-tripper to Calais and Le Touquet? Already the fall in the pound has affected them, but can you envisage a time when UK citizens need a visa to visa Europe? Could getting a visa to, say, France, be as costly and difficult as it currently is to get one to Russia? With luck and good relations this should not happen, but it could!

So, there are future benefits for the UK and Europe to look forward to in terms of new technology, but how the ability to use it and the possible restriction on the freedom of movement of pilots across the EU is worked out in the coming years will make a huge difference to the profitability of the helicopter industry in the UK. This may be too pessimistic an outlook but helicopter operators and pilots certainly need to be aware of the potential drawbacks of Brexit and make appropriate plans.



It was a swell party but will it continue to be good for the UK?

POP sees potential new air cargo opportunities following Brexit



Currently working towards its launch, POP plans to be the first airline to operate non-stop flights between the UK and both Amritsar and Ahmedabad in India's Punjab and Gujarat states. With the long historical links between the two countries, the POP team see the UK's decision to leave the European Union as creating potential new opportunities for its planned air cargo operations.

In addition to meeting the needs of a currently underserved 'visiting friends and relatives' (VFR) market and the expanding tourism and business sectors, POP aims to open up new trading links not only between the UK and northern India, in both directions, but also with the wider world through agreements with other air cargo operators.

At a time when India is engaged in a "Make in India" campaign launched by prime minister Narendra Modi to boost indigenous manufacturing, the country is also making significant progress towards improving its trading environment and logistics infrastructure. India recently called for "a robust supra-national supply chain" and announced a list of proposed air cargo reforms, including 24 hour customs processing with paperless systems, the promotion of free trade and warehousing zones and the implementation of air freight stations as well as incentives for the logistics industry eg the granting of 'infrastructure status' for companies co-located at airports.

PHOTOGRAPHS COURTESY OF POP

Launching its operations against this trade-friendly background, POP will be providing previously unavailable opportunities to manufacturers and producers in northern India who will now be able to take advantage of direct 8 hour flights to the UK to export a range of goods and produce - fruit and vegetables (including papayas and mangoes), sugar cane, tea from the northern plantations and chicken - as well as manufactured goods, including textiles and traditional Indian clothing.

Looking to the future, Ahmedabad, known mostly for its manufacturing of denim fabric and its export of jewellery and gemstones, also produces chemicals, cars and pharmaceuticals and has recently established itself as a biotech hub, with more than 50 biotechnology companies and approximately 66 biotech support organisations.

POP's air cargo services will also help manufacturers in other countries wanting to export to India. The airline's direct flights to Punjab and Gujarat will enable them to meet, at a significantly lower cost, the growing demand for products such as electronic devices from an expanding middle class in all parts of India, including the north of the country.

To further facilitate trade between India and the rest of the world, including online business, POP will also be negotiating wholesale deals with selected international courier companies.

Yeovilton Air Show

Photographs by
Clive Bennett



In 1986 a specially modified Lynx set the current Fédération Aéronautique Internationale's official airspeed record for helicopters at 400.87 km/h

Every year Royal Naval Air Station Yeovilton (HMS HERON) holds its International Air Day, which sees visitors, both of the human and aircraft varieties, come from far and wide to enjoy this Somerset spectacular!

This year's event celebrated another pending aircraft retirement, the Lynx Mk 8 which is due to be stood down from service during March 2017, so it was making its last appearance at an Air Day. Examples were able to be seen both in the static park and in the skies above the Airfield, where it was shown off alongside its replacement the new Wildcat helicopter.

This year's event was also the first where the Sea

King was not in attendance following its retirement in March and replacement by the Merlin, which was present in quite large numbers during the day.

A wide variety of rotary winged assets were seen throughout the day's activities, from the privately owned Gazelle Squadron who turned up with three aircraft (2 in the flying display and 1 static) to the ex Royal Navy Wasp. The Army Air Corp contributed with their Apache display (with added ground pyrotechnics) and the excellent staged Junglie Assault which utilised all the based assets of the Royal Navy from RNAS Yeovilton and, as always the highlight and the closing act for this truly magnificent Airshow.



Above: staging the Junglie Assault
Below: the Apache



HELICOPTER LIFE, Autumn 2016



The Lynx has the distinction of being the world's first fully aerobatic helicopter with the ability to perform loops and rolls



Gazelle head to head display



The Wasp, once a Navy stalwart



Base assets from RNAS Yeovilton

elitehelicopters.co.uk

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HeliTech International

Amsterdam 2016

Words and pictures by HeliTech Team



Falling oil prices and a volatile global economy are both factors that have contributed to a feeling of uncertainty in the rotorcraft industry. Despite this, strong demand from North America and emerging economies like China and India are fuelling growth, and the overall civil rotary fleet is projected to increase by 1.9 percent over the next decade.

Forecasts for the European helicopter maintenance, repair and overhaul (MRO) market are also looking positive, with predicted growth of 2.5 percent over the next decade, third only to the Latin American and Chinese markets.

It's not just demand for new helicopters that's shaping the landscape of the rotorcraft industry. Recent technological developments, including high-speed, multi-rotor and even electric powered motors are becoming a more realistic possibility for the future.

Unmanned aerial vehicles (UAVs) are quickly becoming integrated with businesses looking to utilise the technology to provide a range of activities not before possible, like oil rig inspections or express goods deliveries.

The UAV market in the last five years has grown exponentially and is expected to be worth \$14.9bn in 2020. However, in order for the market to thrive commercially, challenges like regulatory policy and air traffic management must be overcome.

Helitech International – run in association with the European Helicopter Association (EHA) – is Europe's leading business event for the rotorcraft industry, returning to Amsterdam from 11-13 October 2016 with a new seminar and workshops programme that will present manufacturers, suppliers, buyers and engineers with a unique opportunity to source the latest equipment, while learning about the trends shaping the future of the sector.

Industry leaders, as well as smaller start-up businesses, will be showcasing the latest helicopters, parts, services and accessories, while the Insight Seminars, Business Leaders Forum, Technical Workshops, Operators Forum, Safety Workshop and EHA Rotorcraft Seminars will provide advanced technical information, updates on emerging trends and information on the latest safety regulations.



New content for 2016

New to this year's event will be the Operators Forum, where operators from across the globe can network with like-minded individuals and discuss the evolving rotorcraft industry and ways of improving missions. Held over a working lunch on Tuesday 11 October, attendees will be able to set the agenda by submitting topic preferences in advance of the event.

Another new feature at this year's show will be the Technical Workshops that will offer interactive briefings on different types of technology, fit outs and missions. Delivered by leading businesses, including OEMs who will be exhibiting at Helitech International, such as Airbus Helicopters, Leonardo and Bell Helicopter, the sessions will enable operators to garner actionable insights before making purchasing decisions.

Presenting the latest insights

A final new addition to the event will be the Insight Seminars, where helicopter emergency medical services (HEMS), search and rescue operations (SAR), and unmanned aerial vehicles (UAVs) will be in the spotlight.

On the first day, HEMS operators will be able to hear

about future trends in emergency medicine and the impact they will have on air ambulances and mission equipment.

Gillian Jenner, Editorial Director of Conferences and Seminars at Helitech International, commented: "Pre-hospital emergency medical services are evolving and this will inevitably lead to changes in the way helicopter air ambulances, across the globe, operate. The types of medicine that need to be carried and the care that needs to be given will be on the agenda at the event and our speakers will be helping the rotorcraft industry respond to the changing landscape."

On Tuesday 11 October, the European Helicopter Association (EHA) will once again run its EHA Rotorcraft Seminars. A series of informative sessions that focus on rule making and legislation in the rotorcraft industry. As part of the programme, the European Aviation Safety Agency will update attendees on the organisation's progress and its achievements to-date.

During the afternoon session, the EHA will host an interactive session designed to tackle some of the helicopter operators' main concerns. Age 60, refuelling, aerial work, oxygen requirement and pilot licences will all

be covered and attendees will be able to raise questions and provide feedback on each topic.

To help the rotorcraft community plan for the future, Helitech International's Business Leaders Forum will provide a platform to discuss the most pertinent business and strategy issues facing their operations.

Throughout the morning session on Wednesday 12 October, business leaders will be joined by experts from across the rotorcraft supply chain. Those in attendance will be able to hear speakers highlight key market insights and opinions on issues set to impact the industry's future.

The final day will see the return of the Safety Workshop to highlight the vital importance of safety in rotary wing operations. Hosted by the European Helicopter Safety Team (EHST) and the International Helicopter Safety Team (IHST), this year's sessions will discuss the changing landscape of safety awareness as new and evolving threats emerge onshore and offshore.

Showcasing innovations

Airbus Helicopters, Bell Helicopter Textron, Leonardo, Waypoint Leasing, Marengo Swisshelicopter, Dart Aerospace, and AEROLITE, are just some of the names that have confirmed support for Helitech International 2016. They will be joined by 200 businesses from across the globe. Visitors will benefit from being able to test equipment and ask questions about solutions before making purchasing decisions.

Curtiss-Wright has confirmed it will be at Helitech International to demonstrate its new Fortress HUMS ED-112A compliant cockpit voice and flight data recorder. The solution can be quickly and easily retrofitted onto a helicopter and significantly reduces the time and cost of aircraft installation, and is an extremely low weight system.

New Zealand-based company Flightcell will be showcasing its latest Push-To-Talk (PTT) solution at Helitech International 2016. PTT provides all-in-one aviation communication systems, providing satellite and 3G/4G cellular communications with GPS tracking.

With over 40 years' experience in the electronics manufacturing services sector, Butcher Leachtubs will also be at the show this year. It will showcase its newly redesigned emergency medical systems for Airbus' H135 and H145 helicopters.

Additionally, Avalex Technologies will demonstrate its latest HD surveillance technology. The AVC1816 smart video switch routes HD and SD video and analog audio throughout the aircraft, providing users with a range of customisation for on-board audio visual expansion options.

John Hyde, Event Director of Helitech International, commented: "We are very excited to introduce a range of new content to the show this year. Helitech International is all about bringing together the rotorcraft industry, allowing operators, key decision makers, exhibitors and likeminded individuals the chance to network and make new connections. If you can invest one day this year going to an event, make it Helitech International 2016; the ideal platform to make new business contacts, and drive your business forward.

mobile phone signal detector and a bespoke cabin layout which includes traversing crew seats and medical installation and stretchers.

Equipped with two rescue hoists with easy access to the large cabin area that is further enhanced with rear ramp and port airstair access is great improvement over the current Westland Sea King mounts that have been in g locations with the principal HUB being at 330 Skv's main operating base at Stavanger-Sola.

In the meantime the company, Leonardo-

Finmeccanica, through its AgustaWestland holding at Yeovil will in association with the RNoAF continue the next key phase of military type certification to support delivery of the first aircraft. Norwegian personnel will commence training by July 2016 at the same point as mission sensor integration on aircraft 2 commences. Training will be undertaken at both the company's Yeovil facility and in all probability at its out-based flying base at Newquay. Aircraft 1, build number 500262 aka ZZ100, will be delivered to Norway on July 4, 2018 between deliveries of aircraft 5 and 6. This follows the end of principle test flying on the basic avionics package and initial aircrew training.



Bell 429 flying in to the show.
Right: RAI in Amsterdam



Enstrom TH-180

KADEX Can



Arjan Dijksterhuis reports on the fourth Kazakhstan Defence Expo

The fourth year of the Kazakhstan Defence Expo took place from the 2nd of June until the 5th of June on the military part of the airport of Astana, at the air base of the Armed Forces of the Republic of Kazakhstan. The expo and is an international exhibition of weapons systems and military equipment.

Kazakhstan

Kazakhstan became independent from the Soviet Union in 1991 and is surrounded by Russia, China, Kyrgyzstan, Uzbekistan and Turkmenistan. Nowadays, the city of Astana has a beautiful skyline with incredible buildings. But twenty years ago it was 'just' a city, called Akmola. Astana is the new capital since 1997 when Kazakhstan's President Nursultan Nazarbayev moved the capitol from Almaty to Astana. The Russian influence from the past is reflected by the type of aircraft and helicopters that are flying in Kazakhstan, both military and civil. But not widely known is the fact that European designed helicopters are manufactured in Kazakhstan.

Since 2011, about twenty-six EC145, two H130 and one H125 were built at the Eurocopter Kazakhstan Engineering plant at the airport of Astana.

KADEX

The Defence Expo was housed at the military part of the airport of Astana. With Kazakhstan in their backyard, Rosoboronexport (Russian Defence Export) was well represented at this year's show with their own pavilion. The importance for the Russian Federation was also shown by the fact that president Putin visited KADEX. The display area was separated into two parts, one for the ground/sea forces with many trucks and tanks and other equipment and an aviation part for the aircraft and helicopters. However, one exception was made for a truck that was parked between the helicopters. Russian Helicopters showcased their mobile training simulator of the Mi-8MTV1 helicopter. This system was introduced at MAKS 2015. The upgraded simulator has its own electric power plant and can be used when there is no elec-

PHOTOGRAPHS COURTESY OF ARJAN DIJKSTERHUIS

tricity available. The simulator allows the pilots to train for any weather condition and has real-life high definition terrain images and a motion system. Two more helicopter specialized simulator systems from other manufacturers were displayed as well during the exhibition.

Russian Helicopters announced that several memorandums of understanding were signed by the Committee for Emergency Situations of the Ministry of Internal Affairs and with other government structures of the Republic of Kazakhstan during KADEX 2016. According to the documents, Kazakhstan's authorities are interested in helicopters for delivery between 2016 and 2020. About two hundred Russian built helicopters are currently registered in Kazakhstan. The new helicopters might include the Ka-226Ts, Mi-171A2s and Ansats. Russian Helicopters daily displayed a few helicopters with a flying display. A Mi-24 was one of the flying participants showcasing the Mi-35M as an export variant of the well known transport/attack helicopter with NATO reporting name HIND. An unknown number of Mi-35M helicopters were purchased by the Kazakhstan Armed Forces at KADEX.

Kazan Helicopters was present with a factory owned

Mi-17MTV-5

Eurocopter Kazakhstan Engineering also signed Memoranda of intentions with KazMedAir for the delivery of 18 EC130 helicopters and with representatives of the Akimat of East Kazakhstan Region for the delivery of seven EC125 helicopters. The company also signed for the maintenance of the EC145 fleet of the Kazaviaspas.

Airbus Group was present with a large booth inside one of the pavilions and had a H125 Ecureuil on static display on the tarmac. Sikorsky was also present, but with a small booth promoting the Sikorsky S-70i Black hawk, and did not participate with one of their helicopters. Leonardo-Finmeccanica presented their product range and the company participated on static display with a Russian registered AW119 MkII.

Motor Sich JSC, a Ukrainian firm, presented engines at their booth and flew daily with an upgraded Mi-8MSB. After their display the Mi-8 helicopter climbed to an altitude of 7000 meters, creating contrails high in the sky, a sight not often seen with a helicopter!

Bird Aerosystems, together with KAI (a subsidiary of Kazakhstan Engineering), displayed their AISO Special

Ansats K909





Mil Mi-171 05

Mission System mounted on an EC145 from the Kazakhstan Armed Forces. AISO stands for Airborne Surveillance, Intelligence and Observation and the system can be used for a wide variety of missions; from oil/gas pipeline surveillance, Search and Rescue operations and homeland protection missions. A mission man-

agement system, the MSIS (Multi Sensor Integration System) was placed in the cabin of the EC145. The largest helicopter currently in the world, the Mi-26 was on static display as well. In October 2013 the Kazaviaspas, the air rescue division of the Kazakhstan Emergencies Ministry, received the first of two modified



Mil Mi-24 341 white



Mil Mi-26T-UP-M1602

Mi-26T heavy transport helicopters. The two helicopters were previously in storage for 20 years and received their overhaul and modifications at Novosibirsk Aircraft Repair Plant, Russian Federation. The helicopters arrived there in May 2012 after a more than 2.000 Kilometres journey in the external sling of an Mi-26T and it was actually the first time that the plant had repaired and

modified airframes that had not been in service for twenty years. Nowadays the helicopters are used for a variety of missions, including evacuations. A mix of Mi-171, Mi-171E, Mi-17V5, Kamov-32A11BC and EC145s could be seen on the ground or in the air during the event.



Mil Mi-8MSB

World News

Bell 429 for Turkish Police



Bell Helicopter announced that the Bell 429 fleets of the Turkish National Police and Turkish General Directorate of Forestry have reached a 95% operational Availability Rate and that the aircraft is continuing to prevent fires and preserve Turkish Forests.

“I am proud that the Turkish National Police have achieved such excellence. They are superior aviators, and the Bell 429 is a fantastic helicopter,” said Clay Bridges, Bell Helicopter, Regional Manager, Turkey. “In operating these 15 Bell 429s while performing such difficult police missions, they have saved lives and helped make Turkey safer in challenging times.”

Turkey has been a very successful market with Bell garnering over 50% of the total market for the last five years. There are 26 Bell 429s in the country used in parapublic, EMS, and corporate missions in the skies over Turkey every day.

The Bell 429 is not just successful in Turkey; it continues to gain customers for supporting public missions around the world. Bell Helicopter has recently delivered seven Bell 429s to the Swedish National Police, four Bell

429s to the New York Police Department, and the first of two Bell 429s to the Slovakian Police. The multi-mission Bell 429 delivers exceptional speed, range, hover performance and enhanced safety margins.

“The aviation department of the Directorate General of Forestry has been truly amazing. Even though the 429 is a superior helicopter, the performance and professionalism of the Forestry pilots and technicians make it easy to achieve results like this,” said Bridges. “We, at Bell Helicopter, are honored to be able to support the Directorate General of Forestry to preserve the resources of Turkey.”

The state-of-the-art technology in the Bell 429 includes a fully integrated glass cockpit, advanced drive system, best-in-class WAAS navigation and IFR capability. The Bell 429 has more cabin space than any other light twin helicopter, with flat flooring and seating for seven passengers and one flight crew. When time is of the essence, the Bell 429’s 60-inch wide side doors and optional rear clam-shell doors provide quick and easy access.

PICTURES COURTESY OF BELL HELICOPTERS

Leonardo Helicopters



Leonardo-Finmeccanica announced that the first flying AW609 prototype has arrived in Philadelphia following a recent resumption of flight testing.

Departing from Arlington, Texas, the aircraft’s flight plan included an overnight stop in Huntsville, Ala, before arriving in Philadelphia on Wednesday, 10th August 2016.

With industrialization underway, Leonardo-Finmeccanica has expanded the AW609 TiltRotor program to include the company’s Philadelphia facility. The involvement of the Philadelphia site in the AW609 program represents the anticipated progression towards assembly and certification with the FAA as the certification authority. Facilities in the Italy, UK and Poland continue to play critical production roles.

While this flying prototype will soon be relocated to Italy, flight testing activities in Philadelphia will continue upon the arrival of an AW609 recently assembled and ground tested in Italy. Another AW609 is being assembled in Philadelphia with plans to enter the test fleet in 2017.

Certification of the first commercial tiltrotor is expected in 2018, with deliveries to customers to follow.



PICTURES COURTESY OF LEONARDO HELICOPTERS

HeliExpo with Aero Expo at Sywell 2016



HeliExpo 2016 had some good weather and some showers, as forecast. However, disappointingly the helicopter races were cancelled because the organisers needed more space for parking aircraft. For this reason few helicopters came to the show.

However, there were lots of HeliExpo stalwarts there including Gary Slater from Heli Charter, Bell Helicopter distributors based at Manston, who had brought a Bell 427 and a Bell 505. The 505, unfortunately, sat without its rotorhead after a misunderstanding about the equipment needed to place this extremely heavy object!

HeliQ, was there with a balloon guessing competition, HeliAir, with a chance to buy the R44 in installments, and Sloane Helicopters with their range of machines. There was also Hayward Aviation sporting a bus for the insurance industry and Airbox (now available on Android) and Sky Demon in the GPS sector, and many, many others.

Uber had a large stand to publicize their new GA section. This allows private pilots to offer seats to members of the public for cost sharing on a flight.

As usual the most numerous helicopter was the Robinson, but the growing number of Cabri G2s on display and in the parking area shows how much of a hold this little French helicopter has taken on the UK market.



A variety of helicopters flew to the show



Uber now has a GA section



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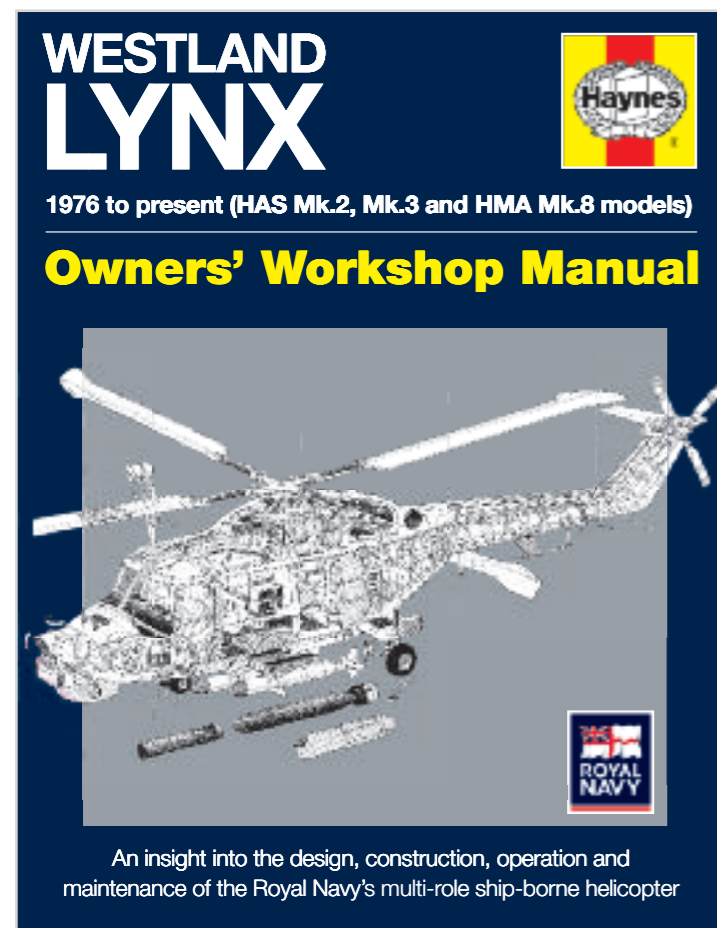


The Bell 427 on the Bell booth



Haynes celebrates 40 years of the Westland Lynx

Haynes teams up with the Royal Navy to release a new manual to mark the forthcoming cessation of Maritime Lynx operations in 2017



Versatile' and 'capable' are two well-deserved accolades that sum up the Westland Lynx helicopter, which celebrates 40 years of service this year with the Royal Navy.

Based on a design that originated in the early 1960s, the Lynx is a small ship-borne helicopter that has seen plenty of action in the world's trouble spots including the Falklands War of 1982, the Gulf War of 1991, and most recently on counter-piracy operations in the Indian Ocean.

As a tribute to the ubiquitous Lynx, Haynes is publishing the Westland Lynx Owners' Workshop Manual this month with the full support of the Royal Navy.

Centrepiece of the Haynes Westland Lynx Owners' Workshop Manual is the Rolls-Royce Gem-powered Lynx HMA Mk.8, which has achieved notable success in count-

er-narcotic, counter-piracy and humanitarian assistance roles in recent years. Its many operations keep international sea lanes safe and protect British assets all around the world.

Author and helicopter engineer Lee Howard, who has worked on and in support of the Lynx for many years, offers some fascinating insights into the design, construction and operation of the Royal Navy's Lynx HAS Mk.2, Mk.3 and HMA Mk.8 helicopters. Thanks to the enthusiastic cooperation of the Royal Navy in the preparation of this book, Lee has been able to provide readers with a unique close-up look at how the Lynx works. He also describes in detail what the helicopter has achieved in its long service life with the Royal Navy, highlighting why it has earned a well-deserved place in military aviation history.

Lee has taken many of the photographs that appear in his book, the majority of which appear in print for the first time. In January 2016 he spent a short spell at sea on the Type 23 Frigate HMS Monmouth in order to experience small-ship Lynx operations at first-hand.

Lee, who also wrote the Haynes Westland Sea King HU Mk.5 Manual, commented: "The Westland Lynx can rightfully stake its claim as the last mass-produced military helicopter of all-British original basic design. Even today, many countries' frigates and destroyers are equipped with variants of the ubiquitous Westland Lynx, which is testament to the success and agility of this formidable military aircraft. Indeed, many of the components and systems are common to the variants operated by the types' other operating British military air arm: the Army Air Corps.

"In 2017, the HMA Mk.8 variant will become the last of the Rolls-Royce Gem-powered Lynx in British military service, bringing to an end an illustrious 41 years of operations with the Royal Navy."

CAA Legislation Changes concerning helicopters and gyroplanes

ORS4 No.1183: The Carriage of Emergency Locator Transmitters in Aircraft Flying for Purposes other than Public Transport or Commercial Air Transport
The Carriage of Emergency Locator Transmitters in Aircraft Flying for Purposes other than Public Transport or Commercial Air Transport. Exemption to allow UK-registered aircraft not flying for the purpose of Public Transport or Commercial Air Transport to fly without emergency locator transmitters

IN-2016/073: Small Unmanned Aircraft - Air Navigation Order 2016

The purpose of this Information Notice (IN) is to notify all persons who may be associated with the operation of small unmanned aircraft of the new Order and to provide guidance on the effects of the changes. From a small unmanned aircraft perspective, the changes to the order primarily consist of a renumbering of the articles and a change of the layout of the document, and there are no significant amendments to the actual regulations. However, those that have a need to make reference to the Order or the relevant articles should take careful note of the changes.

ORS4 No.1184: International Aviation Composites Helicopter Blade Repairs

This exemption will enable helicopter rotor blades that have been repaired by IAC, and where the repair data is not EASA approved, to remain fitted to the aircraft while the repair data is reviewed and approved by EASA.

Official Record Series 5: CAA Charge Waivers and Refunds Policy 2016

The CAA is funded by charges levied on the organisations and individuals it regulates. The charges applied are those set out in the Schemes of Charges ("the Schemes"): List of Official Record Series 5 - Scheme of Charges. Where a Scheme of Charges covers an activity, it is the sole basis on which the CAA may charge for that activity. The CAA will grant a waiver of charges or a refund of charges only in exceptional cases.

Changes to the CAA Medical for Private Pilots

The UK CAA announced in May that medical requirements for some private pilots are to change in line with our top level principles for GA regulation. These changes do not apply to pilots with commercial licences or those displaying at airshows who will still need to be approved as fit to fly by a specialist aviation medical

examiner.

The change follows a public consultation, in which 96 percent of those responding agreed with the proposal. Once the change takes place later this year the medical requirement for UK private pilot licence and national private pilot licence holders will be to meet the same standard as that required to hold a DVLA Group 1 Ordinary Driving Licence (ODL). Existing medical options (for example a UK declaration with GP counter signature) will remain available. The same options will also be available for private balloon pilots.

To take advantage of the change, pilots will need to complete a form on the CAA website to declare that they meet the DVLA medical standard. Pilots under 70 will need to do this once while pilots over 70 must confirm their declaration every three years.

The changes are subject to the enactment of the proposed Air Navigation Order 2016 (ANO) which is planned to come into effect in late summer 2016. The proposed ANO legislation will contain these changes **and other significant amendments for GA.**

<https://www.caa.co.uk/News/Changes-to-private-pilot-medical-requirements-announced/>

IN-2016/082: The Future of the Instrument Meteorological Conditions Rating (IMC Rating) as the Instrument Rating (Restricted) (IR(R))

The purpose of this Information Notice is to provide guidance on the privileges of and requirements to instruct for the Instrument Rating (Restricted) (IR(R)).

Thailand appoints UK CAA

The Civil Aviation Authority of Thailand (CAAT) has appointed CAA International (CAAi), the advisory arm of the UK Civil Aviation Authority (UK CAA), to help strengthen CAAT's aviation safety oversight and compliance with the ICAO.

The CAAi project will involve a team of around ten experts from the UK CAA to work collaboratively with CAAT to recertify Thai registered AOCs, to address the Significant Safety Concern (SSC) raised by ICAO in 2015. CAAi will also conduct on-the-job flight operations training to CAAT Inspectors, to help increase their core inspectorate competencies in accordance with international standards. The final work stream includes full-scale ICVM preparation assistance. This activity will cover all of ICAO's critical elements as a safety oversight system ahead of Thailand's impending ICVM safety audit by ICAO.



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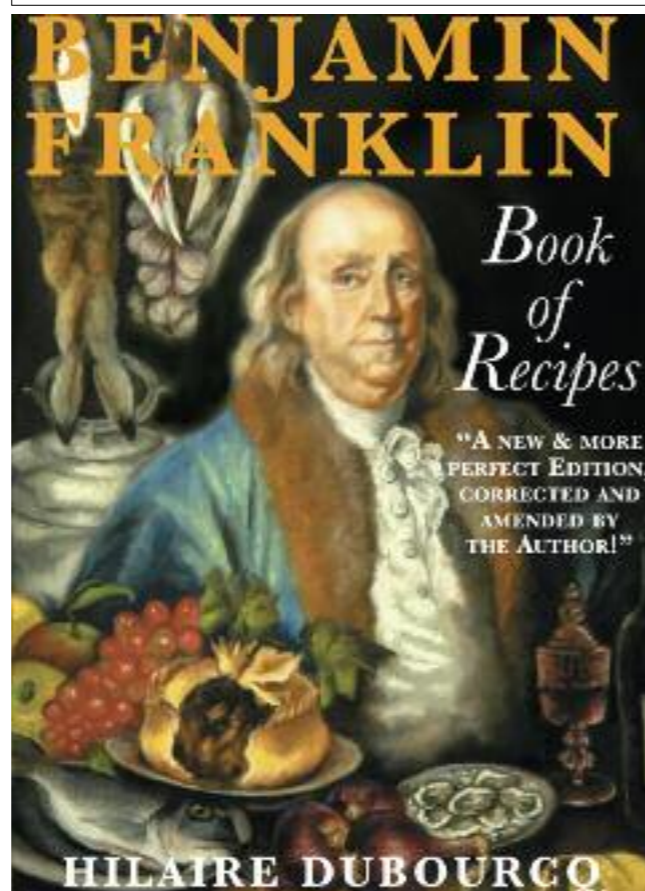
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World News

Gyrocopter Update



Chris Jones reports on Recent Developments within the Gyrocopter World

A he Rotorsport Cavalon Pro is now available for commercial work having recently received its Certificate of Airworthiness and thus becoming the world's only modern day certified gyroplane. The move follows a regulatory change earlier in the year allowing type-certificated, factory-built non-EASA gyroplanes to qualify for C of As rather than permits. The decision is part of the UK CAA's overall GA strategy to create a vibrant GA sector, which will potentially open new markets for sales and operations.

Chris Jones gyrocopter instructor explains:

“Not only is the Cavalon Pro an excellent platform for commercial work, as recently demonstrated in successful trials in of a camera unit, but it offers both day and night capability.”

There is now a commercial pilots licence (CPL(G) available for Gyroplanes which would be very useful for companies and pilots who want to do commercial work

in Gyroplanes, a much cheaper option than helicopters not only to buy and operate but also to run.

The Cavalon also saw the approval and introduction of the 560kg MTOW, an increase of 60 kg. The company have also introduced the IVO Prop variable pitch propeller which is reported to reduce take off distances of up to 25%, reduce fuel consumption in the cruise and make the machine quieter to operate.

Other developments include new and improved engine cowlings for the Rotorsport Calidus. The Calidus is a tandem fully enclosed gyroplane, suitable for cold weather flying.

Magni Gyroplanes have set a new world altitude record for gyroplanes, flying to 27,556 feet in the skies over Venice and the Magni M16C is now available with the 100HP Rotax 912s engine which reduces the price by 6,500 euros. This gives a base price, from the factory of Euros 54,550.

PHOTOGRAPH COURTESY OF HELIGROUP

Cabri G2 Update



Guimbal is currently building its 175th Cabri at its base in Aix-en-Provence aerodrome in France, an increase of 75 units in 18 months. The General Aviation Manufacturers Association stated that Guimbal Helicopteres produced more G2 Cabris in 2015 than the Robinson Helicopter Company produced R22s. As the R22 has held the lion's share of the light training market almost since its production in the early 1980s, this is an outstanding feat.

The Cabri global fleet has now flown a total of 90,000 hours, in which time they have had seventeen heavy landings. Only one helicopter had to be written off, the other sixteen were repaired and there have been no severe injuries.

The largest markets for the Cabri are New Zealand and the UK. The UK has just had its twenty-third Cabri delivered. Andy Moorhouse, the UK distributor, said, “we are very happy with the Cabri.”

HeliGroup in the UK have also taken delivery of their second G2 having had the first one in April this year. MD Matthew Munson said: ‘Demand by students for training in the type has been unprecedented ... We have found the Cabri G2 makes the ideal training platform due to the stable flight characteristics, safety in design and the use of the latest proven technologies, making investment in the fleet for our customers an easy decision.’

The US and Chinese markets are also growing fast and the US is forecast to become the biggest market for the Cabri by the end of 2017. Midwest helicopters has just

imported its third Cabri G2.

G Midwest Helicopters' chief pilot, Chris Bailey, said, “The G2 trumps all other piston helicopters with its added safety features such as incredible rotor inertia, a true fuel bladder and Fenestron tail rotor system, not to mention the excellent customer support that's so hard to find these days from manufacturers.”

The first USA helicopter was handed over to Precision Aviation Training at the 2014 HAI Expo as Guimbal and Precision awaited the much anticipated FAA Standard Airworthiness Certification in early 2015, releasing the aircraft to Precision's flight school.

Precision has continued to move away from the Schweizer 300 model as their training helicopter as Midwest Helicopters has transitioned away from their Schweizers and R22's. Both companies had been flying either the Schweizer 300 or the R22 for over 20 years.

One reason for the growth of the Cabri market is its new technology, composite body and robust structure, another is the demise of the other training alternatives including the Schweizer H300, which is no longer fully supported by their current owner Sikorsky, and is gradually being phased out.

As there had been some complaints about the G2 wheels when moving the helicopter Guimbal has built a four-wheeled trolley with a lithium-battery powered lifting mechanism. It can lift the G2 and give a 60 mm clearance for the skids. It can be pulled into the hangar by a small tractor or something similar.

Agusta AW139 G-CHBY

The flight crew comprised two captains, one of whom was a line training captain and was the Pilot Handling (PH). He was occupying the left seat and was the commander of the aircraft. The pilot in the right seat was new to the type and undergoing line training. He was the Pilot Monitoring (PM). This was his fourth line training flight and he had accumulated a total of 21 flying hours on the aircraft type. Both pilots had been aircraft commanders on the S76C++ and had extensive experience of operating in the Southern North Sea and on the route being flown. The crew reported for duty at 0445 hrs and carried out a three-stop shuttle flight, before returning to Humberside Airport for a rotors-running refuel. Ten passengers were then boarded for a flight to the Amethyst Normally Unmanned Installation (NUI) A2D platform. A standard departure was flown from Humberside Airport and the helicopter climbed to an altitude of 2,000 ft amsl. It routed to waypoint LAGER, then direct to the Amethyst A2D.

The route had been correctly entered into the helicopter's Flight Management System (FMS) and the Auto Flight System was engaged, with the Lateral Navigation (LNAV) mode controlling the helicopter's track. The crew communicated with Anglia Radar ATC for offshore radar coverage, as standard, and called the Perenco Log operator, who was located on the Revenspurn North Platform (RAVN), some 28 nm north of the Amethyst Field, and the point of contact for the Amethyst A2D. The Log operator advised the crew of the latest weather and the details of the standby vessel in the vicinity of the A2D. (Because of the distance of the Revenspurn from the Amethyst field, low altitude communication was unreliable and the standby vessel ensured that a proper flight-watch could be maintained.) Having established radio contact with the standby vessel, the crew discontinued with the Anglia Radar radio frequency.

The crew were visual with the Amethyst field as they coasted out over the sea and knew the geographical layout of the platforms. The weather in the Amethyst field was good, with a wind of 035°/10 kt, and they carried out the Approach checks before commencing a descent to a height of 400 ft at the usual position. The Auto Flight System remained engaged and the Altitude Select mode was used for the descent. The Heading mode was used for directional control, replacing the LNAV mode, and the helicopter's heading was adjusted to the right of the direct track, to allow for a turn into wind during the final approach to the platform.

With 2 to 3 nm to go to the platform, level at a

height of 400 ft, the Finals checks were completed and the helicopter was turned towards the platform, onto an into wind heading of 060°M. As briefed, the landing was to be carried out by the left seat pilot. The crew then identified the platform ahead as the A2D, whereas it was, in fact, the A1D. The two platforms appear almost identical and it was reported that, given the distance, they may have misread the name plate on the side of the platform, which was a large rectangular yellow board with the name 'AMETHYST A1D' in red letters, mistakenly transposing the number 1 on the name plate for a number 2. Having made this early identification, the crew then concentrated on flying the approach as part of the training element of the flight. The subsequent landing on the helideck, on which the name is also displayed, was uneventful and the helicopter departed for Humberside after the passengers were clear of the deck.

After the helicopter's departure from the platform, the mistake was identified. The flight crew offered to return and transfer the passengers to the correct platform but, as the A1D was not cleared for AW139 operations, this was not possible and the helicopter returned to Humberside Airport.

Discussion

The crew members were properly licensed and qualified to conduct the flight. They were also familiar with the route being flown and the platforms in the Amethyst field. The good weather meant that the platforms were visible to the crew as they coasted out over the sea. The flight progressed normally with the helicopter descending to a height of 400 ft at the usual position, with all checks and radio calls completed. It is not clear at what point the A1D was mistaken for the A2D. Reading the platform's name plate or the name on the helideck was the normal means of identification. It is possible that reading the platform name from a distance may have led to the crew misreading the '1', in A1D, for a '2'. When the radar was set to standby, as part of the Finals checks, only a single platform waypoint would have been shown on the PFD, and visible ahead was a single platform.

This was the A1D which, from the crew's perspective, was obscuring the A2D platform. At this point, the crew were focussed on flying the final approach, as part of the line training, having earlier 'confirmed' the platform as their destination. The final opportunity to identify the platform was in the final stages of the approach, when the name was displayed on the helideck. However, the mistake was not noticed.

The crew concluded that the wrong deck landing was the result of early identification of the A1D as the A2D, either through not reading the name plate or misreading it. They also considered that a recent intense period of

offshore simulator training, where the name on the simulated platforms and vessels was not read, may have been a contributory factor.

There were two crew. The commander was 39 years old, he had 6,9810 of which 200 were on type.

Bell 206 Jet Ranger 11 G-RAMY

The pilot of G-RAMY, a Bell 206B Jet Ranger II, had disembarked his two passengers and lifted off for the return flight, in an area of mountainous terrain. The wind was from 220-230°, gusting to 46 kt and the aircraft was seen to head initially into the wind. It was then seen to turn right onto a north-easterly track and the fuselage was seen to oscillate in roll. The fuselage then rotated in yaw beneath the rotor disc, more than once, and the nose of the helicopter pitched up into the rotor disc, being destroyed as it did so. The fuselage of the helicopter, its rotors and many fragments then fell separately to the ground, where the fuselage impact was not survivable for the pilot.

Examination of the wreckage showed that there had been a catastrophic failure of the helicopter's main rotor mast in flight and there was clear evidence that this had been due to heavy 'mast bumping' contact between the teeter ('static') stops on the main rotor head and the main rotor mast. This was consistent with the observed behaviour of the helicopter, where the pilot appears to have been attempting to control the aircraft in turbulent conditions.

Analysis

The pilot held a valid licence, medical, and type rating, and the aircraft was serviceable for the flight. Although the weather conditions affecting the previous flight, until it neared the Isle of Man, had been benign, conditions on the island were not and strong gusty winds up to 46 kt were affecting the Creg-ny-Baa area. As the aircraft flight manual, FAA handbook, and EASA document stated, strong winds pose a challenge to helicopter operations. In turbulence, mast bumping is a particular hazard. However, there was no wind limit published in the flight manual.

The lift-off occurred within the controlled airspace around Ronaldsway, but without clearance. The choice of a downwind flight path, following the first moments of the flight, might have reflected a desire on the pilot's part to fly out of the controlled airspace promptly. There was no evidence of pre-impact failure of the flying controls and the examination of the engine indicated that it was operating at the time of the impact with the ground. It is noteworthy that one of the eyewitnesses described the aircraft oscillating from side to side shortly before the main rotor blade sliced into the nose. This is likely to have been an indication of the pilot's control inputs in his attempts to cope with the

gusty conditions.

A control system failure, such as a disconnect, would be more likely to cause a steady divergence in one direction. The observed oscillatory motion therefore suggests that the system was intact. Thus, the available evidence indicates clearly that the accident occurred as a result of mast bumping, leading to structural failure of the main rotor mast.

The multilateration surveillance system recorded the helicopter travelling approximately downwind, although it was not possible to derive an accurate groundspeed. This agreed with the available witness information. The location of the main wreckage, a short distance upwind from the battery and ballast weight, which had become detached from the aircraft whilst airborne, suggests that there may have been an abrupt change of heading immediately before, or perhaps during, the break-up; this accords with one eyewitness account of the flight. Similar behaviour was observed prior to a similar mast bumping event that occurred, in benign weather conditions, in 1997. The strong wind conditions that prevailed on the day of the G-RAMY accident, which may have intensified as the aircraft progressed higher up the valley, is likely to have caused the pilot to make large control inputs in his attempts to maintain a stable flight path in the turbulent conditions. The strongest recorded gusts of wind coincided with the time of the lift-off and this coincidence may have contributed to the accident. The relatively lighter winds at Ronaldsway, which were passed to the pilot, would not have alerted him to the much stronger winds near the Creg-Ny-Baa. Appropriate training in mountain flying techniques and the associated hazards could have assisted the pilot in executing the flight successfully, or making a decision not to fly in the challenging wind conditions which prevailed. The commander held a PPL, was 48 years old and had 786 hours of which 71 were on type.

Sikorsky S-92 G-VINL

The helicopter was operating a multi-sector flight, between rigs located approximately 60 nm north-east of Aberdeen Airport, when it landed on the wrong helideck, which was unmanned. On the third sector, it was required to fly from the Paragon Midwater Semi-Submersible 1 (MSS1) rig to the Buzzard complex helideck, a distance of 7 nm on a track of 205°M. However, the crew misidentified the Golden Eagle complex, on a bearing of 354°M from the Paragon MSS1 at a distance of 3 nm, as the Buzzard complex and landed there instead. Company training in the event of Unintentional Deck Landings has now been reviewed. The commanded was 49 had 5700 hours of which 401 were on type



Sea King ZA298 in RNAS Yeovilton National Museum

Report and photograph by Clive Bennett

On Thursday the 4th of August Sea King ZA298 “The King of the Junglies” was officially put on display at the National Museum of the Royal Navy at RNAS Yeovilton.

This airframe has amassed over 9000 hours flying since it first entered service on the 11th November 1981 and was one of the last HC4’s to be retired, taking its last bow in March this year.

Renowned for its combat history, ZA298 has experienced three separate incidents which resulted in battle damage. Firstly, being attacked by four Argentinean A4 Skyhawks during the 1982 dispute over the Falkland Islands. Secondly, sustaining ground fire during the Bosnian conflict while rescuing civilian refugees and,

finally, being attacked while serving in Afghanistan in June 2010. This was the occasion (see article in Helicopter Life Summer 2016) when an RPG round was fired through the airframe by the Taliban, causing considerable damage and putting the ‘Down Bird Team’ into action to rescue the airframe.

During the RNAS museum launch all three of the pilots who were involved in the various military actions, Cdre Simon Thornewill RN (Ret), Falklands, Cdre Jon Pentreath OBE RN, Bosnia and Lt Jim Shattock RN, Afghanistan, were photographed together for the very first time. They are shown above along with three of the four members of the Down Bird Team.