

Heliops

DELIVERING GLOBAL COVERAGE OF THE HELICOPTER INDUSTRY

2013 | ISSUE 82



TWO
STEPS
FORWARD

AIR ZERMATT'S NEW B429

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COVER PHOTO NED DAWSON



38 COVER FEATURE TWO STEPS FORWARD. AIR ZERMATT'S NEW B429

Swiss company Air Zermatt's rescues comprise mainly ski accidents, including around 30 crevasse rescues each year, while avalanches are also common when the snow-levels are light. It is therefore a given that operations are predominantly carried out in the most challenging type of mountain flying conditions.

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76 HOW DO YOU TRAIN FOR WHAT HAPPENS WHEN YOU LOSE A CRITICAL SYSTEM?

What actions should you take? What is most important? What does the Rotorcraft Flight Manual (RFM) say? What should you do first?



89 LUTZ BERTLING PRESIDENT AND CEO OF EUROCOPTER

Eurocopter celebrated its 20th Anniversary in 2012; originally formed from the merger of Germany's Messerschmitt Bölkow Blohm (MBB) and France's Aérospatiale in 1992 the company is now the largest OEM in the helicopter business.

Alan Norris travelled to Paris to talk to Lutz Bertling, President and CEO of Eurocopter about the company's last twelve months and what 2013 holds.

110 THE SHEPHERD'S EYE

While the Sea Shepherd vessel Steve Irwin steamed at 14 knots in 10-foot Southern Ocean swells, just off the ice shelf of Antarctica, 24 year-old Patrick O'Donoghue was the very first pilot to land on her helideck.



126 RUSSIAN RESCUE STANDARD

Alex Mladenov examines both current and future aspects of the rotorcraft fleet of Russia's all-encompassing parapublic disaster relief and firefighting authority.

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I'm back!



After a sojourn from editorial duties at HeliOps for the last couple of years, I need to announce that I'm back at the helm of the only helicopter magazine that truly covers the world. I still work in Papua New Guinea and am still very involved in the industry in Australia. Yet I found myself missing the interaction I had with the worldwide industry when I last filled the chair and, just as importantly, the magazine has leapt in the digital age grasping the opportunities the technology has to offer.

At last, the tyranny of the costs of distance, printing and distribution has been enormously tempered and now HeliOps can really start exploring new areas that the digital medium offers. No longer held to the vagaries of the world's postal systems and the limitations of the printed page, the magazine has bedded down into its digital format, expanding its coverage and looking to progressively improve the reader's experience and knowledge of the industry.

While not yet wanting to give too much away, there are plans afoot to offer readers a much wider experience than a printed page could ever offer while value-adding to our advertisers' investment. We are exploring all opportunities and looking to continuously improve the product.

INTERESTING TIMES

"May you live in interesting times," is reportedly a Chinese curse. Well, to say the helicopter industry has entered interesting times is probably an understatement and hopefully, the result is not a curse but a world of opportunity and advancement.

While parts of the world are doing better than others (Papua New Guinea for one is experiencing a resources boom that seems to have no significant slowdown appearing anytime soon) added to the matrix is that parts of the industry are doing better than others in various parts of the world. It is certainly not a homogeneous industry. The ebbs and flows strike different parts of the industry and different times in different parts of the world. It is a mish mash that really doesn't look like settling down in the foreseeable future. Yet there are so many stories to tell – from the agricultural business to the offshore industry, from the SAR/EMS/Police to the tourist operator. The question in everyone's mind though is, (and not just in the helicopter industry), will the meek economic recovery continue? Will it just stagnate or are we being set up for a GFC like no other? Like pilots, two economists will give you four opinions on the same subject. So who knows? That very uncertainty makes it hard, nay, almost impossible for manufacturers to forecast requirements, sales or activity. Operators work in an environment of economic uncertainty also making it almost impossible for them to plan. May we live in interesting times indeed!

On the military side, the foray by the USA and its allies in the Middle East and Afghanistan is winding down but North Korea and Iran seem to be upsetting the UN applecart and keeping the various militaries on edge. Then add the disagreement playing out between Japan and China in the East China Sea and the world seems no more peaceful now than it did 10 years ago. China now has an aircraft carrier (the 67,500 ton Ex-Soviet Carrier 'Varyag') that was purchased through a Macau tourism venture (interesting purchasing department). Two more are reportedly under construction. The Middle East is a pot still boiling. Technology is making it easier for small States to wield big power or at least threaten it. The mixture is more interesting than before and certainly less certain.



TECHNOLOGY THOUGHTS

We are seeing some interesting technology developments as new materials and greater computer capabilities evolve. Sikorsky's X-2 experimental coaxial compound helicopter promises an exciting future certainly for combat aircraft in the near term and possibly the civil industry in the long term. Eurocopter is no slouch when it comes to new developments and ideas as it tries to meet demanding European rules and requirements. Bell cannot be ignored either although I think its challenge is to continue meeting the support needs of an extensive line of machinery that's approaching 50 years old. While I am sure we will see the Bell 47 still flying in 2020, we will also see some very interesting new machinery by then. The question will be; can the regulatory authorities keep up? We are already seeing the FAA having to answer some difficult questions about the 787 and its batteries (and certification).

The one thing though that will stifle the industry and hold back its proper acceptance by the general public is its safety record. Those who know me or have read my past missives know it's a subject very close to my heart. There is a lot of good work being done by such organisations as the International Helicopter Safety Team (IHST) and Flight Safety Foundation but fatal accidents are happening all too often. Is it time to become more procedural like the airlines? Do we invest in more and better training? Do we regulate more – or less? These are not easy questions to answer and I am sure they will occupy the minds of people much smarter than I for a long time to come but we need to make the helicopter as reliable and safe as the airliner if we are to have authorities and industries accept and trust the industry and what it has to offer.

On that note, hope to see you at HeliExpo 2013! Fly Safe.

Mark Ogden



BELL DELIVERS FIRST EUROPEAN EMS-CONFIGURED 429

Bell Helicopter recently delivered its first EMS-configured 429 in Europe. According to Bell, Air Zermatt – a Switzerland-based EMS operator that often deals with extreme conditions and austere environments when conducting missions in the Alps – selected the Bell 429 for its reliability, maneuverability and quickness, particularly under difficult weather conditions. Bell is seeking FAA approval for a weight increase exemption for the 429 that would make its capabilities more broadly available to the U.S. EMS industry; increasing the distance and altitude at which HEMS missions could operate. It would also provide greater flexibility to fly in harsh weather and enable HEMS missions to carry more and heavier medical equipment necessary to treat critical patients.



GOING FAST IN JAPAN

The Japanese Civil Aviation Bureau has approved the BLR Aerospace FastFin Tail Rotor Enhancement and Stability System for installation on the Bell 412EP. Nagano Fire and Rescue service has selected the FastFin System for its new 412EP and will become the country's first operator to install and use the system. Performance data shows that Bell 412s equipped with FastFin can carry up to 1250 pounds more useful load than a standard aircraft.

INSTANT PARTS SEARCH APPLICATION LEVERAGES THROUGH SOCIAL MEDIA

Component Control announced on January 22 that its Parts Search App, an app that lets companies list stock and/or MRO services and automate requests for quotes in real-time, can be leveraged on a company's Facebook page to increase visibility of their parts inventory. Facebook technology enables users to embed the app onto 'Company Pages' with a tab on the home page called 'Live Parts Search'. The company says the combination of social media growth and the interactive nature of the aviation aftermarket industry means vendors are now generating more and more interaction with customers through social media websites – in addition to their corporate websites – thereby expanding the need for more aviation-centric apps. One of Component Control's customers reports that the live parts search on their company Facebook page enables customers to see search results and submit an RFQ without leaving Facebook. Due to concern over privacy issues surrounding social media, the app allows customers to securely search within Facebook with a guaranteed response. Whether the app becomes the storefront on a customer's corporate website or its company Facebook page, customers can log in to search, view, RFQ or initiate a purchase order. A company's selected inventory is updated automatically in real-time or manually – depending on configuration – and information such as time & cycles, tag info, scanned documents and images can be attached to the stock item. In addition, businesses can include and advertise their overhaul, manufacturing, and distribution capabilities directly to customers.

ADDITIONAL AS350 B2 FOR U.S. HELICOPTERS

On January 30 American Eurocopter announced the delivery of a new AS350 B2 to Marshville, N.C.-based U.S. Helicopters, Inc. The large operator of electronic newsgathering helicopters has served dozens of



major television stations located in cities in most of the lower 48 states. Over half of the U.S. Helicopters fleet consists of AS350 series aircraft, with the first purchased in 1995. The new machine is part of an ongoing fleet modernization program and will replace an AS350BA operated in support of a Chicago-area television station since 2001. U.S. Helicopters, Inc. plans to continue to upgrade the current fleet and add further B2s.

SINGAPORE APPROVES BELL HELICOPTER ASIA FACILITY

Bell Helicopter announced on 22 January that Bell Helicopter Asia, its maintenance service facility in Singapore, has received a Part 145 Maintenance Organization Approval certificate from the Civil Aviation Authority of Singapore (CAAS). Bell Helicopter Asia opened the doors of its 160,500 square foot service facility in July of this year, in partnership with Cessna Aircraft Company. It is equipped with hangars for both Bell and Cessna products, a paint booth, warehouse, overhaul and maintenance shops, offices and a 77,000 square foot ramp. It also offers parts sales and distribution, in addition to customization and completions, major refurbishment, maintenance, repair and overhaul and training. Bell Helicopter and Cessna envision the center as a regional hub for response to customer needs in the Asia Pacific region.



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Photo Robinson Helicopters

ON THE UP AND UP

Robinson Helicopter's production for 2012 was 517 helicopters, (286) R44s, (191) R66s, and (40) R22s, a 45% increase over 2011's production of 356. As in previous years, 70% of sales went to foreign customers. Based on the backlog of new orders, Robinson anticipates 2013 production numbers to surpass 2012. The current production rate is set at twelve aircraft per week and its workforce of over 1300 employees and the company area well positioned to increase production later in the year.

EC175 MAKES FIRST CALL AT AMERICAN EUROCOPTER

The EC175, the newest in Eurocopter's line of modern high performance helicopters, arrived on Friday 22 February at the headquarters of American Eurocopter, Eurocopter's U.S. affiliate. The production EC175's arrival in Grand Prairie, Texas is its first stop in the U.S, where the aircraft will be demonstrated to prospective customers. The EC175 is the latest in a line of new aircraft developed by Eurocopter, the world's largest manufacturer of helicopters, and will be marketed extensively to companies that transport passengers and supplies for the offshore oil and gas industry, including those operating in the Gulf of Mexico. The aircraft will be demonstrated March 5-7 at Heli-Expo 2013 in Las Vegas, where it will be shown on Eurocopter's exhibit stand.



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BOSTON MEDFLIGHT BEGINS FLEET UPGRADE WITH PURCHASE OF EC145

On January 17, American Eurocopter announced that Boston MedFlight has placed an order for an EC145, for emergency air medical transport. The not-for-profit organization has a long-standing relationship with American Eurocopter and provides critical care transport services to more than 2,700 patients a year, transporting more than 49,000 critical patients since its founding in 1985. Boston MedFlight is financially supported in part by a consortium of Boston hospitals including Beth Israel Deaconess Medical Center, Boston Medical Center, Brigham and Women's Hospital, Children's Hospital Boston, Massachusetts General Hospital, and Tufts Medical Center. After a thorough evaluation of competitive aircraft, the EC145 was selected as the best aircraft to replace Boston MedFlight's current fleet of BK117s. This is the initial step in a phased fleet upgrade program with the first delivery slated for August.

FIRST AFRICAN 429s DELIVERED TO NIGERIA

Just two days after announcing the Nigerian type-approval for the 429, Bell Helicopter has announced the delivery of two examples, one to the Nigeria Police Air Wing (NPAW) and another to the Nigeria Emergency Management Agency (NEMA). These are the first 429 deliveries on the continent of Africa. NPAW will utilize the 429 for general law enforcement, surveillance and force projection, while NEMA will fly the aircraft for disaster relief and humanitarian support missions. Bell says that the NPAW and NEMA selected the 429 for its large cabin, state-of-the-art avionics, smooth and fast ride, and the EASA-approved Bell Helicopter maintenance program. NPAW is an existing Bell customer, having operated several Bell models including the 47, 206, 427 and 412. Both NPAW and NEMA formally accepted the 429s at Bell's customizing facility in Piney Flats, Tenn. Final delivery of the aircraft took place upon completion of EASA-approved customizations.



Photos AgustaWestland



MAIDEN FLIGHT FOR FIRST RUSSIAN AW139

HeliVert, a Russian Helicopters and AgustaWestland joint venture, announced on 15 January that the first Russian-assembled AW139 has successfully performed its maiden flight. On December 18, 2012, AW139 tail number 60001 was rolled out at the HeliVert assembly plant to perform ground testing. On the following day the test program continued with the helicopter's first lift-off and controlled hover at 16:30 Moscow time. The new machine remained airborne for 37 minutes and completed the scheduled tests approved by Russia's aviation authorities. Subsequent to the successful first take off and hover, the helicopter is undergoing the flight test program. The second aircraft (60002) to be assembled by HeliVert is expected to be in operation by February 2013. Russian AW139 production began as planned in 2012 and an annual assembly of 15-20 aircraft is expected. The plant is intended to meet the growing demand for the AW139 in the Russian civil market and the CIS market in general, with production personnel that could number more than 100, once maximum capacity is reached.

ASIA PACIFIC EXPANSION

Sikorsky Aircraft Australia Limited and Euravia Engineering, England have signed a two year partnership to provide P&WC PT6T engine maintenance, repair and overhaul services in the Asia Pacific region. Euravia specializes in the aftermarket services for a wide range of P&WC PT6 engines and owns the largest PT6 inventory the partnership will support PT6T-powered Bell 212, Bell 412 and Bell UH 1H helicopters throughout Australasia.

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SIKORSKY SELECTS COBHAM ADVANCED AVIONICS SUITE FOR S-61T

Sikorsky Aerospace Services (SAS) has announced plans to equip Sikorsky’s modernized S-61T with a suite of advanced avionics provided by S-TEC Corporation/Cobham Commercial Systems (Cobham) of Mineral Wells, Texas. In early 2010, the U.S. Department of State entered into an IDIQ (indefinite delivery-indefinite quantity) agreement to purchase up to 110 modernized S-61s for worldwide passenger and cargo transport missions. Decommissioned legacy S-61 aircraft are being converted into a modernized S-61T fleet that incorporates a full array of system upgrades for enhanced mission performance. The IDIQ serves as a contracting vehicle for any U.S. Government agency to purchase the modernized variant. The integrated avionics package features large-format synthetic vision flight displays, advanced flight management capability, integrated engine indication and crew alerting system (EICAS), dual digital audio/radio control display units, dual VHF navigation and communication radios. Cobham’s advanced avionics suite also includes an automatic direction finding (ADF) system, distance measuring equipment (DME) and integrated digital audio/radio management system incorporating aft-cabin audio control. With the integration of navigation, communication and warning systems that provide real-time information, the suite reduces pilot workload, enhances safety, and improves situational awareness.




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TWO 407GXs FOR LIFEFLIGHT EAGLE'S MEDICAL MISSION

In mid-February Bell Helicopter announced an agreement with LifeFlight Eagle for the supply of two Bell 407GXs. LifeFlight Eagle, established in 1978, is a non-profit organization providing emergency air transport and patient care to communities surrounding Kansas City in Missouri and Kansas, where the two new aircraft will replace their two existing analog Bell 407s. The 407GX is equipped with the innovative Garmin G1000H integrated glass flight deck, which enhances mission awareness with HTAWS, TIS, moving map display and Garmin's Helicopter Synthetic Vision Technology (HSV™). The type's safety features include a rupture resistant fuel system, engine exceedance monitoring and a collective-mounted throttle.



GEISINGER ACQUIRES 5TH EC145

On January 4 American Eurocopter announced that Geisinger Health System, in Danville, Penn. has ordered a fifth EC145 for its Life Flight® program. The latest acquisition is part of Geisinger's fleet modernization and upgrade plan based on the EC145 platform and completes the fleet replacement program and standardization plan. Geisinger Life Flight is a long-time Eurocopter operator and in 1983 became the first hospital-based BK117 operator in the world. It began a fleet replacement and standardization program with the EC145 in 2005, after more than 20 years with the BK117. The new aircraft is scheduled for delivery in the third quarter of 2013 and Geisinger is negotiating with United Rotorcraft to perform the completion, as it did Geisinger's four other EC145s. The EC145's avionics capabilities allow Life Flight to have an active instrument program, conducting flights under instrument conditions when required.



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CHILEAN, VENEZUELAN AND NIGERIAN 429 VALIDATIONS INCLUDE INCREASED TAKEOFF WEIGHT

Bell Helicopter announced on 20 February that the Nigerian Civil Aviation Authority (NCAA) has validated the Bell 429 for operation in Nigeria and endorsed the operation of the 429 at 3402 kg (7,500 lbs.). This approval, based on Transport Canada's December 2011 certification, makes Nigeria the fifteenth country to increase the 429's maximum gross weight from 3175 kg (7,000 lbs.). The increased gross weight allows customers to perform longer and heavier missions, taking full advantage of the aircraft's capabilities. This validation follows the validation in December by the Venezuelan Instituto Nacional de Aeronáutica Civil (INAC), which also approved the increased gross weight just weeks before Chile was added to the growing list of countries to not only approve the type for operation, but also the increased gross weight limit. To date, the model's increased gross weight has been approved by Argentina, Australia, Brazil, Canada, Chile, China, Ecuador, India, Malaysia, Mexico, New Zealand, Nigeria, Thailand, Venezuela and Vietnam.



BELL HELICOPTER TO EXPAND PINEY FLATS FACILITIES

Late last year, Bell Helicopter announced it will expand its completion and customer delivery facilities located in Piney Flats, Tenn. This announcement represents a \$10.1 million investment by Bell and was achieved through collaboration with the State of Tennessee and Sullivan County. The expansion is anticipated to create up to 125 jobs.

Eric Cardinali, executive vice president, Customer Support and Services for Bell Helicopter said that anticipated production requirements are outpacing the size of the current facility in Piney Flats and that expanding the existing facility allows Bell to implement new technologies and processes. The expansion includes the purchase of a 150,000 sq. ft. building - located just west of the existing facility - which will accommodate customizing and completions of light and medium aircraft, and will also house supporting back shops and shipping and receiving operations.

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429s TO AFRICA

The Nigerian Civil Aviation Authority has validated the Bell 429 for operation in Nigeria and endorsed the Bell 429 gross weight increase to 3402 kg (7,500 lbs). Nigeria is the fifteenth country to approve the increased maximum gross weight and the additional 227 kg (500 lbs) will allow customers to take full advantage of the aircraft's capabilities, and operate longer and heavier missions. Bell Helicopters has also delivered two Bell 429s, one to the Nigeria Police Air Wing (NPAW) and another to the Nigeria Emergency Management Agency (NEMA). These Nigerian deliveries are the first 429 deliveries on the continent of Africa.



HISTORIC MILESTONE FOR MARITIME

Alaska based Maritime Helicopters Inc. celebrates 40 years of service in 2013. The company started with one leased helicopter in 1973, the family-owned business has steadily grown to become the only Bell Helicopter Service Center in Alaska. Maritime owns a fleet of Bell Jet Rangers, Long Rangers, and 407 models which support marine, petroleum, construction, and government agencies throughout the state. From the main headquarters in Homer, the company has satellite bases in Kodiak, Dutch Harbor, and Kenai. They also offer an 86-foot helipad equipped Research Vessel which has served customers throughout the Arctic, Western Aleutians and Southeast Alaska.

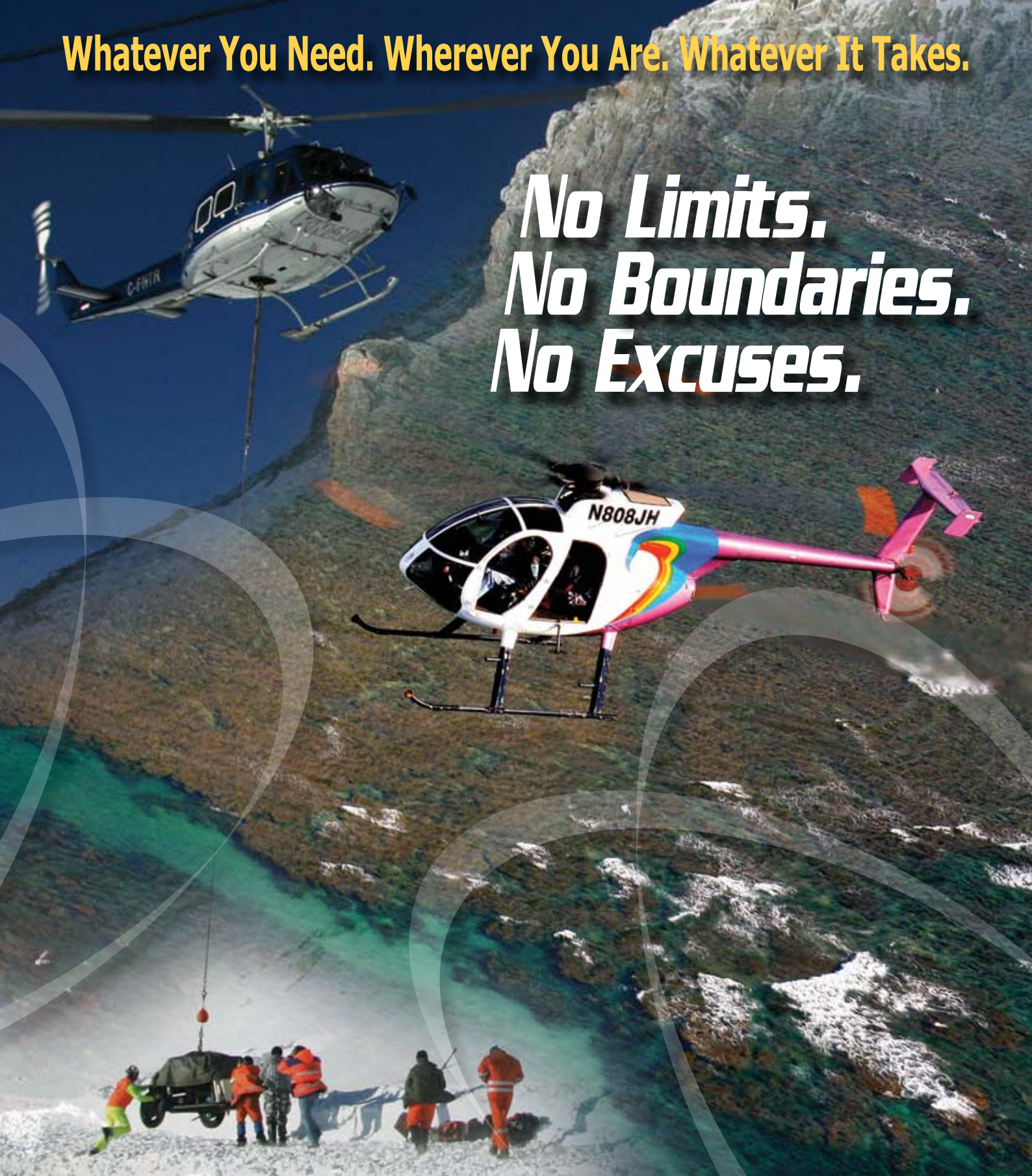
FIRE FIGHTING ON A GLOBAL SCALE

Russian Helicopters, part of state defence holding Oboronprom, has launched the Global Helicopter Firefighting Initiative (GHFI) to increase the use of fire-fighting helicopters specially equipped with the suspended fire-fighting systems, water cannons and other fire-fighting equipment. The GHFI will involve makers of fire-fighting systems and equipment for helicopters producing innovative technologies to improve helicopter-based firefighting systems. Russian Helicopters plans to involve its own design bureaus in the search for new engineering solutions in the field. One member in the GHFI will be the Russian built Ka-32A11BC helicopter, which meets AP-29 standards and in December 2012 the helicopter received its flightworthiness certification in Australia.



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BOND MOVES CLOSER TO NIGHT AIR AMBULANCE OPS

Bond Helicopters Europe has confirmed that the European Aviation Safety Agency (EASA) has approved one of its EC135s for NVG operations to ground level, a significant step towards the UK's first night air ambulance operations. At present, no air ambulance service in the UK is able to operate HEMS flights at night. If there is a serious accident or medical emergency during the night, the emergency services must rely on land-based vehicles, which is not always ideal in remote areas or those areas without major hospital facilities.

Bond has received EASA STC approval for a night vision imaging system (NVIS) modification to a Eurocopter EC135. With this technical approval secured, the next step will be to secure operational approval from the UK Civil Aviation Authority (CAA), a process that is on-going. In summer 2012, Bond took delivery of a new EC135 for use by East Anglia Air Ambulance. Upon delivery, the aircraft was not certified to fly using NVGs. Bond's Design & Completions department then undertook the necessary design, certification, installation and testing work to modify and equip the aircraft for NVG operations. Jeremy Liber, Director of Design and Completions at Bond said "We believe that this is the first time in the UK that an air ambulance aircraft has been equipped for NVIS operations and we are very proud that Bond was able to draw on extensive in-house expertise to make these modifications and obtain EASA approval. We now very much look forward to this technology being used for live, life-saving missions".



A WASC OPENS IN FLORIDA

L-3 WESCAM has signed an agreement with L-3 Component Overhaul and Repair to open a WESCAM Authorized Service Center (WASC) in Fort Lauderdale, Fla. The facility will provide customers in the United States with a 40,000-square-foot center equipped to maintain its MX Series of electro-optical and infrared imaging turrets. This is the fourth service center in North America and the company's 14th center worldwide.

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FLATOUT AT SKYWORK

For Kiwi helicopter operator Skywork Helicopters it's been a flat out fire season, due to no significant rainfall since New Year. Pouto and Great Barrier Island would have to be the biggest fires attended this season – along with the Matakana fire which was right on their back door this February. Skywork's Managing Director Roger Stevenson was the first on the scene as he noticed smoke rising above his father & mother in-laws farm. The kinder dryness provided the perfect platform for a fire that expanded in seconds. Within seconds the fire, fuelled by winds and dry fuel took off up the ridge, and with additional aircraft brought in the fire was contained some hours later. There was a shortage of water resources and inaccessibility to the fire scene for the fire ground support made the fire troublesome as the location is isolated and rugged terrain proved the significance and effectiveness of the helicopters.

Across in Australia Skywork were also kept busy with the intense fire season that kick started the New Year in NSW, where they had their K-Max working hard to assist the fire fighting teams there.





BOND OFFSHORE'S NEW CONTRACT WITH BW OFFSHORE (UK)

Bond Offshore Helicopters Ltd, one of the UK's leading providers of energy support services announced that it has been awarded a new contract with BW Offshore. This new contract, worth in the region of £16 million, is to provide crew change support for the BW Offshore (UK) Limited Floating Production Storage and Offtake (FPSO) vessel Athena which is located at the Athena Field. BW Offshore maintain production at the field, located approximately 180 kilometres north-east of Aberdeen, on behalf of Ithaca Energy.

Operations are due to commence from Aberdeen Airport in March 2013, with a new-to-fleet AW139 medium category helicopter, for an initial contract period of three years with options to extend. Luke Farajallah, Managing Director, Bond Offshore Helicopters, said: "I am delighted with this new contract, our first of 2013, which cements our strong existing relationship with BW Offshore. We look forward to further growth over the course of the year".

Richard Mintern, Chief Executive Officer, Northern Europe and Asia Pacific, Avincis Group said: "This new win is the latest in a fantastic recent run of success for Bond, coming on the back of the new contract with Perenco in the Southern North Sea, as well as contract renewals by long-standing air ambulance customers in Scotland and the Midlands. As it grows Bond is also investing in staff and cutting-edge equipment, in order to continue providing the optimum level of service to its customers".

DUAL WHEELS FOR R44 & R66

Helitowcart has added a new product – dual wheels compatible with the R44 and R66. Helitowcart wheels for Robinsons are known for their heavy duty construction for long term reliability. This latest addition will cater to personnel operating on extra rugged terrain or wishing to spread helicopter weight on four tires. The long arm makes the rotation act effortless.





THREE Mi-8AMT FOR UTAIR

UTair Aviation and Svyaz-Bank, in partnership with REGION Leasing, have completed the first refinancing acquisition deal for the purchase of three Mi-8AMT helicopters. UTair see the acquisition of the helicopters as an opportunity to strengthen their position in the global aviation market along with the expansion of its fleet. UTair Aviation has more than 40 years of experience operating all types of Mil helicopters in different regions of the world and has more than 350 helicopter types in its fleet operating under international commercial contracts in Europe, and in the oil and gas industry in Western and Eastern Siberia.

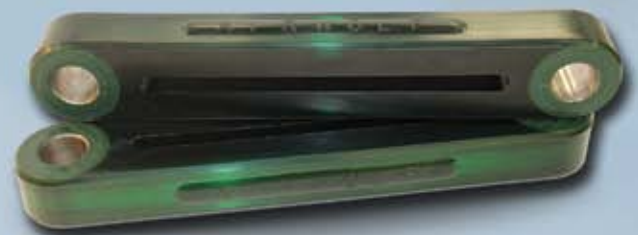


EASA CERTIFICATION FOR SIMPLEX

The Simplex Model 510 powerline insulator and windmill cleaning and de-icing system has been granted EASA certification for installation and operation on AS350 and AS355 series aircraft. The Simplex Model 510 joins the Simplex Model 508, for the Bell 407, as the 3rd generation certified power line and windmill cleaning and de-icing system for the utilities industry.



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EC135 FOR HEMS OPERATIONS IN INDIA

Marking a key milestone in India's development of modern helicopter air rescue, AVIATORS Pvt Ltd has signed an order for seven Eurocopter EC135 helicopters for HEMS operations with a second order expected to follow the first deliveries at the end of 2013.

AVIATORS is establishing itself as a pioneering HEMS operator in India and predicts a rapid growth in the HEMS market with many as 50 helicopters expected to be deployed throughout the country in the coming years. "As the EC135 is a global reference in helicopter emergency medical services, it is highly appropriate that AVIATORS will introduce such operations in India with these extremely capable helicopters," explained Norbert Ducrot, Eurocopter Senior Vice President for Asia Pacific.



ROLLS-ROYCE M250 SUPPORT CENTER IN RUSSIA

Aviall Services, Inc., a wholly-owned subsidiary of The Boeing Company, and Helicopter Service Company (HSC) of Moscow, Russia, have signed an agreement to support helicopters powered by Rolls-Royce M250 engines. HSC, the first and only M250 authorized support center in Russia, will purchase spares for Rolls-Royce M250 engines and other helicopter-related parts directly from Aviall.



NEW SKYROUTER SELECTED BY AIR GREENLAND

New SkyRouter fleet management portal manufactured by Blue Sky Network has been selected by Air Greenland, a helicopter operator in the Arctic. New SkyRouter is a feature-rich, cloud-based solution that enables constant connectivity with mobile assets dispersed in remote locations. Combined with Blue Sky Network's Iridium Satellite-based products, New SkyRouter will provide Air Greenland a constant connectivity and coverage in the northern-most latitudes. Air Greenland specializes in Arctic aviation, mineral exploration, and offshore search and rescue missions and its helicopters often fly in secluded areas where communication is difficult, and sometimes even impossible.

A FORMER A109K2 DELIVERED TO HELI AIR

Bulgarian helicopter operator Heli Air has taken delivery of a former Agusta A109K2 at their Sofia Airport Head Quarters. This A109K2 was originally operated by the Swiss air ambulance operator REGA and will be operated by Heli Air in a variety of roles. The company has primarily been operating Mi-8 MTV helicopters in the transportation role including contracts for the United Nations in humanitarian support.



NVG COMPATIBLE CONVERSION FOR AN AS350B3

REBTECH, aviation night vision lighting providers has announced the initial night vision compatible conversion of an AS350B3 owned and operated by helicopter training provider, HeliStream. As a component of the cockpit and cabin night vision modification, REBTECH also modified the aircraft external lighting as part of the overall night vision goggle (NVG) compatible STC. The addition of a NVG compatible lighting both inside and outside of the AS350B3 AStar will allow HeliStream to provide specialized NVG training for both initial pilot transition and recurrent training.

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TWO MI-8s TO TATARSTAN FOR SECURITY DUTY

Russian Helicopters delivered two multirole Mi-8AMTs to the Republic of Tatarstan Interior Ministry in December 2012. The contract was signed in August 2012 and Russian Helicopters delivered the helicopters on schedule. The Mi-8AMTs will fly missions including maintaining public order, and will be deployed as part of the security arrangements for the XXVII Summer Universiade in Kazan, Russia in 2013. After the final inspection team of the Ministry's special purpose aviation group was satisfied with the build quality and accompanying technical documentation, the helicopters were flown to their service base under their own power by crews from the special purpose aviation group, allowing the group to make a hands-on assessment. The AMT variant is a highly modernized version of the Mi-8, developed by the Mil Moscow Helicopter Plant and built by Ulan-Ude Aviation Plant, both part of Russian Helicopters. The Mi-8AMT (exported as the Mi-171) is Russian type-certified and has also received type acceptance certificates in China, South Korea, Slovakia and Mongolia.



FIRST KA-62s ORDERED FOR EXPORT TO BRAZIL

Russian Helicopters has signed its first export contract for the medium multirole Ka-62 with Brazilian Atlas Táxi Aéreo. Seven Ka-62s are scheduled for delivery within the period of first quarter 2015 to first quarter 2016.

During a visit to Russia, Brazilian President Dilma Rousseff signed this, the first contract for the type; one of Russian Helicopters' most eagerly anticipated new models. The first two Ka-62s are scheduled for delivery in the first quarter of 2015. Four helicopters in total will be delivered during the remainder of 2015, with another one following in the first quarter of 2016. The contract also includes an option for an additional seven examples. Testing of the Ka-62 is scheduled to start in 2013, and Russian Helicopters is targeting certification for international use by 2015. Under the contract with Atlas Táxi Aéreo, Russian Helicopters and its regional partners will establish an after-sales care and maintenance service center in Brazil. The Ka-62 is targeted at corporate and passenger use, as well as special operations. Atlas already operates medium multirole Mi-171A1s, which were delivered last year, with the fleet due to be expanded in the future.

A NEW LOOK

London's Air Ambulance, operated from The Royal London Hospital in Whitechapel helipad, have a new look to their MD902 Explorer following its annual service. Graham Hodgkin, Chief Executive Officer of London's Air Ambulance, said: "Our aircraft provides the most effective opportunity for us to deliver our key messages to London and potential donors, hence the strategic new look of our iconic asset. London's Air Ambulance is a charity relying on your support, delivering highly specialist doctors and paramedics and the service is an essential part of London's emergency infrastructure. London's only air ambulance has also moved the overnight airbase from Denham to RAF Northolt and the relocation as the close proximity of RAF Northolt to Whitechapel and the direct helicopter route between the two destinations will reduce the flight time to and from the helipad at The Royal London Hospital in Whitechapel, thereby saving on fuel costs.



KAMOV KA-32A11BC INTO AUSTRALIA

Russian Helicopters will bring its Australian calling card - the medium multi-role Ka-32A11BC – to Avalon 2013, the international aviation exhibition taking place from 26 February to 3 March in Geelong.

Though Australia is a new market for Russian Helicopters, the company's helicopters are in high demand across the Asia-Pacific region. More than 1,200 Russian-built helicopters already operate in one of the fastest-growing regions of the planet, and demand for reliable and economical helicopters is continuing to grow along with the regional economy.

The Ka-32A11BC received its Australian certificate of airworthiness in December 2012, allowing Australian operators to use the helicopter for fire-fighting, search-and-rescue operations, external sling and in construction work. Australia is a country that suffers damage from wildfires every year, and therefore has a need for specialised fire-fighting equipment able to combat the threat. As a fire-fighting helicopter, the Ka-32A11BC can be equipped with Bambi Buckets and a water cannon, which combined with the helicopter's unique coaxial main rotor system makes the Ka-32A11BC a formidable fire-fighting helicopters.

Russian Helicopters in early 2013 launched the Global Helicopter Firefighting Initiative to further the development of helicopter fire-fighting equipment. The Initiative aims to make the use of specialised fire-fighting helicopters more effective, and will involve sector specialists and other relevant companies from around the world. The goal of the programme is to combat the threat of natural and manmade fires on a global level. The Ka-32A11BC has been chosen as the symbol of the GHFI.



SIKORSKY BEGINS DELIVERING RECORD S-92 ORDER

Sikorsky recently announced delivery of the first of 16 completed S-92s that the Avincis Group will use to provide transportation for its customers' offshore oil and gas crews and for search and rescue. The aircraft order announced in February 2012 is the largest single purchase of S-92 helicopters to date. The aircraft, which will go first to Norway before being deployed in the UK North Sea sector, was accepted at SGH's facility in Coatesville, Pa., by Bjorn Seljevold, Managing Director of Norsk Helikopterservice. Avincis' subsidiaries operate under the Bond (UK, Norway, Ireland and Australia), Norsk Helikopterservice (Norway), Inaer (Spain, Italy, France, Portugal, Chile and Peru) and Australian Helicopters brands.

"We're proud to have Avincis as a customer. Avincis has established a global reputation as a company committed to safety and performing vital life-saving missions – a culture and a priority that our two companies share," said Carey Bond, President of Sikorsky Global Helicopters. "We look forward to all sixteen S-92 aircraft entering the Avincis' fleet." Avincis CEO James Drummond said: "I am delighted to see the delivery of the first of this important addition to our fleet. Avincis' global scale allows us to ensure our local companies have access to the best resources for their customers. Every day, lives and livelihoods depend on the operations we fly. The size and diversity of our fleet, together with our absolute commitment to safety and quality, means we are equipped to save lives, protect the environment and provide energy services across the world."

Milestone Aviation Group, a world leader in helicopter leasing and a valued Sikorsky customer, is financing the first four of the 16 S-92 aircraft order. Richard Santulli, Chairman of Milestone, said, "We are thrilled to continue our partnership with Avincis and support the growth of their business with the addition of the S-92 to their fleet. This great aircraft will allow Avincis, a world-class operator, to offer even more options to their customers all over the world."



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ADDING TO THE FLEET

Columbia Helicopters is pleased to announce the acquisition of ten helicopters from the Swedish Department of Defence. The aircraft, which includes six Boeing Vertol 107-II and four Kawasaki Vertol 107-II helicopters, will join the company’s fleet of heavy-lift helicopters working around the world. Columbia Helicopters is the world’s only commercial operator of these tandem-rotor aircraft, and intends to make application to add these aircraft to their FAA Type Certificate. “We are excited to have these helicopters joining our fleet,” said Stan Wilson, President of Columbia Helicopters. “The Swedish military took very good care of these aircraft, and we look forward to putting them into operational status as soon as possible.” Columbia’s crews have disassembled and shipped the first three helicopters, with the remaining aircraft arriving in the United States later this year. The company will reassemble and refurbish the helicopters, introducing them into their active fleet as quickly as business needs require them. “The Vertol 107-II is the backbone of Columbia’s fleet,” added Wilson. “We use them for military support, logging, fighting fires, construction projects and on petroleum exploration projects around the world.”

HIGH ALTITUDE OPS

Bristow Academy in Carson City, Nevada has reached a milestone with its Mountain Flying Training Center, having completed the training of more than 100 pilots from a myriad of countries in high altitude operations. The training is bilingual in Spanish-English with the standard syllabus of four weeks encompassing 40 hours of academics and 18 flight hours – to include seven flight hours under night vision goggles (NVGs). The syllabus can also be modified to fit a customer’s specific training requirement. Military and police units from Latin America have found this of particularly use where such operational expertise in mountainous terrain is at a premium in order to support their national security objectives.

NEW 429 INTO NZ

Hawker Pacific has sold a brand new Bell 429 to a commercial operator in New Zealand. The aircraft will join an existing rotary fleet for business and VIP transport, and will be fitted out with air-conditioning and corporate interior for delivery next year. According to Tony Jones, Hawker Pacific's Senior Vice President, Aircraft Sales Group, the 2013 rotary market is looking promising as interest continues to grow, particularly in light twin-engine aircraft, to meet the incoming Part 133 and Part 138 regulations. "We are extremely pleased to announce our latest Bell 429 sale at the 2013 Australian International Airshow and Aerospace & Defence

Exposition at Avalon. This deal reflects the resurgence in enquiries we are seeing not only for new aircraft but also in pre-owned aircraft, across our region," Tony Jones said.



EXPANSION PLANS

Based in Queenstown, New Zealand, Heli Tours has added an MD500D to their fleet to give customers more choice for Tourism and Commercial operations. "The MD500 offers more power, capacity and speed than the R44. Adding the 500D also fits our business mode going forward" explained Managing Director Paul Mitchell. "We are looking forward to the future ahead" he added.



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PHOENIX HELIPARTS AND MAGNUM P.I.'S MD 500D

Phoenix Heliparts has refurbished an MD 500 for Paradise Helicopters of Oahu, Hawaii, which is an exact copy of the one used in the hit TV show, Magnum P.I. The aircraft will be signed on-site, at Heli-Expo 2013, by Magnum P.I. actors: Larry Manetti who played local beach club owner, Rick Wright; and Roger E. Mosley who played helicopter pilot, Theodore "T.C." Calvin.

Phoenix refurbished the entire airframe and avionics suite. The aircraft even matches the original's multi-colored exterior, and is marked with the same tail number, N58243. The MD 500D also features an automatic re-light system, which is being STC'd by Phoenix, and Diamond J, Vivisun LED Master Caution annunciators and Inscro transducer instruments, which Phoenix installed after removing all 'wet' gauges from the cockpit.

The MD 500D was originally an ex-Honolulu police department aircraft, but is now destined to fly the islands of Hawaii with tour company, Paradise Helicopters. During the aircraft's delivery ceremony at Heli-Expo – to be held at 11.30am, March 5, 2013 – Phoenix will present Paradise Helicopter's owner, Calvin Dorn, with the keys to the refurbished ship. Heli-Expo 2013 also marks Phoenix's tenth anniversary.

Phoenix Heliparts president, Tina Cannon, said, "Refurbishing this Magnum P.I. copy was an exhilarating experience for the team at Phoenix. We brought a little bit of Hollywood to Arizona. We're extremely proud of the job we did with the airframe and avionics – I'm sure that Paradise Helicopters' customers will enjoy the experience of flying in this helicopter just as much as we enjoyed refurbishing it.

"To undertake the ship's fantastic paint job and ensure it was as close to the original as possible, we collaborated with Straube's Aircraft Services in Kingman, Arizona, who completed the paint application."

Magnum P.I. actor, Larry Manetti, who played local beach club owner Rick Wright, said, "I just came back from Hawaii where I have a recurring part on the new "Hawaii Five-0" and seeing the new Magnum P.I. helicopter brought back a lot of memories. It sure looks like they did a lot of work on the helicopter to make it look like the original."

Fellow Magnum P.I. actor, Roger E. Mosley, who played helicopter pilot, Theodore "T.C." Calvin, said, "Working on the show was a pure blast, a once in a lifetime experience. I've been on a lot of shows, and with this one everyone really enjoyed it. The atmosphere in Hawaii is great.

"I think fans of the show who are going to Hawaii for the Magnum P.I. experience will have a great time on this aircraft."



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Darrel Birkes served as a Senior Load Manager in Peru. Darrel started out as a logger for Columbia Helicopters in 1974, and eventually moved to Papua New Guinea to work with petroleum exploration projects. He moved to Peru in 1996 as a Load Coordinator, and he became one of Columbia's most knowledgeable and experienced Load Managers. While Darrel lived in Pachacamac, Peru, he had family in Oregon and visited most every summer. He worked for Columbia Helicopters for 24 years.



Lee Bradford, of Santaquin, Utah, worked as a petroleum exploration Load Manager in Peru, Ecuador and Papua New Guinea, and on construction projects in the United States. In 1990, Lee came to work for Columbia Helicopters as a logger, then started moving petroleum rigs in 1996. Lee was married and had four sons.



Igor Castillo had worked as a copilot for four years, coming to the company as one of the premier pilots in the Peruvian Air Force. A former Olympian pole vaulter, Igor's top goal was to become a Chinook Command Pilot with Columbia, a goal he was well on his way to achieving. Igor lived in Lima, was married and had two children.



Ed Cordova had worked at Columbia Helicopters for only six years, but he was already the Maintenance Crew Chief based on his experience and natural leadership. An Army veteran, Ed led his tightly knit crew and also assisted the company in recruiting other military mechanics. He lived near Fort Campbell in Clarksville, Tennessee, was previously married and had three children.

In Memoriam



Dann Immel had worked for Columbia for 15 years, joining Columbia Helicopters in 1998 as a copilot on both the 107 and 234 Chinook. He excelled in logging, fighting fires and petroleum support, moving from copilot to support ship pilot to Command Pilot in both of the company's tandem rotor aircraft. Dan was previously married and had one son.



Luis Ramos had served as an aircraft mechanic with Columbia for four years, having impressed one of the company's maintenance Crew Chiefs with his abilities and easy-going demeanor. With a zest for life, Luis was the person on the crew who kept everyone laughing, making work easier for all during long days. Luis was a resident of Lima, Peru.



Jaime Pickett was one of the newest employees of Columbia Helicopters' crew in Peru, having worked as an aircraft mechanic for just seven months. Jaime was one of the former military maintenance veterans recruited by Ed Cordova, and Ed essentially hand-picked Jaime for his crew. Jaime was married with three children, and lived in Clarksville, Tennessee where he and his family raised reptiles in his off time.

TWO STEPS FORWARD

STORY BY LEIGH NEIL
PHOTOS BY NED DAWSON

AIR ZERMATT'S NEW B429



SWISS COMPANY AIR ZERMATT'S RESCUES
COMPRISE MAINLY SKI ACCIDENTS, INCLUDING AROUND
30 CREVASSE RESCUES EACH YEAR, WHILE AVALANCHES
ARE ALSO COMMON WHEN THE SNOW-LEVELS ARE LIGHT.
IT IS THEREFORE A GIVEN THAT OPERATIONS ARE
PREDOMINANTLY CARRIED OUT IN THE MOST
CHALLENGING TYPE OF MOUNTAIN FLYING CONDITIONS.

The peak of the Matterhorn towers above Air Zermatt's 429 during hoist training.





A patient is recovered from deep inside a crevasse during a rescue mission.



his well-known and highly regarded helicopter EMS provider recently took delivery of the first HEMS-configured

Bell 429 in Europe. Gerold Biner, pilot and Managing Director of Air Zermatt told HeliOps “This is something we really felt comfortable about, dealing with Bell. You have this familiar feeling and when you have faults or input somebody is listening to you. We’ve had a terrific relationship with Eurocopter Germany, but when we’ve needed to deal with Eurocopter in France, well, let’s say it’s been tricky.” Biner says he felt that his smallish company (55 employees and nine pilots) wasn’t seen as particularly important to Eurocopter France, whereas when they were looking at the 429, Bell’s CEO-President and vice-president visited in person to talk to management and pilots. At last year’s EBASE show, Biner took Bell’s Danny Maldonado flying around the Matterhorn and he chuckles as he recalls that they went to the trouble of hunting down a Bell 407 to hire, rather than flying Maldonado in the company’s existing Eurocopter product. With their operational area including the Swiss Alps, terrain and weather dictate the demands on their machines. Robert (Robi) Andematten, senior pilot with Air Zermatt, pointed out that the

jetstreams are very low above the Alps and that flying conditions in general were very, very windy. With their immediate operational area including dozens of peaks around 4,000metres high, it is not surprising that Air Zermatt is often viewed as the ‘litmus test’ for HEMS mountain rescue operational techniques and equipment.

Air Zermatt first flew the 429 in the vicinity of Mont Blanc and immediately found that it seemed to be the right helicopter for their needs. Performance, cabin layout and ergonomics were all ideal, plus the company had experience of Bell product and backup from their time with 407s and 412s, including operating 407s in the Himalayas at 20,000ft! That experience gave Biner an appreciation for the rotor system, which he says is smoother and more stable, particularly at those high altitudes. “We did have good experience over our ten years with the EC135” says Biner, “but with a possible requirement looming over us to provide twin-engine HEMS service we had to look at the light-twin market. We wanted to move to a helicopter that would let us take a step forward, but with the 429 we’ve just taken a whole lot of steps at once.”

WORKING WITH A **MANUFACTURER** TO DEVELOP OR FIND SPECIALIST ACCESSORIES AND OPTIONS IS **IMPORTANT TO AIR ZERMATT**; THEY HAVE ALREADY SOURCED A CERTIFIED BASKET AND **WANT TO DEVELOP** A DUAL CARGO HOOK SETUP THAT WILL PERMIT HUMAN EXTERNAL CARGO OPERATIONS.

No matter the angle
the Matterhorn
looks impressive.



AIR ZERMATT FIRST FLEW THE 429 IN THE VICINITY OF MONT BLANC AND IMMEDIATELY FOUND THAT IT SEEMED TO BE THE **RIGHT HELICOPTER** FOR THEIR NEEDS.



Working with a manufacturer to develop or find specialist accessories and options is important to Air Zermatt; they have already sourced a certified basket and want to develop a dual cargo hook setup that will permit human external cargo operations. Once that's done Biner intends to work the machine for a year and then go to Bell with input on development of the B429 platform. What is noteworthy is that so far there are no aspects of the machine that have been found wanting, which Biner sees as indicative of the quality and good design of the aircraft.

"I've noticed that when we talk to other operators, the focus and interest is always the same. Why are we changing from the EC135 we currently use and going to the Bell? It's simple; on the economic side of it we get more benefit for less money. The other, non-economic advantage is that we get what I'd call a 'perfect product.'" One of the principal factors that enabled the

relatively quick decision to go with the Bell was the need for sufficient power to operate at 15,000ft without sacrificing equipment load-out to reduce weight. "It's nicely developed and we're extremely happy with all the features. The cabin is more spacious and has a flat floor, the cockpit ergonomics are so good, the rotor system is perfect for us, the engines are running and performing well." Pilots really like the autopilot system and Biner commented that he could see the aircraft's features fitting it well for the future development of low-level IFR operations, similar to those engaged in by some operators elsewhere in the world. Biner describes the 429 as undeniably a pilot's aircraft; complex in design but remarkably simple to operate in a single-pilot environment.

According to Andematten, the president of the company was always focused on the 429, ever since the prototype was launched. Even then it was obvious that the machine promised much better

With numerous ski fields surrounding Zermatt the 429 is a common sight picking up injured skiers.





Heliops

The 429 being put away at the end of the day.



performance within its class, although the final decision came down to the numbers after a thorough evaluation. "I told him in the past that it was always a good decision if it meant doing something good for the pilots and, to his credit, he has always gone in that direction" said Andematten, who is also very complimentary regarding both Eurocopter Germany and the EC135. "Eurocopter Germany has always given us great support and the 135 is a very good machine. The only thing that I think let it down was its rigid rotor-system, which gives

a really rough ride for the patient in turbulent conditions. It also left the pilots really tired if flying all day in rough air. In comparison the 429 has better performance and is very soft-riding." Andematten has flown the 407 extensively and describes the 429 as a 'big 407', comfortable, familiar and easy to fly. He is also highly impressed with the machine's speed. "The Bell engineers told me they had tuned the rotor-system for high altitude and high speed, this machine is very, very fast!" Vne on the 429 is around 160kts all the way up to 10,000ft. Not only does he enjoy the 429, with 12,000hrs experience Andematten still loves the variety of work that Air Zermatt

ONE OF THE PRINCIPAL FACTORS THAT ENABLED THE RELATIVELY QUICK DECISION TO GO WITH THE BELL WAS THE NEED FOR SUFFICIENT POWER TO OPERATE AT 15,000FT WITHOUT SACRIFICING EQUIPMENT LOAD-OUT TO REDUCE WEIGHT.

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LOOP.aero Magazine, Jan 2013



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For its size the 429 is a very maneuverable platform.



Crewman Stefan Imboden brings up a patient during a rescue mission.







ANDEMATTEN REPORTED THAT **FLYING** THE NEW TYPE AFTER THE EC135 REQUIRED QUITE A **SHIFT IN THINKING**, WITH THE GLASS COCKPIT AND AUTOPILOT BEING **VERY DIFFERENT** FROM THE FAMILIAR EQUIPMENT IN THE 135.

Robi Andematten enjoys his job, as well as awesome views of the Matterhorn from the cockpit of the 429.



offers. As he puts it, “We don’t have oil-rigs here, but we have everything else. Aerial work, winch rescues, long-line rescues, night and day rescues, tourist and sightseeing flights, VIP work, concreting. You’ve got everything.”

Air Zermatt’s machine had only amassed around 100hrs at the time of HeliOps’ visit, but those hours included day and night rescue missions with plenty of opportunity to test out the NVG capability of the aircraft. Andematten told us that an EASA directive now forbade curtains in the machines, but the lighting system is so well thought-out that even with cabin lights on full there were no glare or night-vision problems in the cockpit.

Andematten reported that flying the new type after the EC135 required quite a shift in thinking, with the glass cockpit and autopilot being very different from the familiar equipment in the 135. When used to the new type and familiar with the features available, however, he has found it to be easy to fly with those new features reducing pilot workload. One feature that he particularly likes is the ability to match either torque or gas temperature. “In some circumstances at higher altitudes, when the engines are getting close to their limits, that can give almost 80kgs more power” he enthused. All AZ pilots have an Ipad and the company is instituting an electronic flight pack.

Robi chats with the Italian Polizia while the crew load a patient from the skifield on the Italian side of the Alps.





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Landing to pick up an injured Russian teenager after a skiing accident.



This will incorporate all paperwork, licenses etc. and Andematten said it was hoped that the new initiative would be EASA-certified in mid-2013. It is hoped that even the hard-copy aircraft flight manual can be replaced by an electronic equivalent, making truly paperless operation a real possibility. Although a digital flight manual is produced by Bell, EASA regulations currently demand the carriage of the hard-copy flight manual in the helicopter.

Philip Mangold is one of the newer pilots and he didn't fly the 135 before stepping up to the 429,

progressing instead from the B3 and older JetRanger ships. He commented that the most noticeable aspect of the multi-generational step up was the simplicity of the new type. He described it as a 'Rolls Royce' of twin-engine machines and particularly appreciated the glass cockpit and autopilot system. This common refrain was heard from all 429 pilots spoken to and Mangold explained the ease of his transition,

AIR ZERMATT MAY BE A RELATIVELY SMALL OPERATION BUT IT FLIES CHALLENGING OPERATIONS EVERY DAY IN MOUNTAINOUS TERRAIN AND THROUGHOUT EUROPE IS A VERY WELL KNOWN AND RESPECTED OPERATOR.



Many of Air Zermatt's patients are from Eastern European countries.



Russian teenager injured on the skifield is wheeled into the hospital at Visp.



Early morning start in Zermatt.





The hangar is a tight fit with AS350B3s and the 429 all tucked in tightly.

“I went to the course for one week at Fort Worth, flew just five hours, came back here to Switzerland and passed the test here, it was that simple to adapt to the new type.” He described the new type as quiet, stable and not at all ‘nervous’, with excellent ergonomics. “Any helicopter will be a little unstable when hovering in ground effect, but the 429 is closer to the Lama – the most stable type I’ve ever flown in the hover – than it is to the B3, but once you’re in free air it’s perfect.” Because of the nature of the Air Zermatt operation, Mangold considers the most important feature of the new machine to be

it’s high levels of available power. Already he has carried out a rescue at close to 10,000ft, 6 POB with full equipment and he found ample power was available, even in the hover. Negatives he listed were few and minor, limited to such things as a less powerful searchlight than the Lama. The Goodrich rescue winch has a relatively short arm and the 429 wear wide skids, so winching patients aboard can require the doctor to manoeuvre them out and over the skid, but Mangold is of the opinion that it is only a minor matter

EASA DIRECTIVE NOW FORBADE CURTAINS IN THE MACHINES, BUT THE **LIGHTING SYSTEM** IS SO WELL THOUGHT-OUT THAT EVEN WITH CABIN LIGHTS ON FULL THERE WERE **NO GLARE OR NIGHT-VISION PROBLEMS** IN THE COCKPIT.







that is easily dealt with. Like Andematten, he was very impressed with the lighting system that allows full cabin illumination with no disturbance to the pilot's night-vision.

In the past, the Lama has usually been used for the more technical and difficult portions of a mountain rescue, taking the guide and doctor into the cliff wall and then retrieving

crew and patient from the scene. At a more convenient location the patient would then typically be transferred to the EC135 or B3 for transport to the hospital. Mangold believes that the debut of the 429 onto the fleet roster now means that a single machine can efficiently carry out those rescue and transport duties more efficiently than in the past. "I think that with this machine we can now do everything. We have the power of the Lama and the equipment of a large rescue helicopter." HO

ONE OF THE **PRINCIPAL FACTORS** THAT ENABLED THE RELATIVELY QUICK DECISION TO **GO WITH THE BELL** WAS THE NEED FOR **SUFFICIENT POWER** TO OPERATE AT 15,000FT WITHOUT SACRIFICING EQUIPMENT LOAD-OUT TO REDUCE WEIGHT.



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STORY & PHOTOS BY **NED DAWSON**
IMAGES COURTESY **RED BULL STRATOS**

HeliOps Publisher Ned Dawson spent a day flying with Felix in the Austrian mountains in one of Heli Austria's AS350D2s. Ned chatted with Felix about his 'other' life as a helicopter pilot.





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How many hours have you accumulated now?

I have 1150 hours in total. Most of these hours (aprox. 700) are in the Robinson R22.

Where did you start flying helicopters and what types have you flown?

I started flying helicopters at Van Nuys Airport in Los Angeles at Twin Air Helicopters. This was with Yoyo Guso back in 2006 on an R22. I Now I have 6 ratings.

- R22
- Bell Jet Ranger
- Bell 47 Soloy
- A Star B2, B3
- Twin Star 355 F2
- Bo 105
- MD 520 in progress

You owned your own helicopter for a while, the R22 in Austria. Did you get to fly it much and why did you sell it?

Yes that is true. When I came back from Van Nuys in 2006 I kind of felt like I needed to improve my skills and therefor I bought an R22 Beta II.

I flew almost every day in all kind of conditions in order to get better and better.

I really learned a lot from doing this. In 2010 my R22 needed a 12 year overhaul so while it was away at Robinson

I chartered an AS355 Twin Star from Roy Knaus at Heli Austria to maintain my flying skills.

Six months later when I had my Robinson back it didn't feel the same flying it anymore. I suppose I "grew up" so therefore I sold it.

What do you enjoy about flying helicopters.

The challenge, the 3-dimensional feeling and the fact







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that you can land everywhere.
And of course the birds eye view!!

Where do you see your future in the helicopter industry. I know you fly for Roy at Heli Austria when you can, do you see this becoming more of your future?

Absolutely!! I want to fly long line in Austria at Heli Austria, fire fighting in the U.S, and mountain rescue in Austria and Switzerland - But I am still not there. Really need to improve my skills but I am getting there and making good progress... no doubt about that!!





Heliops





It seems every time people interview you they always talk about the Red Bull Stratos project, do they ever talk about your "other" life as a helicopter pilot?

Not a lot!!! They like the fact that I have a plan B for my future but they are more interested in my jump from the stratosphere, which is sad because I really think

Helicopter pilots are totally underestimated by a lot of people. It is one of the most difficult jobs in the world!!

Being closely linked with Red Bull's Hangar 7 do you get to fly the Bell 47, the BO105, the bosses EC135?

Yes my friend and teacher Blacky (Siegfried Schwarz) let me fly those Helicopters!

So now that you have achieved the Stratos project what are the future goals for you?

I am doing a lot of media at the moment and also speeches around the world. I also have the opportunity to work as an Ambassador for the UN so I have a pretty interesting future indeed!! **HO**

Era[★]

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HOW DO YOU
TRAIN
FOR WHAT
HAPPENS
WHEN YOU
LOSE
A CRITICAL
SYSTEM?

STORY BY **NICK MAYHEW**
PHOTOS BY **NED DAWSON**

Euriarra township was wiped from the map during the massive bushfires in Canberra. Tim looks for something to drop his load of water on.





You are sitting safely in an out of ground effect hover at 1000 ft while the camera operator focuses in on the traffic accident below in the hope of getting a good story for tonight's news... when out of the blue the hydraulics give a kick and you feel a big jolt through the controls, the attitude of the aircraft changes and you quickly start to descend. What actions should you take? What is most important? What does the Rotorcraft Flight Manual (RFM) say? What should you do first?

This article will try to address these questions and offer some guidance and tips on how to train to safely deal with loss of a critical system or even the loss of a non-critical system that can distract and create a situation where you lose another critical system.

The first tip is don't rush into making a poor decision where there may be a better one (even with an engine failure you may have more time than you think)! Let's look at an acronym that may help slow you down so you don't make a wrong choice and make the situation worse... something that follows a logical order:

- R - Recognize
- C - Control
- D - Diagnose
- I - Initiate

Some will have used RCDI to describe the Rate of Climb and Descent Indicator - also known as a VSI.

LET'S BREAK THIS DOWN A LITTLE

- RECOGNIZE - what has happened? - do I know? - maybe... but don't guess or make a quick assumption. Flying with passengers or other crew? - warn them verbally with the symptom NOT the diagnosis! "Control malfunction" or "torque split" or "caution light" for example.
- CONTROL - contain the situation. Move the controls to keep the aircraft out of danger - achieve a safe flight configuration (best IAS for SE flight or fly below max hydraulic out IAS for example).

Lyall Mudford positions the Aircrane over the top of a log deep in the Sarawak jungle.



FLYING WITH PASSENGERS OR OTHER CREW?

– WARN THEM VERBALLY WITH THE SYMPTOM NOT THE DIAGNOSIS!

“CONTROL MALFUNCTION” OR “TORQUE SPLIT”

OR “CAUTION LIGHT” FOR EXAMPLE.



- **DIAGNOSE** - OK now that we have the aircraft under control let's see what went wrong? If you have time and your aircraft has Flight Reference Cards (FRCs) with an Emergencies section now is the time to get them out. If not run through the situation and determine what happened and which systems failed and why. What are the implications? Use your crew and keep your passengers up to date.
- **INITIATE** - what are we going to do about this? Look for somewhere to land or start a diversion to another location. Make a radio call - do I need to make a distress call - Mayday or Pan?

Have I followed my instructor's advice to Aviate, Navigate and then Communicate (ANC)? Initiate or continue the descent and pick a good place to land. Let's get this aircraft and its contents safe.

What does the RFM say about landing? What does Land Immediately, as soon as Possible and Practical mean? Each manufacturer will define these actions in different ways so you are best to follow their advice for the aircraft that you fly but let's look at some generic definitions:

- **LAND IMMEDIATELY** - continued flight may be more hazardous than ditching or landing in terrain normally considered unsuitable.

Toby Wallis does a toe in landing in the Southern Alps of New Zealand during venison recovery operations.





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- LAND AS SOON AS POSSIBLE – Land at the nearest site at which a safe landing can be made.
- LAND AS SOON AS PRACTICAL – Extended flight is not recommended. The landing site and duration of flight are at the discretion of the aircraft commander.

Remember that if you ever need to move critical controls, especially in an emergency situation, you should always take your time making

sure you are holding the right one! If you are part of a crew make sure you use them to confirm the switch or lever using this memory aid:

- D – Diagnose
- D – Double-Check
- D – Do

There have been many occasions where the pilot has shut down the good engine or switched out the working system. Stop, think, check and make sure.

Pilots who make the right decisions in these situations are doing so because they continually rehearse situations during quiet moments in the air on routine

THERE HAVE BEEN MANY OCCASIONS WHERE THE PILOT HAS SHUT DOWN THE GOOD ENGINE OR SWITCHED OUT THE WORKING SYSTEM. STOP, THINK, CHECK AND MAKE SURE.

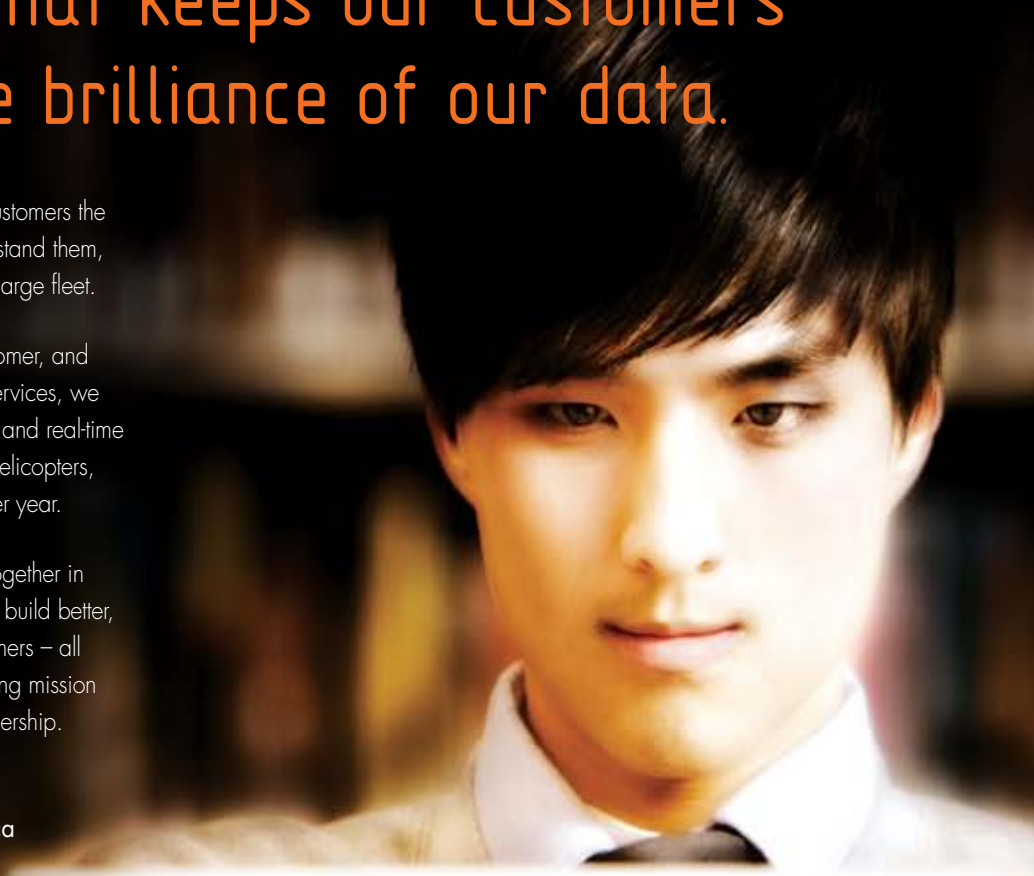
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missions. "What if"... what would I do now if the engine quit? What would I do now if... Train your mind to follow the RCDI sequence and rehearse events in slow time....then when it happens for real a bit quicker it becomes second nature and it is more controlled.... and you make the right decision... and get to go home to your family that night.

No matter how urgent you think the emergency situation is you should always be able to follow this simple RCDI sequence. Obviously some situations will need you to process through the sequence quicker than others but if you stick to this routine you are far more likely to make the better choices and keep the helicopter, its crew and passengers safe.

Remember that it is important to always follow the advice and procedures laid down in your aircraft OEM Manual or Handbook.



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SUMMARY

- Don't rush. Think RCDCI.
- Recognize the symptoms and Warn the crew and passengers.
- Control and contain the aircraft and get into a safe flight configuration if possible.
- Diagnose. Use FRCs.
- Aviate, Navigate and then Communicate.
- DDD. Identify and confirm all critical controls and switches before taking action.
- Initiate. Tell somebody. Land safely and appropriately as guided by the RFM.

The information in this article can also be found as an IHST Training Fact Sheet on the IHST website at www.ihst.org



LUTZ BERTLING

PRESIDENT AND CEO OF **EUROCOPTER**

Eurocopter celebrated its 20th Anniversary in 2012; originally formed from the merger of Germany's Messerschmitt Bölkow Blohm (MBB) and France's Aérospatiale in 1992 the company is now the largest OEM in the helicopter business.

ALAN NORRIS travelled to Paris to talk to Lutz Bertling, President and CEO of Eurocopter about the company's last twelve months and what 2013 holds.



What do you feel the company achieved in 2012 regarding new civil aircraft programs?

On the civil sector we launched the EC130 T2 at Heli-Expo 2012 and, let's be honest, when we went to Dallas we had contracts signed and secure before the show and we were pretty sure we would sign for 52 helicopters. We came home from the show having signed for 105, a very good market entry.

The first serial EC175 had its maiden flight and we now have proven performance figures which are unrivalled, a cruise speed of 150 knots, which is 10 knots faster than we had set before, and 135 nautical miles at a max cruise speed of 165 knots. The single engine PC1 performance at

maximum take-off weight is outstanding.

The EC175 can take off from a helipad on an oil platform at +/- 20 degrees and land safely if one engine fails. This performance will not be met by any other helicopter on the market.

Our EC145 T2 is the second upgrade launched last year, but upgrade is a small word to describe a new engine, Helionix avionics suite, dual engine control FADAC, Fenestron tail rotor, giving more performance and low operating costs. Following a successful launch we received orders for more than 70 aircraft.

Our X3 had a very successful US demonstration tour with over 50 customer pilots taking the



opportunity to fly this helicopter. We received outstanding feedback, because we will increase the cruise speed of helicopters with this concept by 50%. Plus by keeping the acquisition price increase and life cycle cost increase below 20% means more productivity. We are also fully on track for the X4 development program and have most of the supply chain in place and on track for this helicopter including Turbomeca, Pratt and Whitney and Messier Bugatti Dowty.

Eurocopter has always had a strong focus on flight safety over recent years did you see is this paying dividends in 2012?

It has been a very good year in terms of accident rates. The

accident rate and fatal accident rates per 1000 flight hours decreased significantly by 30% last year.

This is not all due to Eurocopters performance it is very much the way operators fly our helicopters. The members of the International Helicopter Society and the OEM's have a common target to decrease significantly the accident rate and it might be a sign, not just from Eurocopter, that all the measures we have taken and put in place to focus on management systems, additional training, the way to operate helicopters and the man machine interface might be starting to pay off. It's only been one year and so not definitive proof but we have an indication that all the efforts we are making, together with the





other OEMs, might be paying off. At least in our fleet we have seen very significant reductions in accident rates during 2012 than in previous years. The Eurocopter fleet has also achieved something that we have not accomplished before: 80 million flight hours and our fleet leader is the Bristow Group with one aircraft, a Super Puma, which has 40,000 hours flown on oil and gas operations.

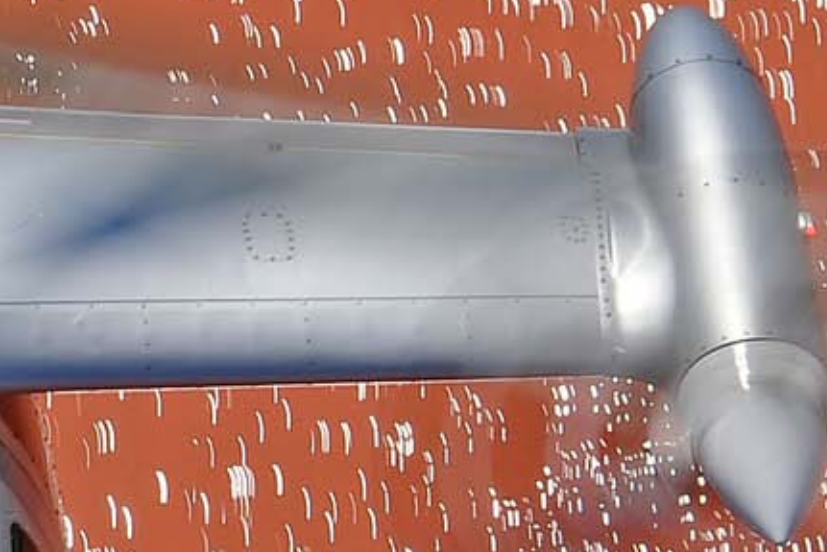
How did Eurocopter perform on its Military Programs in 2012?

On our Military programs we have delivered Army and Air Force versions of the NH90 in final operational configuration to

France and Belgium and the same for the naval version flown by the Netherlands and French Navy. The first Tiger HAD with additional armament and more engine power for France is now ready for the final acceptance phase. We have helicopters on active operations with French and German Tiger's deployed to Afghanistan and France has deployed Tigers in to Mali. The Italian Army are operating NH90 TTH in Afghanistan and the Netherlands Navy has NH90 NFH on their way to Somalia. Germany also received the NH90 TTH in the medical evacuation configuration for deployment to Afghanistan in 2013. So lots of deployments of these aircraft which



Heliops





are really now combat proven. The feedback we have now out of these operations is extremely positive, not just for the French army Tiger deployment in Afghanistan, which is the longest one but also from the first NH90 deployments.

The US Army Lakota is still one of the most successful procurement programs the US military ever had and the 250 helicopters delivered and 100,000 flight hours flown with this program is a reference point of on time delivery, on specification and delivery quality for the US Defense Department procurement.

Eurocopter have been expanding the non-manufacturing services offered to customers how well did this area perform in 2012?

Extending the services model was a major target for 2012 and training is one of our major growth areas. We added five more full flight simulators in Africa and China, and opened an

engine maintenance training center with Turbomeca in Mexico. WE see training as one of the real growth areas for the company.

We also extended our logistical network which means more support and maintenance centers. We opened a new facility at Kobe Airport to be able to absorb the growth we have in Japan following our takeover of the maintenance business of Nippon Airlines and the helicopter maintenance business has now moved into a new facility. In China we are increasing our maintenance capabilities and following the oil and gas industries we have invested in Australia. We have facilities in Brisbane and because Australia is not a small country we decided to open a second maintenance center in Perth.

Two major upgrade programs achievements from my point of view were the delivery of the first CH-53GA to the German Defense Ministry. This is a helicopter which

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Why have you focused and invested in support services?

We focused on this for the simple reason that this is the business that is not only profitable but is relatively crisis resilient. While there is a crisis in the world economy the delivery of new helicopters will go up and down, volatility is relatively high. In the service business it is much steadier and as long as people keep flying, even if they do not invest in new helicopters, the service business goes on. Therefore, it was our strategy for a number of years to increase investment in the service industry and this is now paying off with 42% of our turnover coming from support services. This does not mean we intend to shrink

in helicopter manufacturing but with the growing booking level our activity naturally will increase on both sides and the service activity will become even more important.

Has all this growth, development and production translated into turnover and deliveries?

Yes all this needs to transform, in the end, into net results and we maintained the lead in the civil market plus a solid market share in the military sector. I was quite certain we would continue our growth story for a second year where we have grown in double digits. The 4.8 billion Euros turnover in 2010 was followed by 5.4 billion in 2011, a 12% growth. In 2012 we are now up by 15% with a 6.3 billion turnover.

Looking at deliveries the numbers of helicopters sold in 2012 was 469 and we see that they are going down. But remember from 2008 to 2009, when the global financial crisis was at its worst, we saw a drop in order intake of 50% and of course you see this reflected in

deliveries over the following years. If you look at the split of turnover for Eurocopter it is usually around 50-50 between the military and civil side, but now we have increased the civil side. Now our overall share in the Civil and parapublic market is 44%.

In the military market we have a very solid position as well with 18% of the market. Obviously in Russia we will not be a player like Russian Helicopters and the American market is accessible to us but we will never be a big player so the 18% is our exports all over the world and the NH90 and Tiger we are very well positioned. But once again in 2012 the civil and parapublic market in the United States, which is obviously the home country of our main competitors, we had about a 50% market share of helicopters ordered.

Overall 72% of these activities

were in export, which means deliveries outside of France, Germany and Spain which we see as our domestic countries where we are a major contributor to the trade balance. For me it's the proof that European success story's work and that European cooperation can work. I strongly believe neither Aerospatiale nor MBB would have had a chance of reaching the market position or the market share which Eurocopter has today.

Looking ahead how do you see the global helicopter markets developing?

In terms of global growth rates we strongly believe that on the civil side of the house Asia, India and Brazil will be the strongest growing markets. Most likely by the middle of this decade, 2015-2017, we will see





that Asia will become the biggest potential market in terms of units with growth significantly higher than the rest of the world. In China it obviously depends on the opening of the lower air space which is still limited to the military forces in China. But South East Asia - Malaysia, Vietnam and Indonesia will be very active partly driven by the oil and gas industry.

In the Eastern European market we expect significant growth and we see it already today in procurement plans which are showing growth. In Western Europe we will see a low growth mainly because the replacement needs of the parapublic world are under budget pressures, which a lot of European nations are still facing, and these replacement needs will very often be postponed.

We also see North America as a medium growth area, but let's not forget this is by far the largest single helicopter market in the world and

will remain so for many years. So even a low growth rate in the United States can turn into actual figures and units much more than a big growth rate elsewhere in the world and we are positioned there with a 50% market share in 2012.

On the military side clearly Western Europe has been hit by either budget cuts or budgets kept at a stable level and where sometimes reallocation of budgets is taking place. In the United States the only relevant player in EDAS within the US Department of Defense is Eurocopter and we intend to build on that and we intend to gain additional business with the US DoD.

Where do you see Eurocopter heading in 2013?

Clearly our number one target is and will always remain safety and we will have a special focus in 2013 on quality management, improving the



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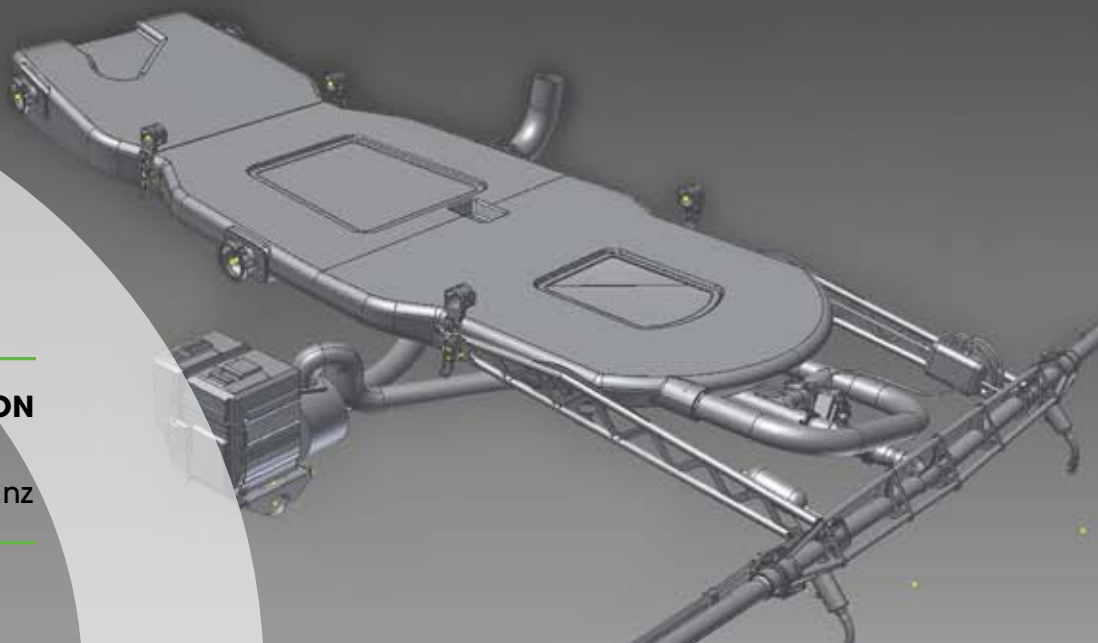
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day to day operation and the day to day safety of the operations for our customers. But we see 2013 as the year of execution we have so much on our plate in terms of growth and development programs that the main focus is to get it done, on time and on quality.

In terms of products our new ones EC145 and EC130 T2 will have the strong focus in terms of ramp up and the EC175 entry in to service with the first delivery this year will be a special focus. We need to make sure that this helicopter, from the very beginning, delivers good mission performance and availability to our customers.



We also have to manage the ramp up as deliveries will go on and we need to make sure we support our suppliers appropriately so that they can support our ramp up.

With the new programs X3 we have proved that this concept is not just a high speed helicopter but a high productivity aircraft which really delivers additional productivity to the operator. Of course we are now going from a demonstrator to the first sketches on the drawing board to see how a series helicopter might look.

X4, the new medium class helicopter, which is in full development and will be followed by X6 and X9 with intervals of two years between each. The clear message is that we are developing a new product family based on what we have done in the X4 and partly based on the work we have done on the EC175. The EC175, X4, X6, X9 will be four brand new products in the market in the foreseeable future turning technology into customer value.

The largest military opportunity in the coming years is the US Armed Aerial Scout. The US Army are going along a different track than before and are looking to find a platform which can serve its needs and is available together with a mission system which can perform and is readily available. In 2012 in a hot and high flight test campaign for these aircraft and what we call the AAS-72X+, based on the Lakota and the EC145 T2, surpassed all the requirements defined by the US Army. Lockheed Martin will be our partner as mission system integrator. We would produce the aircraft in our factory in Columbus Mississippi and intensive discussions and intensive audits of the factory by the US Army have been successful. The strongest competition actually is not between us and other new helicopters the strongest competition is between us and the Kiowa upgrade and interestingly our platform, including the mission system, would not be significantly more expensive than upgrading the Kiowa OH-58.

How do you see Eurocopters position in the support and services sector developing in 2013?

Clearly we intend to continue to grow mainly around four fields.

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Obviously the acquisition of Vector was a major step forward are investing heavily in Vector and by keeping the independence of this company we protect our business model and protect our brand but through us Vector gets significant additional business opportunities. We are building up

new capabilities in Vector in Canada and the Americas. In 2013 we are going further with Asia Pacific, Latin America as growth areas where Vector will install new facilities and offer new services to the customers not just on the helicopter side but also on the engine side. Vector Aerospace is a key contributor to our Vision 2020.

Brazil will be the new pillar of Eurocopter, there will be a product on the world market that is fully Brazilian developed and produced. It will be a Eurocopter product because it's one of our facilities and its part of the group. We are investing in Mexico in aero structures and we are now investigating a customization center for the Ecureuil family in China.

We are also heavily investing in our own countries and we have never, up to now, signed a contract which has provided more work outside of our home countries than

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Finally do you have a Flight Plan further into the future?

Yes we see that future drivers for our Vision 2020 will again be sustainable growth. We intend to follow our growth paths, we don't want to just stabilize we want to continue to grow, we will be even more global, capturing growing markets, we need to be where the future growth is.

We see a strong effort on renewing our product base and clearly focusing on customer value and innovation. Our understanding

of innovation is turning technology into customer value; no gimmicks, no nice technical features that no one wants or needs, just focus on customer value. Take out of the helicopter what does not provide value, it costs money and has a weight penalty so if it does not provide customer value don't install it. Service expansion and a clear focus on performance and a target of a minimum 10% return on sales at the latest by 2015, that's the way we want to go.

Finally I want to stress the success is the employees they have done a great job; 15% growth has stretched our employees and they have supported us, this success is not the success of the management team it's the success of 22000 people all around the globe. We are proud that for the second year running we have been voted France's most attractive employer. HO



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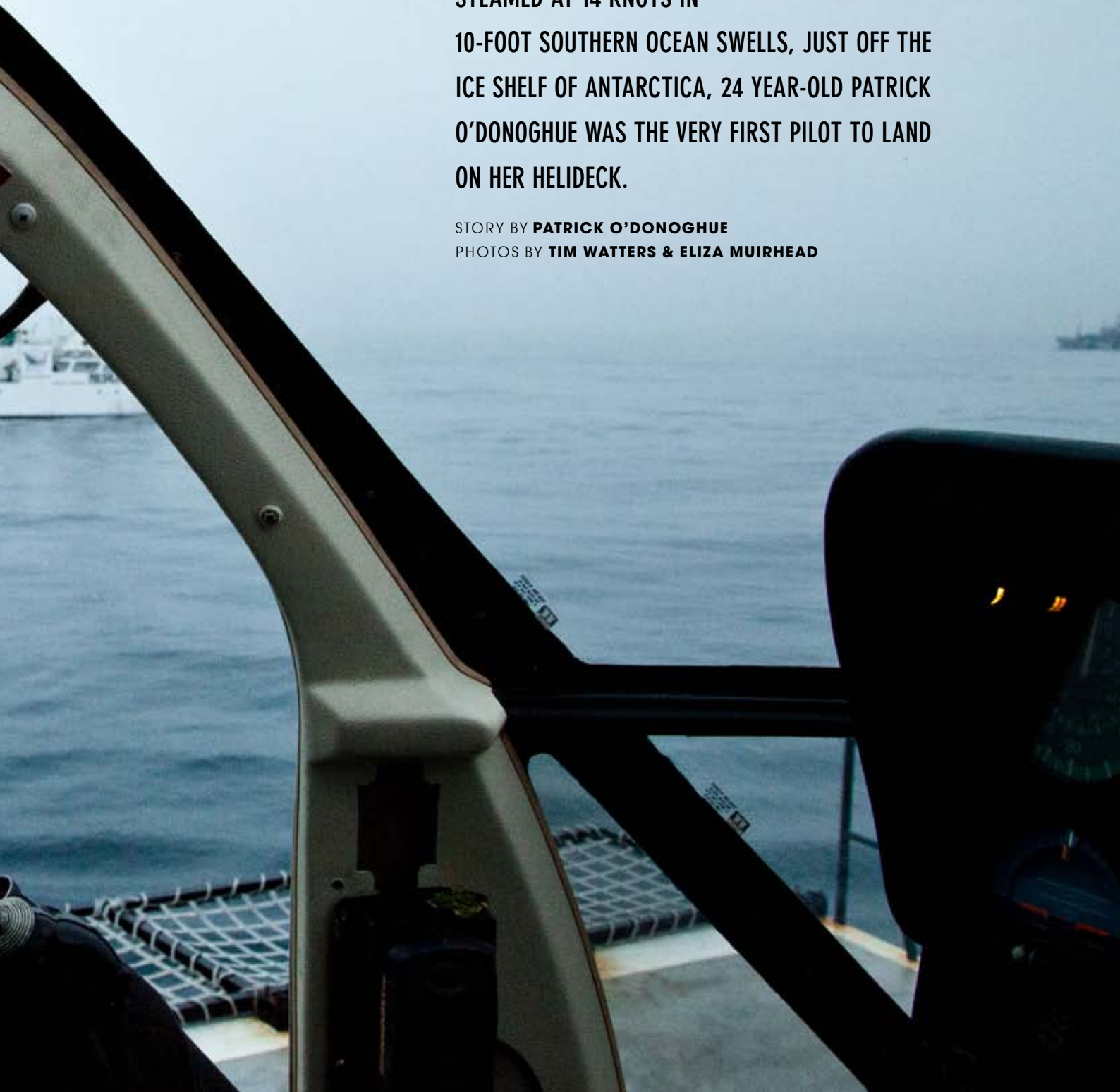
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O'DONOGHUE WAS THE VERY FIRST PILOT TO LAND
ON HER HELIDECK.

STORY BY **PATRICK O'DONOGHUE**
PHOTOS BY **TIM WATTERS & ELIZA MUIRHEAD**







itherto named the M/Y 'Robert Hunter', the flagship of Sea Shepherd Conservation Society fleet was officially

re-named the 'Steve Irwin' on December 5, 2007, in honor of the late Australian conservationist. She carries an MD500E - named Nancy Burnet - and O'Donoghue is the sole official pilot. Despite his relative youth, O'Donoghue is well qualified and suitably experienced for the unique role.

Raised in a little village in South Ireland, O'Donoghue's inspiration was watching his father hang-glide above the local mountains. Older brother and role model Michael flies helicopters around the world, so pursuing a career as a helicopter pilot was a natural course for Patrick. In November 2010, after an initial introduction to Geoff Painter, President and Chief Pilot of Cloud 9 Helicopters in West Palm Beach, Florida, O'Donoghue chose Cloud 9 to carry out his training. He passed his flight instructor's check ride seven months later, after intense training and coaching.

O'Donoghue was young and the ink was still wet on his flight instructor's certificate but he was smart enough to value the opportunity to fly with seasoned pilots. "Many pilots I spoke with shared their wisdom and advice on flying as a career; the aphorism 'Good pilots learn something new from evaluating every flight in detail' was explained to me at length by one retired Army pilot" he said.

After applying for many jobs around the world in his desire to build experience and confidence, O'Donoghue finally got a reply that saw him traveling to Northern Iraq to

work with a newly established Police Aviation Unit as a flight instructor, later becoming Chief Pilot and Head of Training. The position provided the opportunity to fly the Eurocopter EC120, build turbine experience, teach local students and help with basic operational control of the department. Aviation was still very new in Northern Iraq and flying the EC120 gave O'Donoghue experience with varied missions in challenging terrain. Flying in mountains up to 12,000ft in a high-density altitude environment, occasionally on the edge of EC120 operating limitations built both experience and confidence. This experience and instructing has helped prepare O'Donoghue for some of the most dangerous conditions in the world. In his words, "As a young pilot with less than 2,000 flight hours, I'm flying in an area not many people will ever see in person. I'm most likely the youngest pilot to ever land on an iceberg and am part of a small group that will ever fly this close to the South Pole."

O'Donoghue's adventure with Sea Shepherd began just before Christmas when Cliff Fournier from Solaire Helicopters in Malaysia sent

FLYING IN MOUNTAINS UP TO 12,000FT
IN A **HIGH-DENSITY ALTITUDE**
ENVIRONMENT, OCCASIONALLY ON
THE EDGE OF EC120 OPERATING
LIMITATIONS BUILT BOTH **EXPERIENCE**
AND **CONFIDENCE.**

THE **HELICOPTER** WAS
DESCRIBED TO O'DONOGHUE AS
THE MOST VALUABLE ITEM OF
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him a quick message asking if he would be interested in flying an MD500E for a couple of months in a unique operation. Having a little experience on the 500E, O'Donoghue was interested in hearing more details. Once he discovered the position was aboard the Steve Irwin, he was packing his bags to fly to New Zealand and less than four days later was aboard the Steve Irwin introducing himself to Captain Paul Watson.

The helicopter was described to O'Donoghue as the most valuable item of the Sea Shepherd inventory. The organization's mission is to protect and conserve wildlife of the Southern Oceans so the operation of the helicopter is simple and very effective, but in a very dangerous

environment. A small crew cares for the machine fastidiously, and it's stored in a highly unusual hangar, which O'Donoghue describes. "It's a fully customized hangar, designed and built by a number of professional seafarers and it is unique in that the retraction system is comprised entirely of yacht parts: power cleats, Harkin pulleys, and spectra lines all controlled by a handheld remote. The first time I saw the hangar retract, I was so impressed I wanted to have a go and use the remote myself."

Tim Pierce, a full time A&P with over 20 years experience, looks after 'Nancy' aboard the vessel and has worked on the MD500 in the past. O'Donoghue says his technical questions are answered

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N47

Nancy Burnet



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within seconds and Pierce is happy to 'show and tell' for anything he's unsure about. The 500E is used primarily for search pattern flights beyond the radar capabilities of the Steve Irwin to locate the whaling fleet and is a major asset for the media team to capture

footage in aid of the production for the TV series 'Whale Wars'.

O'Donoghue has to visually spot other vessels in the vast expanse of the Southern Ocean and can cover over 2,700 square miles of ocean on each strategic search flight, as the C20R-powered 'Nancy' is fitted with pop-out floats. An impressive avionics package includes an Aspen Avionics multi-function display, Garmin G430, Av Map Pro GPS, Iridium sat-phone, Kenwood FM radio and a King radio and transponder. O'Donoghue is impressed with this particular E-model, saying, "It has to be the best overall package I have flown to date for looks, performance and avionics."

Flying an Antarctic Whale Defence campaign for Sea Shepherd is something few in the industry will ever have a chance to do. The high risks

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A SINGLE-ENGINE AIRCRAFT OVER
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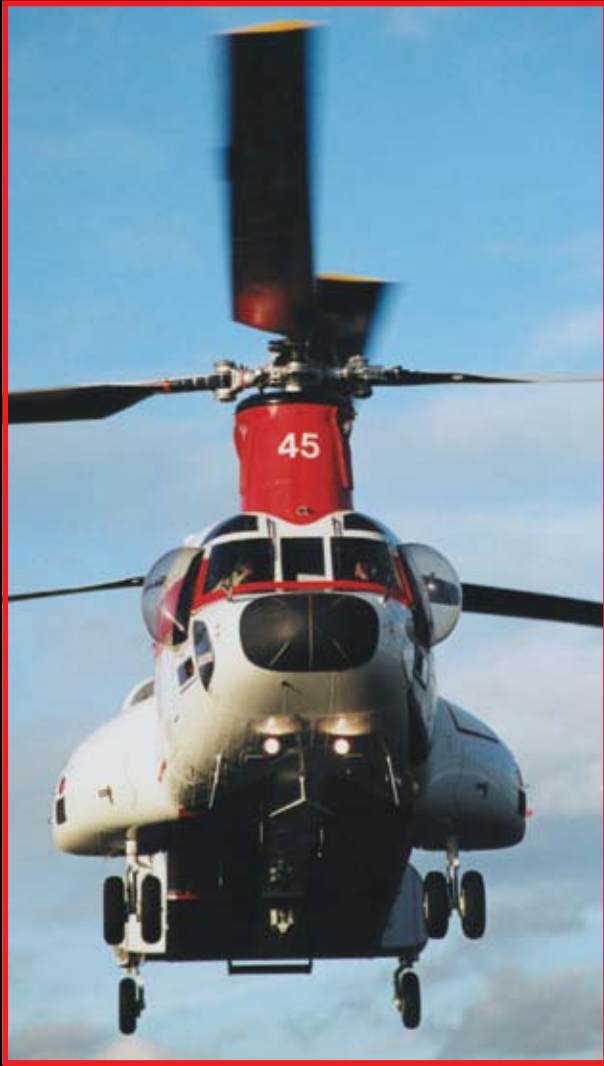
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inherent in flying a single-engine aircraft over sub-zero waters from a constantly pitching and rolling sea-borne heli deck gave O'Donoghue a few major concerns. "Landing on a moving vessel at speeds of up to 14 knots requires 100% concentration for every take off and landing, and timing is key to avoid dynamic rollover," he explained. There is no access to weather reports such as METARs or a TAFs; only access to marine weather reports which are updated every 3 hours. They include forecasted wind direction and speed, frontal movements and pressure charts to give an overall weather picture. Another consideration is icing. Freezing rain and freezing fog are part and parcel of flying this far

south. Weather that can deteriorate from VFR to intense IFR conditions in a matter of 15 minutes means O'Donoghue needs extra support and help from Pierce, who has many years experience working in cold weather flight operations, both in the USA and from previous campaigns in the Antarctic. "We make a dual decision based on the actual weather conditions, the forecast, and our instinct for every flight."

A typical search flight consists of a quick preflight brief from Pierce, considering current and forecasted weather conditions while predetermined waypoints are discussed with the ship's captain. Pierce and O'Donoghue prepare the helicopter for flight, the hangar is

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retracted and the aircraft is pulled on to the retractable pad and safely secured to the deck. The five rotor blades are carefully mounted and a full preflight inspection is carried out. O'Donoghue then prepares himself for the flight and double-checks all his personal equipment. Not surprisingly, it is an extensive list; "I wear warm cloths under my dry suit, a flight helmet and a Switlik life jacket. I also carry a personal EPIRB and an extra satellite phone with a spare battery. On my life vest I carry a Heeds oxygen bottle, a standalone GPS receiver, cell phone and some gloves. In the back of the aircraft I ensure the life raft is secure and my personal waterproof bag full of extra warm clothes, food and liquids in the event of an emergency landing on the freezing water or a large iceberg."

The aircraft is run for ten minutes to be at optimum operating temperatures before a leak check. Prior to departure all GPS systems are tagged with the current location, course and speed

of the ship in case of comm's failure. The helideck is safe and no persons are on deck except Pierce, standing by the hangar and indicating that the cargo hook is connected to the deck. O'Donoghue presses the hook-release button and gently applies power to get the aircraft light on the skids. "At this point I am fully committed for take off and depart into wind to a safe altitude and distance

AT REGULARLY TIMED INTERVALS DURING THE FLIGHT, O'DONOGHUE ESTABLISHES TWO WAY RADIO COMMUNICATIONS WITH THE STEVE IRWIN, GIVING A DETAILED POSITION REPORT AND DISTANCE FROM SET WAYPOINTS.



from the boat, in case of engine failure. Once airborne I double check communications with the bridge crew and start to fly the pre-determined flight plan loaded into the Garmin G430.”

At regularly timed intervals during the flight, O'Donoghue establishes two way radio communications with the Steve Irwin, giving a detailed position report and distance from set waypoints. In the event of radio communications failure, he switches to the satellite phone with an immediate phone call or a very short SMS to report his position to the bridge crew. In the event that he is unable to establish two way communications, the Delta – a small ship's boat – is lowered into the water with a very experienced crew and deployed to the helicopter's last known coordinates, where it will start a search pattern and continue to

search until either communications have been restored or the helicopter is found.

Extreme conditions aside, the Steve Irwin's helicopter operation is very simple. Its supported by a very efficient team and safety is of the highest priority. “If at any point I feel uncomfortable or that safety may be compromised, the search flight is discontinued and I return to the helideck knowing that the crew will never question my decision.” O'Donoghue enjoys flying the reliable MD500 and is proud to assist the determined and passionate members of Sea Shepherd Conservation Society in their campaign to protect the wildlife of the world's oceans. “For me as a helicopter pilot, this is a once-in-a-lifetime opportunity, and every flight is an experience I will never forget...” HO



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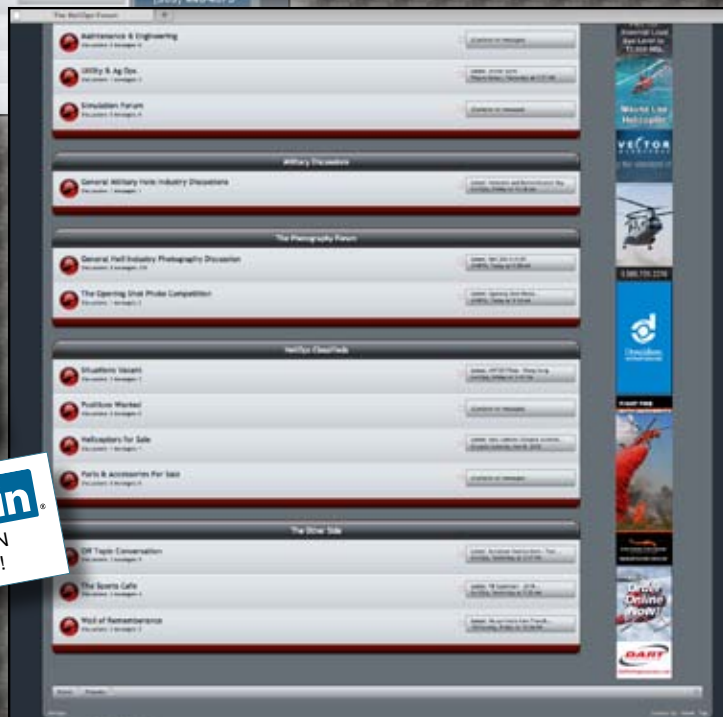
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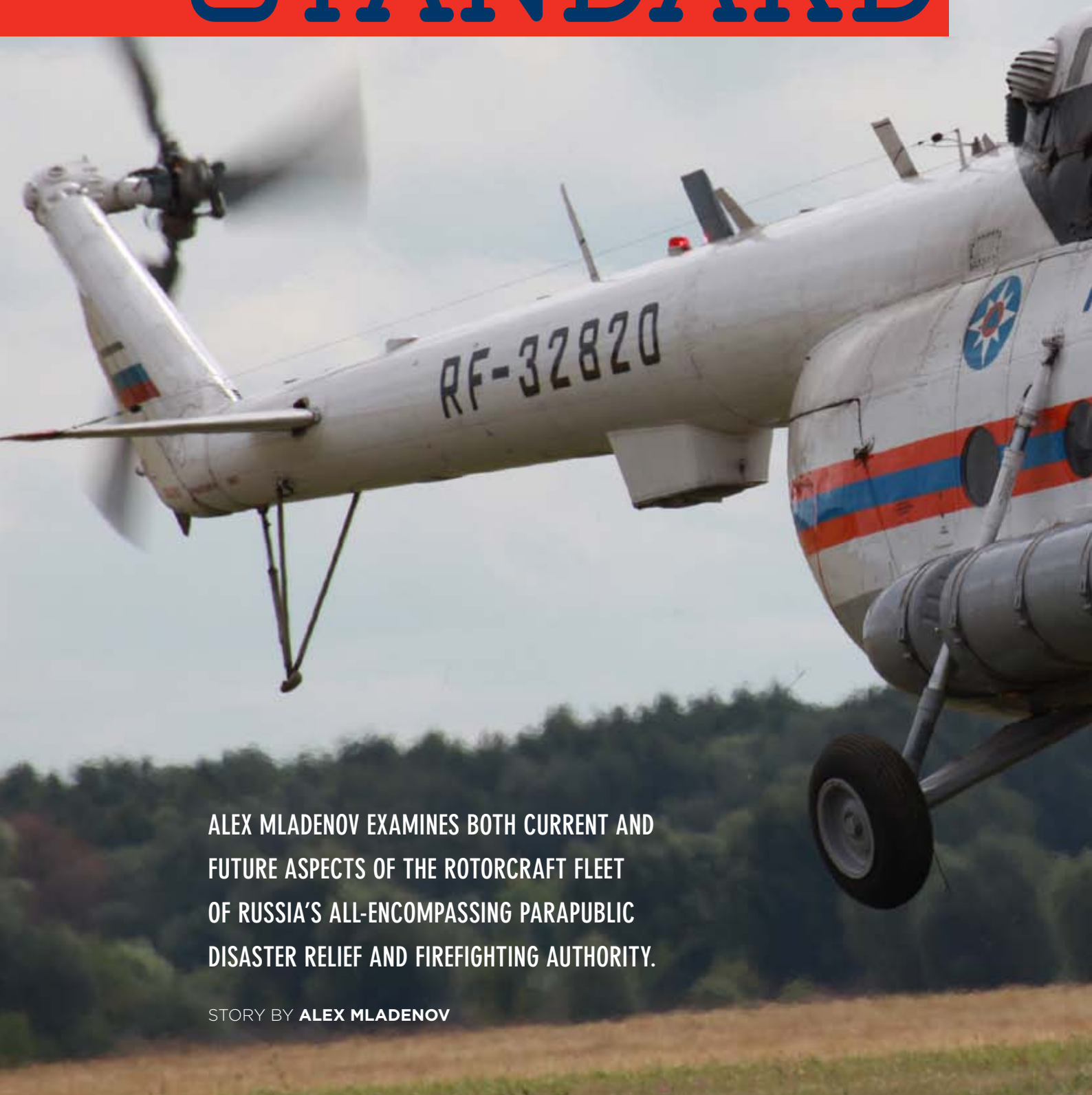
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RUSSIAN RESCUE STANDARD



ALEX MLADENOV EXAMINES BOTH CURRENT AND FUTURE ASPECTS OF THE ROTORCRAFT FLEET OF RUSSIA'S ALL-ENCOMPASSING PARAPUBLIC DISASTER RELIEF AND FIREFIGHTING AUTHORITY.

STORY BY ALEX MLADENOV



A Mi-8MB in EMERCOM colors is a flying hospital operated by the aviation unit of the service's Central Regional Base in the city of Vladimir near Moscow. (Alex Mladenov)



ussia's Ministry for Emergency Situations – known as EMERCOM – has embarked on an extremely ambitious rotary-wing fleet

expansion drive, combined with an expanded variety of missions. Currently, the rotary-wing fleet of the parapublic EMERCOM authority consists of six heavy-lift Mi-26s, 43 medium-class Mi-8s (of differing variants but predominantly Mi-8MTV-1s), three Ka-32As, seven Ka-32A11BCs, three BO105s and one BK117C-1.

In its definitive form, the ongoing large-scale rotorcraft procurement effort is expected to see up to 183 new helicopters joining the EMERCOM fleet between 2011 and 2020, provided optimistic forecasts prove true and appropriate budgets are allocated until the end of decade. 123 of these will be heavies, while the remaining 60 examples will be light-class. The total annual investment in new aircraft as well as other firefighting and ambulance equipment for EMERCOM during this period is expected to reach US\$600 million. There are three principal implementation phases in this ambitions fleet procurement plan; the first of these foreseeing the batch procurement

of 24 light helicopters, the second encompassing 80 heavy-class helicopters, while in the final phase 43 heavies and 38 light-class examples are to be purchased. This planned expansion of the rotary-wing fleet is set to increase the EMERCOM capabilities in two principal areas. The first of these is the government-funded and previously somewhat neglected helicopter emergency medical service (HEMS), in which until recently only three BO105s and the lone BK117 have been engaged, mainly providing emergency care to victims at the scene of traffic accidents in Moscow and St Petersburg. The newly procured Ka-32A11BC and Ka-226T co-axial types have been providing HEMS coverage along a trio of the busiest highways in Russia, stretching from Moscow to St Petersburg (this operation also covers the busy railway line between the two cities, Kazan and Sochi). At a later stage, EMERCOM is planning to expand provision of this kind of quick-reaction air ambulance service to other well-developed regions experiencing a high number of road accident casualties. The second area of planned significant enhancement is the fighting of both urban and forest fires by the introduction of numerous new helicopters with externally- and internally-installed fire attack gear.

EMERCOM'S AMBITIONS PROCUREMENT DRIVE IS BEING FUNDED DIRECTLY BY RUSSIA'S STATE BUDGET AND IS SEEN AS A VITAL SUPPORT TO THE LOCAL HELICOPTER DESIGN HOUSES AND MANUFACTURING COMPANIES.



There are six giant Mi-26Ts in EMERCOM service to provide vital heavy-lift support for transportation of vehicles, bulky equipment and fire fighting. (Alex Mladenov)

The three Bo 105s were originally procured to be used as integral components of the EMERCOM airmobile rescue system, deployed to disaster areas onboard an Il-76 heavy transport. When not required for rescue missions, the helicopters are routinely used for HEMS in Moscow and St Petersburg. (EMECOM)



One of the Ka-226T prototypes seen here participating in an EMERCOM SAR exercise in Sochy in 2012. (Russian Helicopters)



The first Ka-226 for EMERCOM was delivered in 2004 and was operated by the service's regional branch in the republic of Bashkortostan. (KumAPE)



THE KA-226T IS SET TO BECOME THE PRIMARY LIGHT HELICOPTER FOR URBAN SAR AND HEMS OPERATIONS, WHILE THE KA-32A11BC WILL BECOME THE EMERCOM'S PRIMARY MEDIUM-CLASS WORKHORSE FOR FIREFIGHTING, SAR AND EMS IN BOTH RURAL AND URBAN ENVIRONMENTS.

The Ka-32A is used by EMERCOM mainly for demanding SAR work in the Caucasus Mountains as well as for firefighting in the summer months.



BENEFICIARIES

EMERCOM's ambitions procurement drive is being funded directly by Russia's state budget and is seen as a vital support to the local helicopter design houses and manufacturing companies. Kamov and KumAPE helicopter plant are among the largest beneficiaries in the near term because both are heavily involved - the former as the design authority and the later as the producer, participating in two of the most important EMERCOM programs - the procurement of the Ka-226T light twin and Ka-32A11BC heavy twin co-axial rotor designs.

The Ka-226T is set to become the primary light helicopter for urban SAR and HEMS operations, while the Ka-32A11BC will become the EMERCOM's primary medium-class workhorse for firefighting, SAR and EMS in both rural and urban environments. The first batch of five newly-manufactured 12.7tonne Ka-32A11BCs was ordered by EMERCOM in November 2009 and taken on strength in 2011

and 2012, followed by two more ordered in 2011, for delivery in 2012 and 2013. All the newly ordered examples have been manufactured in a dedicated HEMS configuration while still featuring all the necessary provisions for installation of internal and external fire attack equipment. The unit price of the Ka-32A11BCs is about US\$11.96 million. Simultaneously, EMERCOM continues with the procurement of small batches of the proven Kazan Helicopters Mi-8MTV-1; in 2012 three were ordered, priced at US\$8.94 million each.

LIGHT HELICOPTERS

EMERCOM currently has only four light helicopters in the 2-4tonne class. The three Eurocopter BO105s and the BK117 were procured in 1995 and 2000 respectively, and are included within the configuration of EMERCOM's aeromobile rescue systems (ARS) in the structure of Russia's rapid-reaction national emergency humanitarian relief force. The rapidly deployable global rescue

An EMERCOM Mi-8MTV seen participating in a rescue mission in the wilderness of Siberia (EMERCOM)



systems are designed to provide around-the-clock operations in remote regions, in any climate or season and as such these machines have seen much operational use in Russia and abroad. Based around the Ilushin Il-76 heavylift transport, an ARS can be configured in five different variants, two of which include helicopters. Both of these variants foresee transportation by Il-76 of a BO105 or the BO117 - main rotor blades folded - with the helicopter mission-ready only 20 minutes following unloading.

The first of these variants is

designed for rapid delivery and deployment of rescue teams and equipment into remote disaster areas. In this case, the helicopter is used for various SAR missions, surveillance of the disaster area - assessing damage or performing radiation/pollution monitoring - or rapid relocation of rescue teams when and where needed. The special-mission equipment for this variant includes a day/night optronic payload including FLIR and searchlight. The second variant is deployed in situations when an industrial or natural disaster has resulted in a large number of casualties. In this case, the load of the Il-76 includes a rapidly

THE RAPIDLY DEPLOYABLE GLOBAL RESCUE SYSTEMS ARE DESIGNED TO PROVIDE AROUND-THE-CLOCK OPERATIONS IN REMOTE REGIONS, IN ANY CLIMATE OR SEASON AND AS SUCH THESE MACHINES HAVE SEEN MUCH OPERATIONAL USE IN RUSSIA AND ABROAD.



Heavy tracked vehicles, used in disaster operations, are being loaded into the cavernous cargo hold of an EMERCON MI-26T. (Rostvertol)



A Ka-32A of Moscow Aviation centre in action with its side-mounted water cannon. (Alex Mladenov)



The cargo hold of this HEMS-equipped Mi-8MTV-1 is outfitted with a four patient intensive-care module. (Alex Mladenov)

This EMERCOM Ka-32A, permanently based at Nalshik in the republic of Kabardino-Balkirya, is used for mountain SAR operations in the Caucasus mountains. (via Alex Mladenov)



deployable aeromobile hospital for first medical care and a helicopter with HEMS fit-out, used for a swift transportation of casualties from the disaster-affected area to the deployed hospital.

The operational urban environment experience of the Eurocopters was utilized to a great extent for fine-tuning the technical specifications for the 3.4 tonne Ka-226A, which was expected to become EMERCOM's new main light-class helicopter. The first batch of ten Ka-226As was ordered in 2007, with the type expected to be procured in large numbers for HEMS, SAR and environmental monitoring. The Ka-226A variant meeting EMERCOM's specific requirements,

however, encountered significant delays in development and as a consequence no deliveries have yet been made. In November 2010, Russia's then Emergency Situations Minister, Sergey Shoygu, publicly admitted that the batch had been delayed due to certification issues and, as a consequence, EMERCOM was forced to procure pre-owned Ka-32s.

Eventually, in June 2012, EMERCOM switched to the enhanced Ka-226T version, featuring the more powerful Turbomeca Arrius 2G1 and a newly designed main rotor system, enabling the maximum take-off weight to increase to 3.6 tonnes. EMERCOM committed to take delivery of at least ten Ka-226Ts

The mighty Mi-26T has ample capabilities for attacking fires with the VSU-15A bucket system accommodating up to 15 tons of water. (Alex Mladenov)



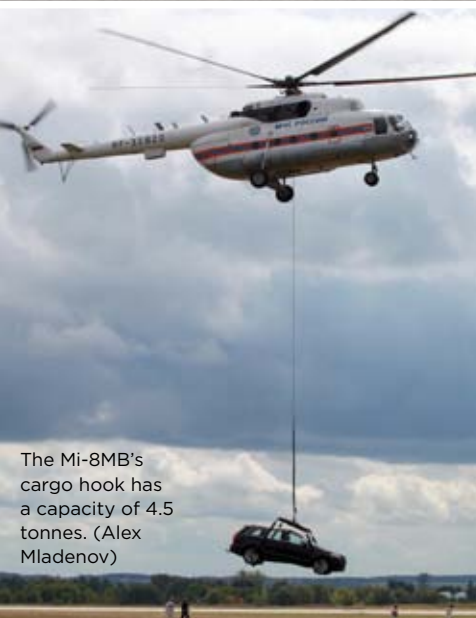
outfitted for HEMS, SAR and utility transport duties between 2013 and 2015. The first of the type is due for delivery in mid-2013 and will be utilised for operations supporting the 2014 Winter Olympic Games in Sochi in southern Russia. Price of the first EMERCOM Ka-226T ordered in 2012, including a state-of-the-art HEMS fit-out, is US\$7.86 million.

The Kazan Helicopters Ansat is another new-generation Russian light twin expected to be procured by EMERCOM. A conventional rotor design weighing 3.4t, the Ansat has a restricted type-certificate, while the passenger certification is expected in 2013. Unlike the Ka-226A, there have been no public comments about

the anticipated roles for the Ansat in EMERCOM service, although it can be supposed that the type will most likely be employed for HEMS, general duties and observation. No firm orders have been placed so far by EMERCOM for the type however. Lt Gen Rafail' Zakirov, head of EMERCOM's Aviation and Aviation-Rescue Technology Department and an extremely experienced helicopter pilot with a rich military background, mentioned in a January 2010 interview that his service has also considered a gap-bridging

THE EMERCOM FLEET OF SIX GIANT MI-26TS IS HEAVILY INVOLVED IN FIGHTING FOREST AND STEPPE FIRES, WITH HEAVY UTILIZATION IN THE 2010 CAMPAIGN WHEN RUSSIA SUFFERED FROM COLOSSAL LOSSES DUE TO MANY UNUSUALLY FIERCE FOREST FIRES IN ITS EUROPEAN AREAS.

A Ka-32A belonging to the Moscow Aviation Centre, equipped with a forward water cannon for attacking fires in tall buildings. (Alex Mladenov)



The Mi-8MB's cargo hook has a capacity of 4.5 tonnes. (Alex Mladenov)

A Ka-32A in firefighting action, using the VSU-5 bucket. (via Alex Mladenov)





solution of introducing both the light AW109 and medium AW139 twin-engine types from AgustaWestland. Moreover, Zakirov said there are ongoing activities for licensed production in Russia and the first AW139 to be assembled in the newly built Tomilino plant first flew in December 2012. It will be no surprise, therefore, to see Russian-assembled AW139s in EMERCOM colors in the foreseeable future.

STRUCTURE

EMERCOM is the Russian government authority for dealing with any kind of emergency situation, anywhere in the territory of the giant country spanning nine time zones. The gigantic parapublic organization numbers around 300,000 personnel and contains a sizeable paramilitary component, employed for civil protection duties and participation in peace-keeping/peace-enforcing operations abroad. The first aviation units of the Ministry for Emergency Situations

were established in 1992, and the Aviation Department of EMERCOM was established in August 1994. The Federal State Unitary Enterprise (FSUE) MChs RF was formed in May 1995 and is EMERCOM's principal aviation unit. Its mission is to maintain a permanent readiness to provide aviation support to EMERCOM, employing modern SAR methods and equipment to respond decisively and swiftly to both peacetime emergency situations and situations occurring during armed conflicts of any kind in Russia or abroad.

EMERCOM's aviation structures currently incorporate around 2,000 personnel and have a combined fleet of 17 fixed-wing and nearly 70 rotary-wing aircraft. Most pilots and technicians come from the Russian Air Force and have a wealth of experience in operations in different environments, including participation in various local armed conflicts and peacekeeping operations. A smaller proportion of new rotorcraft pilots

The Ka-32A11BC, sporting sophisticated mission suites for all-weather day and night operations, was introduced by EMERCOM in 2012 for use in both SAR and HEMS roles. (Alex Mladenov)



for EMERCOM are trained at the Russian Air Force's Syzran flight school. All flying by the EMERCOM fleet is carried out under Russian federal government flight operation rules, which are also adopted by the Russian Ministries of Defence and Interior as well as by the Federal Security Service. Most of the aircraft wear Russian government aviation serials bearing the 'RF-' prefix followed by five-digit numbers, while a small number of machines still wear Russian civil-style 'RA-' registration. The aviation assets of EMERCOM are currently grouped into the one large aviation unit - the

FSUE MChs RF - and into three aviation groups subordinated to the regional EMERCOM bases. The aviation assets of the Ministry of Emergency Situations are providing quick-reaction alert based on 20 sites all around Russia.

The FSUE MChs RF is headquartered at Ramaenskoe airfield in Zhukovsky near Moscow and controls four aviation rescue detachments. The Central Detachment is based in Ramenskoe while the Southern one has helicopters permanently deployed in four locations - Rostov-on-Don, Sochi, Stavropol and Nalchik. The



An EMERCOM BO105 during a SAR operation to recover corpses and equipment from the crash site of the Sukhoi Superjet 100 regional jet which hit a steep mountain slope in Indonesia during a demonstration flight on 9 May 2012. (EMERCOM)

Siberian Detachment is based in the city of Krasnoyarsk and the Far Eastern Detachment is based in the city of Khabarovsk. In addition to the aviation assets of FSUE MChs, each major regional base of EMERCOM has its own aviation group. The Far Eastern regional base has its own aviation unit based in Khabarovsk, co-located and closely cooperating with the FSUE MChs Far Eastern Detachment. The Siberian regional base's aviation unit is based in Krasnoyarsk and the Central regional base's aviation unit is based in Vladimir.

FIREFIGHTING

The EMERCOM fleet of six giant Mi-26Ts is heavily involved in fighting forest and steppe fires, with heavy utilization in the 2010 campaign when Russia suffered from colossal losses due to many unusually fierce forest fires in its European areas. The primary fire attack equipment used by the Mi-26Ts consists of the VSU-15A flexible bucket system,

which can discharge up to 15 tonnes of water in a swathe between 125m and 300m long and 15m wide. Six adjustable sizes of bucket accommodate 7, 8, 9, 10, 12.5 or 13.5 tonnes, while at its maximum size of 15 tonnes the VSU-15A can be filled in 10 seconds. Its discharge rate is 1 tonne/second and it boasts a design life of 1,000 cycles or two years, whichever is reached first.

The Ka-32 and Mi-8 can both use the smaller VSU-5 bucket system, capable of discharging up to five tonnes of water and with adjustable sizes for 3, 4 or 4.5 tonnes. The system is able to collect water from open sources with a minimum depth of 0.7m and can be filled within 25 seconds. Discharge rate is between 400 and 750 liters per second and the design life is also 1,000 cycles or two years. The new EMERCOM Ka-32A11BCs are capable of using either the VSU-5 or an air attack system comprising a conformal 3,000-litre plastic water tank and two snorkel devices, capable of

An EMERCOM Mi-26T in action, discharging the massive VSU-15 water bucket accommodating 15 tons of water. (Rostvertol)



filling the tank in 90 seconds. The new helicopters will also have the provision for installing water cannon with a horizontal range of 45m at a discharge rate of 40 liters per second. The cannon has proved highly effective at suppressing fires in tall buildings from a hovering aircraft, as demonstrated to great effect by the Ka-32 in 2010 in Moscow. It is also effective in tackling ground fires without the necessity of overflying the flame front. The VSU-5 bucket system was used as a basis for designing the VOP-3 aerial dispenser, carried on an external sling by EMERCOM's Mi-8s or Ka-32s and used for the rapid neutralization of petrol spills on land or water by the means of spreading special substances to absorb the petroleum products.

The EMERCOM Mi-8s can employ

the DVS-ULZ-FP3 system, designed for the destruction of ice barriers that form in rivers during the spring months and can cause serious flooding; a serious issue experienced each year in the northern corners of Russia. The main components of the system are installed in the helicopter's cargo compartment and are used to place onto the ice surface a set of 10 bags of explosive (40kg ammonite or TNT) equipped with time-delayed fuses. An explosive set is laid in two minutes and can clear an ice barrier up to 400m long and 0.7m thick. The EMERCOM Mi-8s and Ka-32s can also deploy foldable rescue cages for the rapid evacuation of people from roofs of burning buildings, free floating icebergs or small islands in flooded areas where the helicopters cannot land. HO

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