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Front Cover Picture:

Bell Helicopter unveiled its long-awaited new Super Medium Transport at Heli Expo in Dallas on 12 February, with a full-size mockup in the distinctive PHI Inc. yellow/black colour scheme (Avia Press).

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DESPITE OUR predictions in the last issue that the helicopter industry isn't out of recession yet, Heli Expo in Dallas, Texas was definitely a success in terms of visitor numbers - more than 19,000 according to the official Helicopter Association International figures. The Show also saw the introduction of new models to the market and some significant orders being announced for 2013 and beyond, giving promise to a future upturn in sales and industry recovery. Walking around the event (which took some time as it was spread over a large part of the available space) we were also heartened by the generally upbeat attitude of a number of new companies in the mix. Fingers crossed then that our early pessimism is incorrect.

The greatest hype at Heli Expo was around the launch of the new Bell Model 525 Relentless (Page 156), with the company going to great pains to preserve the visual surprise until the opening day of the show. As they had obviously blown a high proportion of their marketing budget on the unveiling this was hardly surprising, so one can imagine the annoyance when an illustration of the new helicopter appeared on an internet website two days before Heli Expo began!

Relentlessly Bell officials tried to track down the leak, eventually finding an outsider who apparently confessed to sending the picture to a friend, who then posted it on the website. The relentless team pursued the question of who leaked the illustration. "It was on my bathroom mirror" came the reply, repeated several times to the relentless unbelievers. Finally they gave up the interrogation (so the story goes) and went away to investigate further, only to find that the answer given was correct.

It turned out that someone had been charged with delivering illustrations of the new helicopter around the Convention hotel rooms for the morning of the unveiling - early on the Sunday morning. However, either the person didn't fancy working on a weekend or just plain didn't get the message, because they actually posted the pictures around the hotel bedrooms two days early. Best laid plans eh?!



For many years we have followed and admired the exploits of the Twirly Birds, that august gathering of pioneer helicopter pilots headquartered in the US of A but with international membership. Founded in 1945 the initial members were those who flew the very first helicopters and autogyros like Jean Boulet, Frank Piasecki and Reggie Brie, sadly now mostly lost to us, but there were lesser known pioneers like John Greathouse. Piloting a Sikorsky R4 over Long Island he found the main rotor flying ahead of him and so became the first helicopter pilot to use a parachute. Many of these pilots kindly helped in the production of a collection of "Firsts" certificates which now feature on a Wall of Fame at The Helicopter Museum.

After several years of nagging, Twirly Birds President Steve Sullivan of Aris Helicopters finally persuaded me to join the organisation as an official member a year or so ago. He then surprised me just before Heli Expo by announcing that I was to be the recipient of the Twirly Birds Les Morris Lifetime Achievement Award, in recognition of my contributions to the industry over the years and the founding of The Helicopter Museum. For me that has been (and still is) a pleasure, but thank you Steve and the Twirly Birds for the honour.

Elfan ap Rees

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X³ for US tour

Eurocopter is to take the X³ high speed compound helicopter to the United States this summer for a technology demonstration campaign. The tour is likely to include showing the aircraft to US military officials involved in the future Advanced Aerial Scout and Joint MultiRole Rotorcraft programmes.

The X³ prototype has been undergoing structural checks and a dynamic system upgrade since completing the second phase of the flight trials programme, which saw the aircraft reach speeds of 430km/h (232kt) and altitudes above 3800m (1247ft). New trials are due to begin imminently, which are expected to take full advantage of the power available and could see the X³ break the 460Km/h (250kt) speed attained by the Sikorsky X² in 2010.

However Eurocopter executives, whilst believing the available power in the X² makes this achievable, also believe that other limiting safety factors could come into play. This includes the potential failure of the EC155 windscreen used in the aircraft, either due to a bird strike or the higher air pressure loads associated with the higher speeds for which the screen was not originally designed.

Previously Eurocopter has quoted its aim of developing a commercial X³ derivative with cost increases limited to 15-20 percent, but with performance and payload benefits increased by 50 percent. The company now sees maturing of the X³ based technology as a key goal over the next few years, but is already working on commercial applications in new compound rotorcraft by 2020 for long range offshore support and search and rescue missions. Eurocopter also sees potential commuter airline applications.

With a growing shortage of airport landing slots forecast and the difficult political and construction timeframe for new airport runways and connected expansion, the company is not alone in seeing high speed vertical takeoff aircraft as the only realistic option to overcome slots shortages in the 2020s and beyond but is unique in its approach to the solution. Such aircraft would likely be in a 19-25 seat 11,000kg category or smaller, and use at least 70 percent commonality with conventional helicopters in similar weight categories to provide economies of scale for operators with mixed fleets. This



is seen as crucial to minimise operating costs.

Eurocopter also sees an X³ derivative as a possible option in the future US Army Armed Aerial Scout (AAAS) competition if high speed becomes a critical requirement. The company notes that the experimental X³, which uses an EC155 Dauphin cabin, already exceeds the capacity of the Sikorsky S-97 Raider AAS contender and could also provide a low cost solution for Special Forces and Joint Multi role Helicopter requirements in the future.

Robinson production doubles

Robinson Helicopters has confirmed the production of 356 helicopters last year, more than double 2010's production of 162 aircraft. Broken down, the company built 212 R44, 56 R22 and 88 of the new turbine-engined R66 by the year end.

Above: Robinson Helicopter doubled production last year over 2010 and also recently delivered the 100th turbine R66 helicopter.

Since the R66 was certified in the United States in October 2010, Robinson has received more than 360 orders worldwide. One priority for 2012 is to secure more foreign certification, including the UK, as well as US certification of new options such as floats and a law enforcement configuration.

Whilst the R44 currently remains the company's top selling helicopter, the company has begun 2012 with a total order back log of 400 aircraft making production a top priority. Consequently it has expanded its manufacturing space and is continuing to increase its workforce to meet demand.

Eurocopter 2011 record turnover ...

Eurocopter has announced a record high annual turnover for 2011, as the company benefited from growing its international footprint and developing service businesses, in addition to reorganising internal operations and maintaining its position at the forefront of rotary-wing technology and sales.

Including the delivery of 503 helicopters, the company generated a turnover of Euro 5.4 billion last year representing a growth of 12.5 percent over 2010. The new production helicopter deliveries represented 51 percent of the consolidated turnover, while support and services accounted for 38 percent. This included six months of turnover provided through the acquisition of Vector Aerospace last year with its maintenance, repair and overhaul services in North America and the UK. The remaining 11 percent of turnover was generated by development and other activities.

Orders in 2011 also increased over the previous year, with the company booking firm sales for 457 aircraft compared with the 346 sold in 2010. In total the 457 aircraft ordered in 2011 represent a value of Euro 4.7 billion.

The 2011 business included a launch order from Heli Union for four EC175s, major bookings for 35 EC225/EC725 helicopters, 104 EC145/UH72A, 21 AS365/AS565/EC155 and a resurgence of AS350/AS550/EC130 single-engined orders for 238 aircraft.

Civil sales overall accounted for 68 percent of the order volume with 77 percent of these bookings coming from export customers. By contrast military orders declined to 32 percent, reflective of the changing defence market.



Above: This VIP interior for the AgustaWestland AW169 shows one customer option for this new 4 tonne class helicopter.

State Aid for new European helicopters

The European Commission (EC) has authorised state aid for development at AgustaWestland and Eurocopter to bring forward the AW169 and X4 medium helicopters respectively. The EC decision will allow the Italian and French governments to fund research and development elements of the two projects without breaching European Union competition rules.

In the case of the AW169, Italy plans to provide AgustaWestland with a Euro 272 million zero-interest subsidised loan spread over 19 years to develop and produce the aircraft, with the aid element of the loan amounting to around Euro 94 million. The activities funded will see 40 percent of the total invested in industrial research and 60 percent in experimental development. In making the decision the EC also took account of the fact that part of the AW169 project will be carried out in the Campania, Lazio and Apulia regions of Italy, which currently suffer from technological development deficits.

With orders already building from parapublic and other customers worldwide, the first AgustaWestland AW169 is under final assembly for a first flight in Italy this spring, and is expected to be followed by a second prototype flying at the company's Yeovil facility in the UK later this year.

A tie-down test rig has already begun running at the company's Cascina Costa plant and a third prototype will also join the development programme this year, followed by a fourth in 2013 and European certification in 2014. Although officially unconfirmed, final assembly of the new helicopter is likely to take place at the Yeovil plant, which in any case will be responsible for producing the composite rotor blades and other elements of the dynamic system for the aircraft, as well as leading development of the training infrastructure.

The AW169 programme is also being supported by a £22 million loan from the UK government and could see the Yeovil factory playing a bigger role in the commercial helicopter market, where it has been absent for more than two decades.

For the X4, the French government will provide Eurocopter with a Euro 143 million advance loan, covering around 30 percent of

the Euro 470 million total costs eligible for aid. 14.5 percent of the funding will be applied to industrial research, with 85.5 percent for experimental development. The advances will be repaid in full when a pre-defined sales target for the X4 is attained and each additional delivery beyond this target will then trigger a royalty fee to the government.

Although the two decisions were considered separately on their individual merits, the EC considered that the scale of the projects is such that the investments and associated risks exceeded the funding capacities of the two companies in the current financial climate, where banks are wary of financing projects with only a very long term return on investment. The aid approved is therefore seen as making up for a financial market failure, but nonetheless proportionate by being limited to the amounts strictly necessary for the research and development elements.

Both projects are expected to include major technological innovations to enhance operating performance, reduce running costs, limit environmental impact and boost flight safety.

DLR Institute flies blade vortex generators

Researchers at the German Aerospace Centre (DLR) Institute of Flight Systems have begun flight trials of experimental leading edge vortex generators, mounted on the main rotor blades of an MBB Bo105 helicopter. Previously tested in a wind tunnel, the vortex generators are aimed at delaying blade stall and thus improving helicopter performance.

For the full scale flight trials the DLR scientists glued 186 rubber bumps, each less than 6.35mm (0.25in), to the leading edge of the four main rotor blades, with test pilots already reporting a difference in rotor blade behaviour in initial flights. These are now being followed up with more sophisticated testing, using special measuring equipment to accurately record the efforts. If test results prove the theory, then leading edge vortex generators could be built into new blade designs, but also might be available as a retrofit option.

The idea is not new. Similar bumps are found on the large pectoral fins of humpback whales, used to provide lift and stop the whale sinking whilst manoeuvring under water.

...including US sales

American Eurocopter delivered 154 helicopters in 2011, including 52 military UH-72A Lakotas to the US Army and the first AS350Be to US launch customer Papillon Helicopters. The company also handed over the first WAAS/LPV capable EC135 helicopter.

The US subsidiary expects to reach revenues of \$2 billion by 2020, with some 2000 employees supporting a regional fleet of some 3500 aircraft, including 600 in US military service. The company also expects to benefit from military pilots and maintenance personnel, currently being trained under the UH-72A programme, who will enter civil operations in future years. So far 636 pilots and 413 maintainers have completed UH-72A courses under the company-led training programme.

Meanwhile American Eurocopter is to compete in the US Army Armed Aerial Scout programme and is looking to extend the life of the HH-65 Dolphin for another 20 years under the US Coast Guard MH-X programme. The company is also likely to be involved in a planned Coast Guard vertical take-off unmanned air vehicle competition.



Commercial

- INTERNATIONAL

Columbia expands

Columbia Helicopters, headquartered in Aurora, Oregon has announced a 12 percent increase in its workforce over the last 12 months, reflecting growth in both the commercial and military markets for the heavy-lift operator.

Columbia operates a fleet of seven Boeing Model 234 Chinook and 14 Model 107-II tandem-rotor helicopters, traditionally employed on heavy lift contracts supporting the oil and gas industry in countries including Papua New Guinea and Peru, and supporting firefighting operations in the United States. Since the beginning of December, the company has also deployed five helicopters with support staff to Afghanistan, under a contract with the US Transportation Command to ferry mail, personnel and supplies in a logistics support role.

The company has also been able to take advantage of its tandem-rotor overhaul and maintenance expertise to secure support contracts for US Army Chinook overhauls and has crews working for military organisations in a number of other countries, including Thailand, Singapore and Spain. Columbia recently opened a new maintenance facility in Australia and additionally has despatched crews to Afghanistan to work on deployed foreign military aircraft.

At Aurora the company has also opened a new \$4 million engine test facility, capable of running the Honeywell T55-714 Chinook powerplant as well as other engines. The new test cell allows Columbia Helicopters to provide complete nose-to-tail maintenance on military Chinook helicopters.

Eurocopter wins damages against Bell Helicopter

The Canadian Federal Court has awarded Eurocopter punitive damages and an injunction against Bell Helicopter, after ruling that the US manufacturer infringed landing gear patents and copied the French design for use on the Model 429 helicopter.

Eurocopter filed its claim against Bell in 2008 after discovering that Bell had used the innovative "Sleigh Skid" technology in the Model 429 design. The court found that Bell not only leased a Eurocopter EC120 helicopter to study and copy the landing gear, but senior officials ignored concerns raised by its own employees regarding the similarities. The court also found that Bell misled the public by claiming the Model 429 was the first



Above: Pawan Hans is seeking government support for major growth plans as part of a five-year plan, which also sees continuing renewal of its elderly Dauphin fleet with the new AS365N3.

Pawan Hans expansion plans

Plans by Pawan Hans to build a helicopter training school at the Pune Gliding Centre suffered a last minute set back earlier this year after the Indian Air Force told the company it needed Ministry of Defence clearance before proceeding further. The instruction came just days after the company began construction of three new helipads on the airfield and coincided with a Pawan Hans RS10,030 crore proposal to the government to double the number of civil helicopters in service across the country.

The company wants to buy 249 new helicopters and construct 180 helipads at key centres across India to open up remote areas to accessibility and provide air medical, law enforcement, humanitarian relief and tourism services. Currently India has about 250 civil helicopters with some 20 percent supporting the offshore oil and gas industry and others with government and charter operators or privately owned. If approved 178 of the additional helicopters would be for air medical, law enforcement and disaster management, whilst another 20 medium size helicopters would be purchased for highways and national air surveillance, 20 for tourism and 21 for communications and utility support in the north east Himalayan region.

Pawan Hans has entered the proposal as part of its 2012-2017 five year plan but has split the project into four categories, to be funded by different ministerial departments. The largest portion, a Rs 7,760 crore proposal, has been submitted to the Ministry of Home Affairs, whilst Rs 1,020 crore is requested from the Ministry of Development for the north east region and Rs 1,01 crore is being sought from the Ministry of Civil Aviation. The Ministry of Tourism is being asked to provide just Rs 240 crore.

The Ministry of Civil Aviation has already cleared its contribution and Pawan Hans is hoping to initiate each part of the overall proposal as each ministry commits to all or part of its category sector. Key to success will be the Ministry of Home Affairs which has the largest portion of the budget request. However this includes the purchase of some 20 sea planes for inter-island connectivity between Andaman and neighbouring islands, in addition to the rotary-wing development plans.

However the Indian Air Force objection to the Rs14.6 crore training school at Pune, on the grounds that air activity there comes under jurisdiction of the nearby Lohegaon air base, may at least frustrate plans to begin helicopter training by 1 March this year and thereby delay the expansion programme.

helicopter to use a sleigh type landing gear and described the company's actions as "highly reprehensible" with a "callous disregard" for Eurocopter's rights.

The court has yet to confirm the level of damages due to Eurocopter but has ordered Bell not to manufacture, use or sell the infringing landing gear, and to destroy all such landing gears in its possession. In fact Bell quickly redesigned the Bell 429 landing gear after Eurocopter filed the case and

relatively few aircraft had the sleigh type gear installed. The replacement landing gear has been held by the court as not infringing Eurocopter's Canadian patent and a subsequent media release by Bell seized on this fact to claim victory.

Nevertheless Eurocopter is still evaluating its options over the redesign and has now filed claims in Paris and Washington, contending that the replacement landing gear still violates Eurocopter patents.

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Above: Sales of the MD Helicopter Explorer have been slow over recent years, with a consequent lull in production. This example, on display at the recent Heli Expo Convention was built in 2008 (Avia Press).

MD CEO goes shy

MD Helicopters refused to provide sales data for 2011 at its Heli Expo conference, with chief executive officer Lynn Tilton claiming the company was legally restricted from doing so. Public information however suggests the company had a lean year, despite the hype and the successful delivery of six MD530F to the Afghan Air force for pilot training.

Sales of the MD902 Explorer have been especially affected, with the most recent recorded new delivery in 2010 and up to six "white tails" reported at the Mesa, Arizona production facility. This year the company is to work on an MD902 cockpit upgrade with another avionics supplier and also is currently carrying out a main rotorhub upgrade.

It denies suggestions that the MD902 supply chain has broken, saying it continues to function providing spares and could increase component manufacturing to meet demand if new orders materialise. This includes the supply of fuselages from Turkish Aerospace Industries. Tilton is keen to transfer overseas manufacturing to the United States, but staff suggest moving MD902 fuselage production would take up to two years and currently is not a priority.

In addition to the Afghan MD530F sales, deliveries last year included one MD520N to a New Zealand customer plus orders for at least two MD600N for customers in Bangladesh and the Philippines. These latter aircraft were delivered early this year. The company has also continued to sell other members of the MD500 family in small numbers, recently receiving an order from the Columbus Police Department in Ohio for an MD500E with an option for a second aircraft for 2013, and an order for three MD500Es from the Kansas City Police Department.

2012 should therefore be a better year, with a memorandum of understanding finally signed with Boeing for the supply of AH-6i airframes and an initial 24 aircraft order expected. Deliveries this year include 12 for Saudi Arabia and three for El Salvador. The company will also fly the upgraded Model 540 this year, with new main and tail rotor blades developed by Van Horn Aviation and other changes to provide more power and payload.

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Sikorsky S-76D production moves forward

Pratt & Whitney Canada has begun production of the 1077shp PW210S engine for the Sikorsky S-76D helicopter, with six shipped to the Sikorsky assembly plant in Coatesville by early February. US Federal Aviation Administration certification of the engine was secured last December.

Sikorsky is now expecting to begin deliveries of the S-76D in July and is meanwhile working on a long range fuel tank option to meet anticipated new demand as well as finalising the de-icing capability and the Thales Top Deck cockpit avionics. FDC Aerofilter meanwhile has confirmed it will supply engine inlet barrier filter systems for the new model.

New orders announced for the S-76D in February included one aircraft for Swiss-based Air Engiadina for VIP operation in the UK and Switzerland. Delivery is expected in 2013 following European Aviation Safety Agency (EASA) certification. The S-76D will replace an S-76A+, operated for more than 20 years under PremiAir Aviation's air operators certificate. Sikorsky has also signed a contract with the Japanese Coast Guard for four S-76Ds, to replace several helicopters written off last year in the tsunami along Japan's northeast Pacific coast.



Industry sources meanwhile claim Sikorsky misjudged the delays in certifying the S-76D. Pointing to the demand for used S-76C+ upgraded for offshore missions and a move by some operators to other aircraft types, sales specialists Lloyd Helicopters suggests Sikorsky could have sold at least 50 additional S-76C++ before bringing production to a halt last year.

Rolls-Royce defers RR500

Rolls-Royce is to defer certification of the new RR500 turboshaft engine until it receives a firm commitment from an airframe manufacturer or upgrade specialist to specify the 475shp class powerplant for a new project. Previously MD Helicopters had shown interest in the engine for its upgraded 540 Model, due to fly this year.

The most likely launch is now seen as the proposed Bell 206 re-engining project by Uniflight at Grand Prairie, Texas but this is also reportedly low key until the market conditions improve. Meanwhile Rolls-Royce is continuing with the development programme, with a 1,000 cycle test the final element. This is expected to be completed by the end of March. The engine has already carried out a 500 hour endurance test and simulated high

Above: Orders for the new AgustaWestland AW189 long range transport helicopter have increased significantly in recent months. Certification is planned for mid 2013.

altitude trials, and will log around 1,000 running hours by the time development ends.

The RR500 is based on the 300shp RR300, selected for the Robinson R66 helicopter, and features an improved compressor and an increase in the turbine airflow, as well as an especial focus on maintainability. Meanwhile the company has moved into full-rate production with the RR300, which has logged more than 10,000 flight hours in the R66 and more than 100 engines delivered to date. In 2012 Rolls-Royce expects to deliver "several hundred" RR300s to meet demand.

To support the RR300 Rolls-Royce is expanding its support network, with 13 RR300 service centres currently available worldwide, matched to R66 maintenance bases. The company expects the number of service centres to continue to grow as more R66 enter the market, and as new applications are identified. These include other existing airframe manufacturers and start-up companies.

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AW189 orders pass 50 mark...

AgustaWestland introduced its new long range AW189 helicopter to the US market at Heli Expo, and announced at the beginning of the event 50 orders, including 20 options signed up since the aircraft was launched at the Paris Air Show in June last year.

During Heli Expo the company also signed up a provisional sales contract with Gulf Helicopters in Qatar for 15 AW189s for offshore transport missions, a contract for two aircraft with Russia's Exclases Holdings and options with the Bond Aviation Group and Lease Corporation International. Flight trials of the first prototype AW189 are said to be on schedule, with a second aircraft due to fly later this year and certification planned for mid 2013.

Meanwhile the company, with partner CAE, is pressing ahead with development of an AW189 Full-Flight Level D simulator for installation at the joint Rotorsim training academy at Sesto Calende in Italy. The new CAE 3000 Series simulator is expected to come on line during the third quarter of 2013 to meet initial customer training needs. Similar units are expected to follow on for installation globally, bases on market demand and requirements.

Turbomeca TM800 and Ardiden 3 development progress

Turbomeca expects to begin tests of its new 1100shp class TM800 engine in 2015 and anticipates the powerplant being aboard the Eurocopter X4 helicopter "from the beginning", despite a possible challenge from Pratt & Whitney Canada.

The TM800 meanwhile has now moved from being a technology demonstrator and is in the pre-production development phase, with Turbomeca predicting significantly lower operating costs and fuel consumption over current similar power engines. Designed for helicopters in the 4-6 tonne class, certification and service entry is expected in 2017.

Turbomeca is also progressing the 1800shp class Ardiden 3 turboshaft for 6-8 tonne class helicopters, including the Kamov Ka-62 and the AVIC II Z-15/AC532 version of Eurocopter's EC175. The company has completed all the necessary testing of this engine and is now aiming at certification by the end of next year, when it is also expected to power the first flight of the AC532. The engine should fly in the Ka-62 later in 2014. The Ardiden 3 will offer an 11 percent fuel saving and a 15-20 percent range increase at maximum passenger load over current engines, equivalent to a 556km (300nm) round trip offshore in the AC532. Turbomeca also anticipates lower operating costs, with a 5000 hour time between overhauls at maturity.

To meet AC532 production requirements, the new engine will be manufactured in China, probably under the designation WZ-16.



Above: Eurocopter unveiled the upgraded EC130T2 helicopter at Heli Expo in Dallas, also announcing a slew of orders from US tour operators. The prototype is currently carrying out pre-certification hot/high trials (Avia Press).

EC130T2 launched

Eurocopter introduced its upgraded EC130T2 helicopter to the public at Heli Expo on 12 February, announcing orders for 105 of the new variant from seven launch customers involved in the tourism and air medical sectors of the market. The prototype shown at the show (F-WGYP c/n 7069) first flew in March last year and had logged some 90 flight hours by the time of its appearance in Dallas.

Powered by the 950shp Turbomeca Arreal 2D engine, which offers up to 14 percent more power and a two percent saving in fuel consumption over the Arriel 2B1 installed in the current EC130B4. As well as a higher interval between overhaul times, the EC130T2 also introduces an

upgraded main gearbox, a new active vibration-control system, improved air conditioning and a redesigned cabin with a full flat floor, new energy-absorbing seats and an enhanced cockpit avionics interface.

The performance improvements will allow the aircraft to be operated at a higher maximum all up weight of 2500kg (5512lb) for internal carriage and 3050kg (6724lb) with sling loads. Cruising speed is increased by up to 18.5km/h (10kt). For Grand Canyon tour flights these changes should remove previous hot/high limitations whilst still meeting the external noise level limits mandated for flights in the National Park area.

Certification is expected later this year, following the completion of hot/high trials in the United States with the prototype, but meanwhile the first production aircraft are already on the Marignane production line where they will succeed the current EC130B4 this summer.

... and new Heli Expo sales

AgustaWestland announced sales in excess of \$923 million during Heli Expo week, including a \$380 million agreement with Lease Corporation International (LCI) for a mix of AW139, AW169 and AW189 aircraft. Deliveries of the AW139 will begin next year, with the first three already placed with LCI customers, followed by the AW189 in 2014 and the AW169 later, following certification.

Bond Aviation Group also signed a framework agreement to purchase 15 helicopters, including five options and covering a mix of AW139, AW169 and AW189 types, whilst Life Flight Network in the US Pacific north west ordered 15 single-engine AW119Ke helicopters for air medical operations, with deliveries starting in late 2012 through 2014. Another order, for two A109S GrandNew helicopters was signed by Sloane Helicopters in the UK, together with a multi-year distribution agreement covering further deliveries over the following two years.

The GrandNew has also been selected by the Columbia River Bar ship pilots to replace their existing A109E Power to service shipping crossing the river, whilst a new A109E Power has been ordered by Briles Executive HeliShares in Van Nuys, California for the company's Fractional Ownership programme. The new aircraft will join the existing fleet of two Power and two GrandNew helicopters in late 2012.

In addition to the above, Exclases Holdings Ltd. signed a contract for two AW139, two AW169 and two AW189 helicopters for sale in Russia and the Commonwealth of Independent States (CIS) market area. The AW139 is already securing substantial sales in the region, with 12 sold last year in Russia for corporate transport operations and the new contract bringing the number sold in Russia and the CIS to 28 in total. With two aircraft already delivered, further deliveries are due to begin in March.

Meanwhile the civil AW139 assembly line at Tomilino outside Moscow is due to begin production in the near term, initially delivering four/five aircraft this year but with a capacity to assemble up to 20-30 AW139's annually when it becomes fully functional in 2015.

Bell launches the Relentless

– by Elfan ap Rees

BELL HELICOPTER exhibited their new Model 525 super medium helicopter design at Heli Expo in Dallas, Texas on 12 February, unveiling a full size mockup in PHI Inc. colours and a set of impressive performance estimates.

As expected the new helicopter, named Relentless through an employees poll, features an all-composite five-bladed articulated main rotor and four-bladed canted tail rotor, with power provided by two 1800shp General Electric CT7-2F1 turboshaft engines derated from their maximum 2,000shp limit and with full authority digital electronic control. Despite predictions the aircraft bears little outward appearance to Bell's previous super medium twin, the 214ST, with a wider cabin, retractable undercarriage and a slimmer tail pylon. The tail boom is claimed to include aerodynamic shaping that directs rotor downwash to contribute to the anti-torque effect. Bell says this will allow an extra 88 horsepower to be directed to the main rotors as well as improving the centre of gravity range.

The Model 525 also features a more innovative cockpit, with large windscreen and one-piece side windows and no separate cockpit doors. Instead the two crews access via the front passenger row, with cockpit seats that push back and swivel outward on runners to allow ease of egress. Right-hand side sticks replace the conventional cyclic controls, with a triple-redundant fly-by-wire flight control system using a BAE systems flight computer and technology taken from the V-22 and former BA609 tiltrotor programmes. The avionics will be based on the new Garmin G5000H suite, with a four display system incorporating touchscreen control, voice command, synthetic vision, terrain awareness/warning and automatic flight control features to meet Bell's new ARC (Awareness, React and Control) cockpit requirements. ARC is designed to react intuitively, sensing system failures and identifying solutions to critical failures ahead of the crew. This should give pilots the ability to react more quickly in the event of emergencies.

Airframe construction will use a mix of composite and metal components, with especial emphasis on ease of maintenance and durability. Monolithic composites will be used in the lower airframe and other areas susceptible to water ingress and corrosion, whilst access panels will be simplified to enable easy checks of line replaceable units.

In terms of performance Bell is being cautious at this point in the programme, mindful no doubt of its competitors, and is quoting "plus or minus" figures for the 740.8km (400nm) range, 259km/h (140kt) cruise speed, a 6096m (20,000ft) ceiling and 1814kg (4000lb)



useful load. All up weight is targeted at 8165kg (18,000lb) with a standard 16 passenger layout in 51cm (20in) wide seats.

Bell has been working on and off for the past 20 years to bring this successor to the Model 214ST and still-born 414st programmes to the market. The company is now clearly targeting the future long range oil and gas offshore market for Model 525 sales, as well as traditional parapublic and other commercial areas.

Go-ahead for the launch was finally secured from parent Textron late last year and the company now has 326 engineers working on the programme, with up to 500 expected to be involved by 2013. The plan is to fly a prototype in 2013, with certification in 2015 and to then sell between 400-600 aircraft over the next 20-30 years to recoup the estimated \$500 million development investment.

Meanwhile the company says it has made considerable progress on the design and development front over the past 15 months, although it has yet to fly the new dynamic system or cut metal on the first prototype. Nevertheless Bell is using a Model 214ST to

Above: The new Model 525 represents a new approach by Bell to its Super Medium Transport class, with new technology driving the design.

trial some Model 525 dynamic system aspects, in particular the new main rotor and the fly-by-wire flight controls. The latter are currently being installed by sub-contractor STS Aviation at Bell's XWORX facility in Arlington, Texas, with the 214ST test bed expected to fly this spring.

And finally, why the designation Model 525? Depending on who you speak to at Bell, it variously translates as five blades and two engines, a step up from the previous Model 414 project, the anticipated actual range, or just simply a clean sheet designation to differentiate the new model from all those that have gone before. Take your pick!



Below: Central to the new Relentless is the fly-by-wire flight control system using a sidestick cyclic control and a new ARC intuitive system to sense and act on critical failures.



Military Helicopter News

March - April 2012



This Israeli Air Force Sikorsky CH-53A Yasur recently re-entered operational service after eight years of being used for spares recovery. The 1968 aircraft was transferred from the US Marine Corps in 1991 and upgraded to Yasur 2000 standard in 1993 for a decade of service before being grounded in 2003. It is now in service with the Night Birds of Prey Squadron as an attrition replacement.





Eurocopter seeks Indian decision

Eurocopter officials have written directly to the chief of the Indian Army, General V.K. Singh, in an effort to break the apparent deadlock in procurement of 197 light helicopters to replace ageing HAL Chetak and Cheetahs used for Army and Air force operations in the Himalayan border areas.

The replacement programme was initiated more than seven years ago and saw the Eurocopter AS550C3 Fennec selected in 2007, only for the Indian Defence Ministry to cancel the process due to objections from Bell Helicopter citing irregularities during the tender process. A second Request for Proposals was issued in July 2008, with both the AS550 and the Kamov Ka 226 helicopters being short-listed. Since then the technical evaluation of the two finalists has taken over 38 months, including competitive flight trials completed in December 2010.

Eurocopter says the Air Force evaluation report was submitted to the Ministry of Defence last October but was approved by the Technical Oversight Committee only in January this year. The company says this is the second time the AS550C3 has successfully met all the required technical parameters and the aircraft is fully compliant with the Army and Air force operational needs.

It also claims the life cycle costs are at least 30 percent below the Ka226 and says the order could be completed within five years if it is awarded the contract.

Russia to assemble AS350/AS355

The Russian Ministry of Defence is reported to be considering an offer to assemble up to 100 Eurocopter AS350/AS355 helicopters at a plant in St. Petersburg under a joint venture programme with Rosoboronexport. The aircraft would be used for training military pilots and communication flights.

A public procurement notice of 15 single and 30 twin-engined helicopters, but with pricing to be based on at least 100 aircraft. 6.6 billion rubles (\$221.5 million), has been allocated for the purchase with a decision expected in time for deliveries to commence in November this year.

Previously it had been expected that the Mil Mi-34 and Kamov Ka226 would be the only candidates for the contract, but delays in certificating the upgraded Mi-34 and the operational costs of the Ka-226 are reported



to have encouraged defence officials to consider other options. The specifications issued with the procurement notice for the single-engined helicopter call for a maximum speed of 280km/h (151kt), a range of over 600km (373miles) and an engine time-between-overhaul of more than 4,000 hours.

The twin-engined machine is required to have a maximum flight speed of 270km/h (146kt), a range in excess of 700km (435miles) and an engine time-between-overhaul of not less than 2500 hours. The document also quotes a maximum acceptable price for the two versions, 110.7

Above: Eurocopter is keen to confirm the status of the Indian Army procurement of 197 light helicopters as it plans future production of the AS550/AS555 family to meet future demand.

million rubles for the single-engined helicopter and 164.85 million rubles for the twin.

Previously the Ministry of Defence has announced the selection of the Ka226 for light communications work, including transporting military personnel, light cargo and mail, with 30 aircraft to be delivered over the next eight years.

VXX launch deferred

The US Department of Defence (DOD) has again deferred the launch of the Navy-led VXX presidential helicopter replacement programme, after rejecting an analysis of alternatives (AOA) study on the grounds that it did not provide a cost effective solution. Previously in June 2009 the DoD cancelled the AgustaWestland VH-71 presidential helicopter programme at an advanced stage, selling aircraft already delivered for spares recovery and paying prime contractor Lockheed Martin and sub contractors large sums in compensation.

Industry sources suggest that the new US Navy VXX AOA still rated the VH-71 as an effective solution in competition with the Bell-Boeing V-22, Boeing CH-47F, Sikorsky S-92 and CH-53K but the DoD has now decided to seek a more affordable acquisition strategy, using additional guidance to secure an incremental approach to a solution. This new AOA is expected to set a rational balance between requirements, cost and schedule to achieve a solid foundation for the initial business case, an acquisition best practice formula that was missing from the terminated programme.

To achieve the full capabilities desired for the VXX, the Navy will first further extend the service life of the existing VH-3D presidential helicopter fleet and has been discussing with Sikorsky how to also upgrade the aircraft capabilities by developing and incorporating new mature technologies. At the same time the Navy will define open systems architecture for the VXX to enable the insertion of these and other technologies in the future. This will allow upgraded technologies matured in the current presidential helicopters to be transferred and integrated into a new off-the-shelf airframe at the start of the VXX programme. New technologies would then be developed and integrated on the VXX as pre-planned product improvements.

A decision on a VXX launch is now seen as unlikely before the 2012 US Presidential elections, due in November, which is likely to be seen as politically expedient by all parties during this year.



Above: AgustaWestland is now assembling all AW101 helicopters at its Yeovil, UK facility including current orders for India and Saudi Arabia. Seen here is the first of two VIP configured aircraft destined for the Turkmenistan government (R. Ingham).

AW dismisses Indian media attack

AgustaWestland parent Finmeccanica has dismissed media claims published at the end of February in India, suggesting that an investigation is being carried out into supposed "irregularities" surrounding the sale of AW101 helicopters to the Indian Air Force.

In a statement issued on 29 February, the company says that no notice relating to the purported investigation has been served on companies and officers of the Finmeccanica

Group, neither in Italy or India. The company also denies that AgustaWestland is involved in any irregularity connected with the sale, and notes that all its subsidiaries have adopted organisations and ethical codes in line with regulations and best practices aimed at preventing and banning any illegal conduct.

The Indian government has 12 AW101s on order for VVIP duties with the Air Force and the first of these are already taking shape on the AgustaWestland production Line in the UK, where all AW101 final assembly is now concentrated.

Fire Scout solo deployment

The US Navy has deployed the Northrop Grumman MQ-8B Fire Scout unmanned helicopter for the first time on a solo

deployment. Two Fire Scouts have sailed aboard the USS Simpson guided missile Frigate for a six month mission to west Africa, replacing the manned Sikorsky MH-60 helicopter.

Two previous MQ-8B shipboard deployments have complemented the MH-60, but this time personnel from HSL-60 squadron will be alone in providing helicopter surveillance and reconnaissance support during exercises as part of the Africa Partnership Station. This initiative was developed by the US Navy to improve maritime safety and security in the region.

The Fire Scout has also demonstrated its ability to extend and entrance the Navy's intelligence gathering, with a recent deployment aboard the USS Halyburton last year contributing hugely to anti-piracy operations off Africa's east coast and missions in Libya. The new solo deployment is expected to provide an opportunity to explore new operational scenarios, as well as expanding the unmanned helicopter's limits.

Saab to support HkP-16 maintenance

Saab has signed a major support contract with Sikorsky Aerospace Services, under which the Swedish company will provide maintenance support for the HkP-16 Black Hawk helicopters entering service with the Swedish Armed Forces.

The first two of 15 HkP-16 on order were handed over to the Helicopter Wing at Malmsslatt on 17 January and Saab will now establish a maintenance organisation at the base. This organisation will comprise helicopter technicians and other technical staff, with back up from Sikorsky Aerospace maintenance personnel.

The Swedish Armed Forces logistics authority has also signed a new three year contract, plus an additional two year option, with Patria Aviation for ongoing technical services and maintenance support. Patria already supports the HkP-10 Super Puma, HkP-14 NH90, HkP-15 AgustaWestland AW109LUH, as well as types being phased out such as the HkP-4 Vertol 107 and HkP-9 Bo105. The company will also be involved in supporting HkP-16 Black Hawk.

All 15 HkP-16 helicopters on order should be in service by the beginning of next year.

200th Lakota delivered

EADS North America handed over the 200th UH-72A Lakota light utility helicopter to the US Army on 2 March at the American Eurocopter production facility in Columbus, Mississippi.

The latest aircraft is also the first new UH-72A delivery with the Security and Support (S & S) Battalion mission equipment package (MEP). This includes a centre-line electro-optic infrared sensor, 30 million candlepower searchlight, analogue/digital video downlink and recording and management system, rear observer console with a 38cm (15in) display, 26cm (10.4in) auxiliary displays for the pilot and co-pilot and an enhanced tactical communications suite.

The S & S MEP will allow Army National Guard units to support local, state and federal law enforcement and security agencies in responding to natural disasters, drug, border infiltration and other issues. 16 Lakotas are already being retrofitted with the S & S MEP and 52 new production aircraft will also be produced in this configuration. An additional 31 S & S MEP Lakotas are also anticipated to meet a total requirement for 99 aircraft deployed across the continental USA. The current US Army Lakota programme calls for 346 helicopters to be delivered through 2016 and all 200 deliveries to date have been on time and within budget.

The US Army and EADS are also seeking Foreign Military Sales for the Lakota, with at least three prospective customers in Southwest Asia and the Middle East, and up to 60 aircraft involved in current discussions. The S and S MEP variant may also be offered to other US agencies.

Cyclone acceptance still pending

Industry sources continue to claim that the Sikorsky CH-148 Cyclone programme still faces a number of acceptance issues for the Canadian government. Meanwhile the sole aircraft delivered on loan for maintenance training to the Shearwater base has been placed in short term storage.

Among previously unreported problems are claimed to be vibration and flutter issues that exceed the contract standard, and unresolved landing gear and blade concerns. The fly-by-wire flight control system is also said to lack robustness and maturity, raising basic safety issues. In addition the improved main gearbox and uprated drive train and engines will not be certificated in time for the latest planned delivery date of June 2012. By contrast the onboard mission systems and integration of these appear to be largely resolved, other than some relatively minor software-related issues that are being worked on.

Meanwhile Sikorsky still has not given a date for when the first interim CH-148 might be handed over, but has advised the Canadian Defence Department that it is committed to delivering five interim aircraft this year. Whilst this would not permit over water or night time operations, it would allow limited flight training to get underway. That could make the company liable to a further C\$80million contract penalty on top of the C\$8 million already levied for failing to deliver a fully mission capable CH-148 by the June 2011 contract deadline.

Wildcat completes SHOL Trials

The AgustaWestland AW159 Wildcat completed a programme of ship-helicopter operating limitation (SHOL) trials in early February, with the naval prototype ZZ402 having made 390 deck landings aboard the Type 23 Frigate HMS *Iron Duke*, including 148 night landings, 76 of which was carried out using night vision goggles.



Above: Production of new Eurocopter EC725s currently includes aircraft for the Mexican Air Force. 1007 was test flying at Marignane in February (P. Foster).

The trials were carried out in varying weather and sea states off the southern English and northern Scottish coasts in two 10 day phases during mid January and early February. Two Fleet Air Arm test pilots assessed and scored the workload required for each landing whilst sensors and video recorded crew reactions and stresses and strains from the airframe, rotor blades, engines and gearbox parameters and undercarriage loadings. Detailed analysis of the results will now be carried out over the next nine months to set the SHOL for future naval operations.

Meanwhile development of the naval variant is continuing with a focus on the search radar and electro-optical/infrared sensor payload. Missile firings will also take place this year before the first naval production aircraft are delivered to No.700W Naval Air Squadron Trials Unit at RNAS Yeovilton this December.

28 Wildcat are on order for the Royal Navy but AgustaWestland is also now keen to attract export sales for the type, initially from existing Lynx helicopter operators.

USMC takes Block C MV-22B

The US Marine Corps has begun taking delivery of the latest Block C configured Bell-Boeing MV-22B Osprey tiltrotor, which

introduces new avionics and other upgrades reflecting its unique role.

The Block C design includes a new weather radar that improves navigation in adverse weather and meets a need for high altitude flying. Service experience has shown that 90 percent of the MV-22B flight hours are conducted in aeroplane mode and require a radar that is suitable for this. The new variant also includes an improved environmental conditioning system to enhance aircrew and passenger comfort, and an expanded electronic warfare system which includes chaff/flare dispensers to better meet air-to-air threats. All future MV-22B deliveries for the Marine Corps will now be to Block C standard and officials have also confirmed that some retrofits on earlier aircraft will also be carried out.

The MV-22B fleet has amassed over 135,000 flying hours to date, with deliveries due to continue through 2014 under the current multi-year contract. 39 aircraft are scheduled for production this year, with 40 due in 2013 and 36 to be built in 2014.

Eurocopter to compete for Turkish LUH

Eurocopter is to enter the competition to partner with Turkish Aerospace Industries (TAI) in the development and production of a new 4.5 tonne class light utility helicopter. The Turkish Procurement Agency is currently in the early stages of developing the requirement, but is expected to select a foreign partner to take the project forward in 2013.

AgustaWestland and Sikorsky Aircraft, who are both already cooperating with TAI on development and a co-production of the T-129 attack helicopter and T-70 Black Hawk utility helicopter respectively, are both known to also be interested in the new light helicopter project. Russian Helicopters is also expected to enter proposals when the requirement is clarified.

Industry sources meanwhile suggest the investment costs are likely to exceed \$1 billion, but with the potential for sales of several hundred aircraft in both military and civil versions.

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Denmark shortlist for Maritime Helo

The Danish Ministry of Defence has shortlisted the AgustaWestland AW159 Wildcat and the Sikorsky MH-60R Seahawk in its Maritime Helicopter competition, with a final selection decision expected by September this year. A third contender, the Eurocopter AS565MB, was deselected in mid January.

Up to 12 new maritime helicopters are likely to be ordered from the successful competitor, with deliveries to commence in 2015 and the new type to be fully operational by 2017. In service it will replace the legacy AgustaWestland Lynx Mk.90B, six of which currently remain fully operational in an eight-strong fleet.

The Danish military is looking for an enhanced role for the new helicopter, adding a special forces role to the search and rescue and anti-submarine and surface warfare capability. This reflects growing participation in anti-piracy and anti-drug running campaigns, as well as possible threats to offshore and onshore assets on Danish home territory.

Meanwhile both AgustaWestland and Sikorsky have signed memorandums of agreement with Danish partners to support their bids. Systematic in Aarhus will provide AgustaWestland with command and control and electronic warfare equipment, whilst Danish Aerotech would provide logistics support over a 30 year period if the Sikorsky MH-60R is selected.

Chinook FMS orders

Boeing has received a Foreign Military Sales contract from the US Army to build 13 new CH-47F Chinook helicopters, including seven for the Australian Defence Force and six for the United Arab Emirates. The company will also build one additional aircraft for the US Army under a separate order. The total order value of the three orders is approximately \$370 million, with deliveries due to begin in 2014.

Boeing currently has an order backlog for more than 200 Chinooks, including around 100 CH-47F for the US Army under the current multi-year contract. Eight Army units are so far equipped and operational with the aircraft and Boeing has recently submitted a second multi-year contract proposal to the Army for a further 155 CH-47Fs, to bring the complement close to the 464 aircraft previously outlined in the US Department of Defence programme.

A decision on this is expected early next year, but may be impacted by planned US government defence cuts, which foresee a major reduction in US capability west of Suez.



Above: AgustaWestland is to provide the mission planning and analysis system for the Italian Navy fleet of NH90NFH helicopters, the first of which are now entering service.

AgustaWestland to provide MPAS for Italian NH90NFH

AgustaWestland has signed a contract with the NATO Helicopter Management Agency (NAHEMA) to develop and provide a Mission Planning & Analysis System (MPAS) for the Italian Navy fleet of 45 NH90NFH helicopters currently on order.

Compatible with similar planning systems in use by other European Armed Forces, the NH90 MPAS will support the Italian Navy in carrying out missions with the NH90NFH, as well as supporting multi-platform missions by

interfacing with the Navy's AW101 and future maritime tactical transport NH90s on order.

The MPAS is based on the AgustaWestland-designed Skyflight planning system, a multi-helicopter flight and mission planning solution that all AgustaWestland mission planning stations currently utilise. In particular Skyflight is already in use with the Royal Netherlands Navy for mission planning of their NH90NFH fleet and Skyflight technology is incorporated in the development of mission planning system for the UK's AW159 Lynx Wildcat and Apache AH.Mk.1 fleets. The system also supports the Royal New Zealand Air Force AW109LUH helicopters and is a core element in the flight planning system of AW101 Vvip variants.

AgustaWestland expect the Italian Navy MPAS to be available for early operations of the NH90NFH and training activities. It should be fully operational by the end of 2013, when the system will be deployed across the main Italian Navy bases and vessels. Agusta Westland will support this deployment as part of a three year initial in-service support

Below: Denmark has shortlisted the Agusta Westland AW159 Wildcat, seen here during SHOL trials, and the Sikorsky MH-60R in its Maritime Helicopter competition.





Above: The first of five Eurocopter AS532AL Cougar helicopters for the Albanian Air Force is expected to be handed over in the immediate future, following the completion of flight trials at the company's Marignane facility.

The AS532AL was selected in 2009 to replace the obsolete fleet of Russian and Chinese-supplied transport helicopters operated by the Albanian Air Force, with a Eu 78.6 million contract signed late that year to include training and support. All five aircraft are due to be delivered over the next 12-14 months.

over the next 10 years for communications and liaison duties.

The turbine-engined Ka 226 is available with a choice of powerplants and has already been selected for shipboard operation aboard the new Russian Mistral class aircraft carrier, as well as for government-related utility missions.

Despite plans by the German Ministry of Defence to cut the numbers of helicopters in service, Eurocopter is anticipating continued production of the Tiger UHT and NH90 helicopters on order, with older aircraft being retired, cannibalised for spares or re resold to third parties.

Company officials believe that the Tiger purchase will remain "significantly higher" than 40, up to 55-60 aircraft in total, whilst some NH90 orders for the Army and Air Force could be switched to the Navy as replacements for the Westland Lynx and Sea King. Overall the company is convinced total order numbers will remain unchanged but with a more flexible content introduced.

Kaman Helicopter is flight testing a new small composite rotor blade (SCRB) for the

(APKWS II), featuring a 70mm rocket with a laser guidance system and an onboard weapons management computer. Delivery of the first armed MQ-8B is scheduled for March 2013.

HSM-35 will also operate the Sikorsky MH-60R manned helicopter alongside the MQ-8B, with personnel likely to be cross-trained to support both types.

The Bell OH-58D Kiowa Warrior Fleet passed the 2 million flight hours mark in early February, with over 750,000 of those flight hours logged in combat.

Heavily employed by the US Army in Iraq and now Afghanistan, each OH-58D has averaged more than 75 flight hours per month since 2003 and today has a mission capable rate exceeding 85 percent, the highest in the Army's deployed fleet. The heavy workload, which includes armed reconnaissance, command and control, targeting and defensive combat missions has seen attrition rates lead to a shortfall in aircraft availability, currently being addressed by the manufacture of new OH-58D cabins, married to tail booms, engines and drive trains at the Corpus Christi Army depot to produce new aircraft.

Bell and the US Army are also looking to longer term initiatives, including a Block II enhancement to improve hot/high performance to meet a 1829m (6,000ft/35 degrees C) Army requirement, and an OH-58F variant which will upgrade sensors, avionics and cockpit displays.

The Russian Air Force has taken delivery of four Kamov Ka 226 helicopters for coaxial, contrarotating pilot training at the Torzhok helicopter training centre. The Air Force is also planning to purchase an additional 26 Ka 226

The first of 16 Boeing CH-47F Chinook helicopters for assembly by AgustaWestland for the Italian Army is now on the line at the company's Vergiate production plant. The company is completing the aircraft in the same building that was used to produce CH-47C Chinook variants for a number of Mediterranean and Middle East customers in the 1970-1980's.

To date orders for the CH-47F have been restricted to the Italian Army, for whom deliveries are due to begin in 2013.

The Norwegian Ministry of Justice has pre-selected the NH Industries NH90 helicopter in the ongoing all weather search and rescue competition to replace the existing Westland Sea King helicopters operated by No. 330 Squadron of the Royal Norwegian Air Force.

The aircraft under offer will incorporate a complete medical suite to take care of patients in flight, and will be fitted with a full range of avionics and sensors to provide good situational awareness to quickly locate and rescue people needing urgent assistance.

Northstar Aerospace Canada has reached a long term agreement with Sikorsky Aircraft to provide parts for the UH-60 Black Hawk helicopter. Northstar is currently trying to renegotiate a number of supplier contracts to avoid going into receivership.

The agreement with Sikorsky includes pricing and forecasted quantities for deliveries from 2013 through 2017, but with no obligation for the amount awarded or the timing of deliveries. Based on the forecast, the estimated value of the agreement is \$9 million over the five year agreement.

The US Navy is to form its first operational vertical take off unmanned air vehicle (VTUAV) squadron in mid-2012 at Naval Air Station North Island in San Diego, California. The unit, HSM-35, is scheduled to become fully operational by mid-2013.

The new squadron will be equipped with the Northrop Grumman MQ-8B Fire Scout VTUAV, which the Navy has already trialled for surveillance under a number of shipboard operational scenarios, as well as deploying three helicopters in Afghanistan. This deployment is expected to continue until October 2012.

Meanwhile the Navy is progressing plans to arm the MQ-8B, having recently selected the BAE Systems advanced precision kill system



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Above: The US Army is evaluating new options to extend the life of the Bell OH-58D Kiowa Warrior fleet out to 2025.

Boeing AH-6 "Little Bird" helicopter, employed by the US Army Special Forces. Already in initial production, the SCRB incorporates the Hontek erosion coating system, eliminating the need for metallic leading edge erosion strips and improving performance in dust and sand environments.

The SCRB is being displayed in public for the first time at Heli Expo in Dallas on 12-14 February, where visitors will be able to view the innovative Hontek coating which is also used on the US Army UH-60 Black Hawk Fleet. The three-layer coating is colour-specific for easy visual inspection of wear and is sprayable in the field to maintain its effectiveness.

■ Aero Dynamix in Eules, Texas has delivered certified night vision goggle cockpit upgrades

US Army to build OH-58F prototypes

The US Army is to assemble three Bell OH-58F Kiowa Warrior prototypes at the Aviation and Missile Research, Development and Engineering Prototype Integration Facility, situated at Madison County Airport in Alabama. The first airframe, a stripped down OH-58D, was delivered to the facility at the beginning of March.

Upgrades planned for the OH-58F include a chin-mounted common sensor payload replacing the mast-mounted system, dual channel full authority digital control, new all-colour cockpit displays, integrated aircraft survivability equipment displays and other improvements. The airframe will also receive a new locally designed wiring harness. Separately Bell Helicopter is working on a further Block II enhancement by adding an uprated engine, transmission and rotor system although this has yet to be adopted by Army officials.

The OH-58F conversion will be the first time the Army has built an aircraft as the lead systems integrator and, by managing the project internally through the Armed Scout Helicopters project office, significant cost savings of the order of \$37 million are expected during the research, development and test phase. An additional \$55 million is expected to be saved during the procurement and production phase of the project if it goes ahead.

Manufacturing of a second group of three OH-58F conversions is already planned to take place at the Corpus Christi Army Depot in Texas, which is already involved in OH-58D rebuilds, but a decision on where to produce further OH-58Fs beyond the six pre-production examples will be made at a future date.

If confirmed a full OH-58F programme will extend the life of the Kiowa Warrior fleet to 2025.

Indian Navy Multirole Helicopter competition heats up

Indian Navy officials have hit back at NH Industries, which recently called for clarification of the Request for Proposals for a new multi-role helicopters, complaining that the rival Sikorsky MH-70B helicopter could not meet all the requirements laid down in the specification.

Naval officials now accuse NH Industries of "twisting facts" and trying to mislead the defence industry, claiming that both the NH-90 and the MH-70B helicopters meet the Navy's qualitative requirements, making both eligible in the estimated \$1 billion competition. An order for 16 multi-role helicopters is at stake, with a decision anticipated later this year.

Meanwhile Sikorsky is offering India co-production of the MH-70B under the Defence

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for two US government MD Helicopters MD500 helicopters, and secured a follow-on contract to upgrade two additional aircraft.

The upgrade covers internal night vision avionics modifications, edge lit panels and instrument displays, and external navigation and anti-collision lights.

■ FB Heliservices has secured a renewal of its UK Defence Helicopter Flying School and support services contract for a further four years, with two possible one year extensions. The value of the agreement with the Ministry of Defence is £193 million.

The joint venture partnership between Bristow Helicopters and Cobham Aviation Services has successfully delivered the existing contract for military helicopter flying training for the past 15 years. It will continue to operate the same fleet of 34 Eurocopter AS35350B and 11 Bell 412EP Griffin helicopters for the new contract, albeit with some upgrades to include new technology and to increase capability.

The new contract commences on 1 April at the existing training bases at RAF Shawbury, RAF Valley and the Army Air Corps Centre at Middle Wallop.



Defence

- INTERNATIONAL



Ministry "buy and make" procurement category if this Seahawk variant is selected. The company believes India's naval requirement may eventually increase to around 100 aircraft in this class and is now discussing a possible agreement with the Tata Group on collaboration. This could lead to a new joint company marketing the MH-70B for multi-role operations in addition to anti-submarine warfare.

The two companies already have a joint venture for civil helicopter production and Tata Advanced Systems is delivering S-92 cabin sections from its Hyderabad facility, for the US final assembly line. Seven had been supplied by the beginning of March, with plans to increase production to 36 per annum by 2013 subject to demand. Hyderabad is also seen as a possible S-92 assembly centre if efforts to sell a military variant of this helicopter to India are successful.

USMC retires CH-53D

The US Marine Corps has officially retired the Sikorsky CH-53D Sea Stallion heavy lift helicopter in a ceremony at the Pacific Aviation Museum in Hawaii, where the last aircraft have been in service with Marine Heavy Helicopter Squadron 363. Most recently the squadron have been supporting operations in Afghanistan.

The prototype CH-53A Sea Stallion made its first flight in October 1974 and was followed by the more powerful CH-53D for operations in Vietnam. Production of these models ended in January 1972 and was later followed by the current CH-53E, variant which has now replaced the last CH-53Ds in service. A total of 126 CH-53Ds were built for the Marine Corps, including two converted to VH-53D staff transports.

The retirement closely follows the fatal loss of an HMH-363 CH-53D whilst on active duty in Afghanistan in January. The squadron had been deployed there since August 2011, ferrying troops and equipment around the battlefield. HMH-463 Squadron in Hawaii has now re-equipped with the CH-53E variant. Seven aircraft arrived at MCAS Kaneohe Bay on 21 February with a further five to follow.

Previously it had been planned to stand down the squadron and to deploy Bell-Boeing MV-22B Osprey tiltrotors to Kaneohe Bay instead, but this proposal has been deferred pending local consultation and further re-organising of Marine Corps heavy-lift assets. Pressures in Afghanistan are also stretching CH-53E availability, with the Marine Corps withdrawing several aircraft from the Presidential VIP squadron HMX-1 to make up numbers for HMH-463.

The squadron will now begin working up their new aircraft in preparation for the upcoming 2012 Rim of the Pacific exercise, a maritime naval exercise which includes Australia, the UK, Japan, South Korea and several other nations.

EC135 contender for Australian HATS

Boeing Defence Australia and Thales Australia have selected the Eurocopter EC135 helicopter as their contender in the Australian Defence Forces Air 9000 Phase 7 Helicopter Aircrew Training System (HATS) programme. The team is competing against Raytheon/ Bell Helicopter offering the Bell 429, AgustaWestland / CAE/ BAE systems with the AW109S GrandNew, and a Lockheed Martin/Bristow Helicopters combination.

The HATS programme envisages the replacement of the Air Defence Forces fleet of Eurocopter AS350BA and Bell OH-58 training aircraft with a new generation training system. The forecast period for a



Above: Seven Sikorsky CH-53E helicopters flew into the USS Marine Corps base at Kaneohe Bay, Hawaii from the USS Bonhomme Richard on 21 February, replacing the last CH-53Ds in Marines service.

contract award is 2013-2014, with the new system being implemented in stages and full capability achieved by 2020. The training school will then operate under contract over the next 25 years until 2045.

Boeing and Thales are basing their selection of the EC135 on the type's history and flight hours achieved, noting that the fleet of over 1,000 aircraft has logged over 2 million flight hours to date, including service as part of successful training systems in Germany, Spain, Switzerland and, most recently, Japan.

RFP for USAF CRH release

The US Air Force is expected to issue a Request for Proposals for its new Combat Rescue Helicopter (CRH) in March, following an industry briefing in January to more than 30 companies at the Wright-Patterson Air Force Base in Ohio.

The US Air Force is desperate to replace its ageing Sikorsky HH-60G Pave Hawk Fleet, which is increasingly suffering from combat damage and structural issues. Last year the number of missions fell by 17 percent over 2010, and there had been 83 structural issues with the approximately 100 strong HH-60 fleet over the past six years. As an interim measure to replace combat casualties, the Air Force is purchasing 15 Sikorsky UH-60M

Black Hawks and outfitting them for the combat rescue role, but long term is looking for a new generation replacement.

A new broader specification has been outlined for the new helicopter, compared with the previous CSAR-X programme, which industry sources admit was too tightly designed around a single mission for budget constraints to accept. The CRH will therefore be designed for civil search and rescue, disaster relief, casevac, humanitarian missions and non combatant evacuation, as well as its prime combat rescue role. In addition the Air Force is looking for integration of the mission and rescue systems in one package, replacing the ad-hoc additions incorporated over the years on the Pave Hawk.

The acquisition strategy for the CRH envisages a 12 month competition, with a contract award in March 2013, and an initial Operational Capability date scheduled for 2018. However this is dependent on funding remaining available in the annual budget programmes.

More UH-72As for US Army

EADS North America has confirmed a new \$212.7 million order from the US Army for 39 more UH-72A Lakota helicopters as part of its ongoing acquisition plan. 32 of the aircraft will be delivered in the Army's Security and Support (S and S) Battalion configuration for operation by Army National Guard units across the country.

The S and S package includes an electro-optic infrared sensor, searchlight, analogue/digital video downlink, rear observer console and pilot/co-pilot auxiliary displays, plus other modifications to provide security, law enforcement and other support to local state and federal agencies responding to security operations. UH-72As delivered in this configuration are replacing older Bell OH-58 and UH-1H aircraft being retired from National Guard units.

To date 198 Lakotas have been delivered to the US Army from the American Eurocopter assembly line in Columbus, Mississippi together with five H-72A versions for the US Navy. The Army has a requirement for a total of 345 UH-72As to be delivered through 2015.

Military MARKET

■ Lockheed Martin has been awarded contracts totalling \$30.6 million by the US Navy to provide spares and support for the Target Sight System (TSS), installed on the US Marine Corps Bell AH-1Z Cobra attack helicopter.

The TSS integrates state-of-the-art sensors to provide AH-1Z crews with highly stabilised imagery at safe standoff distances.

The suite includes a laser designator, colour TV camera and a third generation, mid-wave, forward-looking infra-red sensor with advanced image processing. The company delivered the first TSS in June 2009 and received follow-on production contracts in June 2010 and September 2011.

The systems are manufactured at facilities in Ocala and Orlando, Florida with production due to continue through 2018.

■ Sagem recently signed a five year contract to provide by-the-hour support for 50 Strix observation and sighting systems mounted on the French Army ALAT Eurocopter Tiger HAP helicopter.

The company will provide preventive servicing of key line replaceable units, along with logistics support for both domestic and overseas theatres of operation. The contract also includes a dedicated hot line in conjunction with ALAT units operating Tiger helicopters.


■ Bell Helicopter has been awarded a 10 year C\$640 million contract by the Canadian government to support the Canadian Forces CH-146 Griffon helicopter fleet. The award, known as the CH-146 Optimised Weapon System Support (OWSS) contract includes four additional 12 month options, which could take the total value up to C\$935 million if exercised.

The OWSS contract combines three existing agreements for engineering, repair and overhaul, and supply support. It includes management services, technical publications, spares and consumable parts and extends Bell's responsibilities for airworthiness, first and second line maintenance, and material support. The company will run the contract out of its Mirabel Facility and its Canadian supply centre in Calgary.

Some 85 Griffons are currently on strength with the Canadian Forces, including a number in long-term storage. The fleet supports peace-keeping missions and humanitarian relief operations around the world as well as providing domestic utility, air medical and search and rescue support. Eight aircraft were modified in 2009 to act as armed escorts in Afghanistan and nine others were transferred to the Allied Wings consortium in 2005 for training purposes.

The new contract is expected to run until the planned retirement of the fleet, currently scheduled for 2021.






The Helicopter Museum in Weston-super-Mare, Somerset recently took delivery of an obsolete Seaspray Mk.1 radar system for its recently restored Westland Navy Lynx HAS Mk.2 prototype.

The Lynx HAS Mk.2 in the museum collection was the second prototype (XX910), which carried out the early flight testing of the Lynx Seaspray installation and the associated Sea Skua air-to-surface missile system. These trials were completed in early 1975 at Portland, Dorset where the radar was assessed against fast patrol boats off the Dorset coast, despite interruptions by Russian surveillance trawlers trying to gather the top secret electronic data. Following a lengthy test career, XX910 was donated to the museum in 2000 and earlier in 2011 underwent restoration by a team of volunteers at RNAS Yeovilton. Acquisition of the radar system will complete this work.

The system, which includes the scanner, transmitter, receiver, signal processor and control indicator has been donated by the Edinburgh division of Selex Galileo, following a meeting between the chairman of THM trustees, Elfan Ap Rees, and senior managers of the company at a "40th Anniversary of Seaspray" gathering during the 2011 Paris Air Show. The Seaspray system was developed in Edinburgh by the former Ferranti Defence Systems company before it was later taken over by GEC-Marconi. This in turn became part of BAE Systems before being acquired by Finmeccanica in 2007 and renamed Selex Galileo.



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- The London Air Ambulance Service has become the first in the UK to carry emergency blood aboard the helicopter for on-scene casualty transfusions. The service became possible following the development of special refrigerator units for military medevac helicopters operating in Afghanistan.

The helicopter carries four units of O negative blood, which can be administered to any blood group in an emergency and which replaces the previous onboard saline infusion. Saline does not contain oxygen and the availability of blood for casualties at the scene of an accident is expected to increase survival rates, since previously blood transfusions could only be carried out when the patient arrived at the hospital.

The new service is likely to be taken up by air medical operators in other areas of the UK in due course.

- CC Helicopters in Kamloops, British Columbia has secured a three year contract with a two year option for extension, to provide a dedicated helicopter air medical service in the rural central interior of the province. The British Columbia Ambulance Service (BCAS) selected the company from four potential operators following a rigorous evaluation of the requirement and the submitted tenders.

The decision to provide an air medical service followed an eight week pilot project in July-September 2010, which demonstrated improved medical outcomes for patients transported by helicopter. As a result BCAS was instructed to set up a permanent service, with a helicopter and critical care paramedics operating from Kamloops for 12 hours per day, seven days per week. In the interim period CC Helicopters were contracted to continue the pilot service while the Request for Proposals process was underway.

Formerly Caribb Chilcoltin Helicopters founded in 1983, CC Helicopters (2011) Ltd. was formed following ownership changes and restructuring by new owners Westcan Aircraft Sales last year. The company currently operates a mixed fleet of Bell 206, 407 and 412 helicopters, with a Robinson R44 II used for local tour flights.

- MAT Aviation, based at Toussus Le Noble Airport in Chateaufort, France, has been awarded a three year contract to maintain the Eurocopter AS350B fleet operated by the National Gendarmerie. 20 helicopters are involved in total, based across the country.

- Efforts by the embryo UK Childrens Air Ambulance organisation to fund raise in Wales were met head on by the Wales Air Ambulance at the end of February, with their own national



children's air ambulance. com logo appearing on the two Eurocopter EC135T2 helicopters at a fund-raising venture held at Newtown.

The Welsh charity covers the whole of the principality with the two EC135s and an MBB Mo15DBS4, which now needs replacing. Consequently the charity is objecting strongly to efforts by the English organisation to raise funds locally, especially as around 99 percent of children in Wales needing medical treatment are treated in Welsh hospitals, including the Childrens Hospital for Wales in Cardiff. If necessary the Wales Air Ambulance also transports children across the border as part of its tasking under the devolved Welsh government health service.

Last year the Wales Air Ambulance transported some 400 child patients, underlining their claim that they are the national children's air ambulance of Wales.

- Industry sources suggest that PHI Inc. Air Medical division is in the final stages of negotiation to provide Helicopter Emergency Medical Services (HEMS) for the Saudi Red Crescent authority (SRCA) in Saudi Arabia, using Bell 412 helicopters.

SRCA is reported to be looking for up to 25 HEMS helicopters to provide comprehensive air medical coverage across Saudi Arabia and overlapping into the Gulf States. Currently Abu Dhabi Aviation operates two HEMS bases at Jeddah and Riyadh but SRCA has been out to tender for the wider air medical service, with a proposed start date no later than 1 June.

Despite the potential however the proposed contract is highly controversial, with a previous history of delays in contract payments, including difficulties around financial penalties. Most of the problems are put down to the SRCA management, claimed to be inefficient and only interested in ensuring that their Chairman Prince Faisal bin Abdullah bin Abdulaziz is not embarrassed in any way. This reportedly includes replacing foreign pilots with Saudi personnel during any public TV interviews.

Above: Keystone Med-Flight has taken delivery of the first of two AgustaWestland AW109E Power helicopters for air medical use in conjunction with Hahnemann University Hospital.

- Keystone Med-Flight in Pennsylvania recently took delivery of the first of two AgustaWestland A109E Power helicopters for air medical operations. Both aircraft will be used in support of the Hahnemann University Hospital's Tenet Health System medical programme.

The two helicopters will enter service with an identical configuration, including a night vision goggle capable cockpit with a terrain awareness and warning system, Garmin GNS430 avionics and a Bendix/King KMD850 multi-function display. The medical fit-out includes a Lifeport designed interior and liquid oxygen system installed by Uniflight West Penn, which is a sister company to Keystone Ned-Flight.

AgustaWestland is currently outfitting the second AW109E Power at its Philadelphia facility prior to delivering the aircraft to Uniflight for final completion.

- Efforts to secure a National Police Air Service (NPAS) in the UK continue to be challenged by local police authorities concerned at expected delays in response times and hidden costs as the NPAS re-equips with new aircraft.

Despite the police minister, Nick Herbert, recently announcing that he intends to make an order forcing the creation of the NPAS, at least one local police authority is investigating its legal options. South Yorkshire Police Authority says the business case locally does not stack up, with significant delays in response times likely if the dedicated helicopter was not available. The next nearest helicopter bases are all some distance away from the key South Yorkshire crime areas.



Above: Production of the Bell Model 429 is now increasing as new sales come in. This aircraft is one of two for the Fairfax County Police in Virginia (Avia Press).

NPAS is seeking to reduce the current number of air support bases to 22, "strategically located to provide the operational capability to deliver an enhanced service". It claims that 97 percent of the population in England and Wales will be within 20 minutes response time and that the revised service will save £15 million annually when all the authorities join.

- Californian air medical operator California Shock Trauma Air Rescue (CALSTAR) has consolidated bases to more efficiently serve patients in northern and central California. The changes follow the opening of three new trauma centres and an overall drop in trauma transports.

The reorganisation includes the closure of the Calstar 10 base in Jackson, Amador County and the relocation of the Calstar 11 base from McClellan Park in Sacramento County to Vacaville in Solano County. These will be consolidated with existing Calstar 8 base operations at the Nut Tree Airport. The company will continue to serve the communities in Amador and the surrounding counties from its bases in Auburn, Placer County and South Lake Tahoe.

Calstar will now operate its fleet of 18 helicopters from eight bases in California, along with two fixed-wing aircraft at McClellan Airport.

- The Turkish National Police is to become the first European customer for the Bell 429, after the type was selected from a range of competitors for final negotiations on an order for 15 aircraft plus five options.

If confirmed, the order will represent a significant win for Bell in the European market against companies such as AgustaWestland and Eurocopter, as well as in the wider law

enforcement market. Sales of the Model 429 have been slow to build since certification and only recently Bond Air Services in the UK confirmed cancellation of multi-buy options, following continuing concerns over weight and performance criteria.

Meanwhile Bell Helicopter delivered the first Model 429 in a multi-mission configuration in early December, to the Fairfax County Police Department in Virginia. The aircraft, the 55th from the Mirabel production line, is one of two being delivered with the second due to be handed over in the second quarter of 2012.

The multi-role layout for law enforcement, air medical and search and rescue operations has been developed and installed by Paradigm Aerospace in Mount Pleasant, Pennsylvania. The company is a Bell Helicopter Customer Service Facility which also specialises in upgrades and completions of Bell products.

- The UK Coventry-headquartered Air Ambulance Service (AAS) charity, which is the umbrella body for the Warwickshire & Northamptonshire and the Derbyshire, Leicestershire and Rutland Air Ambulance services, has taken over the controversial Children's Air Ambulance charity. The latter has been criticised by the Charity Commission for misleading potential donors by implying it operated an air ambulance service, when in fact it had no aircraft and spent almost all its income on salaries and fund raising overheads.

Despite the takeover by AAS, the Childrens Air Ambulance title and current staff will continue, whilst new £30,000 per annum posts for additional fundraising managers have already been advertised in the Bristol, Birmingham and Oxford Areas, all outside the AAS current operational area and leading to new fears among other established air ambulance operators that the revived organisation will drain their own fund-raising efforts. This is compounded by the failure of the AAS to join and participate in the National

Air Ambulance Association, which has also been critical of the Childrens Air Ambulance in the past.

The AAS set up its two existing operations in 2003 and 2008, using AgustaWestland A109E Power helicopters based at Coventry and East Midlands Airport repetitively. The company, which only adopted its current umbrella title late last year, claims to be the busiest air ambulance operator in the UK. A third A109E is now planned to be based at Coventry under the Childrens Air Ambulance banner, to cover patient transfers across the UK and serve as backup to the existing aircraft.

- Bell Helicopter handed over its 4,000th commercial helicopter produced at Mirabel on 30 January, a Bell 206L-4 delivered to Air Medical Group Holdings (AMGH). Commercial production began at the Canadian facility 25 years ago and now includes the Model 206L-4, Model 407, Model 412 and Model 429.

AMGH includes the former Air Evac Lifeteam, Med Trans Corporation and Texas Lifestar companies, and operates a fleet of 155 Bell helicopters across 25 US states. The company is the second largest air medical provider in the world.

- Changes at Ontario's provincial air ambulance service, Ornge have brought to light further issues with previous management of the organisation, including the discovery that two additional "green" AgustaWestland AW139 helicopters were ordered without any public announcement.

Ornge purchased ten AW139s to cover the air medical needs within the province but the previous Board apparently sanctioned the buying of two more aircraft as an investment, possibly with the aim of selling them on as part of the consultancy service set up by directors as a spin-off from the main company. Both aircraft currently remain at the Agusta Aerospace assembly facility in Pennsylvania and are up for sale.

Meanwhile Ornge interim chief executive Ron McKerlie has also asked for an investigation into the air medical fit-out contract, which has been challenged in some quarters. McKerlie has already acknowledged that the bidding process run by Ornge may not have been open and fair, because the request for tenders was published in an obscure and unrelated place on the federal and provincial public tender website.

Since taking control of Ornge, McKerlie has also been cutting previous extravagances at head office level, approving the appointment of seven new volunteer board members to replace previous positions and reducing jobs. 20 employees were given notice in mid January and more redundancies are expected.



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Above: This Eurocopter EC225 helicopter is the latest of the type to be built for CHC Helicopter and is seen here on flight test at the Marignane factory in late February prior to delivery (P. Foster).

● Caverton Helicopters, which provides aviation services to the oil and gas industry in Nigeria, has won a five year contract from 1 March with the Cameroon Oil Transportation Company (COTCO), marking the company's entry into international operations.

Under the agreement Caverton will provide onshore pipeline surveillance and passenger transfer services to the COTCO consortium, which is a joint venture set up to extract and transport oil from the Doba oil fields in Chad to neighbouring Cameroon, via a 1070km (665 miles) underground pipeline to an offshore export terminal.

● The Milestone Aviation Group has signed an agreement with the Bristow Group to lease five helicopters for likely operation in the North Sea. The value of the lease is quoted at between \$125-135 million.

The deal includes three 2011 Sikorsky S-92 helicopters and two Eurocopter EC225s, with the latter expected to be delivered in mid-2012. Milestone is covering the full acquisition costs of the purchases, allowing Bristow to better manage their financial performance

● Era Helicopters has ordered an additional seven Eurocopter EC135 helicopters for its offshore operations in the Gulf of Mexico. The acquisition will bring the Era EC135 fleet up to 17 aircraft, confirming its place as the largest user of the type in the Gulf.

The latest versions of the helicopters, the EC135P2e and EC135T2e deliver a maximum gross weight of 2950kg (6504lb) and an increase in useful load of 40kg (88lb).

● A Sikorsky S-92 of CHC Helicopter was grounded on an offshore rig in the Danish sector of the North Sea in early January, following detection of a crack in the upper section of the main gearbox. The problem was identified after the officer reported to the flight crew seeing smoke and vapour coming from the gearbox area.

The aircraft has since been shipped to Esbjerg for further checks amidst unofficial reports that the gearbox in question was a modified Phase 3 unit with only 36 hours of service.

● Cougar Helicopters has completed construction of a dedicated search and rescue facility at St John's International Airport, Newfoundland. The new building will house the fully equipped Sikorsky S-92 helicopter provided for the SAR role, together with support equipment and SAR personnel on standby.

The new facility is in response to the offshore Helicopter Safety Inquiry which called for improved SAR response times to offshore emergencies. Availability of a dedicated helicopter during 2011 already reduced the previous one hour takeoff time down to 30

minutes and the new facility is expected to further reduce this time to 20 minutes maximum, in line with the inquiry recommendation.

● The UK Department for Transport (DfT) has confirmed the award of the northern sector interim search and rescue contract to Bristow Helicopters, commencing in July 2013 when the existing Maritime & Coastguard Agency (MCA) contract expires and continuing until June 2017.

Bristow has also confirmed that the company will operate the Sikorsky S-92 helicopter on the service, based in Stornaway and Sumburgh, and will work with the current contractor CHC Helicopter, to ensure staff eligible for transfer achieve a smooth and seamless transition. Bristow historically ran MCA search and rescue contracts between 1971 and 2007 before losing the business to CHC, but continues to operate in this field in Norway, the Netherlands and Trinidad.

The company is also expected to compete for the long term search and rescue contract, which is due to be announced in 2015 for a 2017 start.

● Sikorsky Aircraft completed the delivery of six S-76C++ to Angolan offshore operator Sonair Servicio Aereo at the end of January.

The order, announced in March 2011, saw three of the aircraft delivered in October/November last year. The final three handed over brings the Sonair fleet of S-76 helicopters to a total of 18 aircraft, including three dedicated to search and rescue operations.

● SP Luftbild, headquartered in Datterberg, Germany has secured a contract in the Netherlands to survey gas pipelines for Gasunie, which manages and maintains over 15,000km (9320 miles) of high pressure gas pipeline infrastructure in the Netherlands and northern Germany.

The company operates more than 30 helicopters in varied aerial roles including aerial photography, firefighting, powerline patrols and other contract missions as well as pipeline surveys. The mixed fleet includes Schweizer 300C and 333 helicopters as well as the Robinson R44 II and the larger Eurocopter AS350B and MD Helicopters MD500E.

The contract was previously held by Dutch operator, Helicon, based at Bergen op Zoom and flying R44 helicopters.

● The Bond Aviation Group has signed orders and options for 16 Sikorsky S-92 helicopters as part of the company's expansion plans in Europe, the Far East and Australasia, where it already has a foothold through its interests in Australian Helicopters.

The decision to introduce the S-92 to the Bond fleet follows commitments from Sikorsky to improve performance and capability parameters to meet future requirements, including increasing the useful load and introducing an auto-approach approval for offshore platforms. This latter capability is currently awaiting clearance and is expected to be available on production aircraft by the late summer.

Bond anticipates taking delivery of its first S-92 in mid-2013 for service in the North Sea and to receive a further four/five aircraft annually over the next four years.

Sikorsky also signed orders for an additional four S-92 helicopters in mid February including three with the Milestone Aviation Finance Group for delivery in the second half of this year and early 2013 to customer Lider Taxi Aereo in Brazil and one for the South Korean Coast Guard. The latter is due for delivery in late 2013 and is likely to be followed by a further three examples in due course.

Regional News

- ASIA PACIFIC REPORT

● Enstrom Helicopters has signed a follow-on-contract with its Japanese representative, Aero Facility Co., to provide 28 TH-480B turbine-engined training aircraft for the Japanese Ground Self-Defence Force (JGSDF).

The order follows a two year evaluation of the TH-480B by the JGSDF in the training role to replace the ageing Kawasaki-Hughes OH-6 at the Akeno Flight School. 45 OH-6 are employed in this role and Enstrom anticipates providing a second batch of TH-480Bs to succeed all of the OH-6 in due course. Meanwhile the company will deliver eight aircraft this year, followed by ten in 2013 and ten in 2014.

Enstrom is also currently competing in the Ukraine for an order to supply up to 24 helicopters for Border Guard operations, with a decision expected later this year.

● The Beijing Municipal Public Security Bureau in China has ordered two AW139 helicopters from AgustaWestland for law enforcement, firefighting and rescue operations in and around the Beijing area. The Bureau already operates an AW109E Power and two locally assembled CA109 Power light twin helicopters on similar missions.

The AW139 sale takes orders for this aircraft close to 620 worldwide, with over 450 already in service. AgustaWestland claims it is now the best selling medium twin, with almost 170 customers from over 50 countries having selected the type for their operations.

● Sikorsky Aircraft is currently touring south-east Asia with its rescue-configured utility S-92 helicopter, with the aircraft visiting Singapore and Malaysia in February. The helicopter, the 146th production S-92, is also visiting Brunei, Thailand and Hong Kong before travelling to India for the next stage of its sales tour.

A total of 151 S-92s were in service by early December, with more than 365,000 flight hours accumulated since the first delivery in 2004. Recent deliveries and production have included three aircraft for Bristow Helicopters Norway and two for Bristow's US offshore operations (c/ns 155 and 157), one for Lider Taxi Aereo, two for Petroleum Helicopters and two for CHC Scotia. One of the latter is the first for the Irish Coast Guard contract.

● Industry sources claim Eurocopter has challenged the right of its Chinese partner, AVIC II, to market the W11 helicopter in overseas markets, claiming the design is based on the AS350B. Instead the two companies have agreed new licence sales covering the W11 and new variants of the Z-9 Dauphin.

Meanwhile AVIC has officially unveiled the new Z-19 attack helicopter, developed from the Z-9W armed variant. An in-service date for the Z-19 is still unclear but could be within the next two-three years.

● Russian Helicopters have opened an office in Hanoi, Vietnam to promote new sales in the region and to establish an after sales maintenance and spares support service.

Over 300 Mil and Kamov helicopters are currently operated in south east Asia and Australia, with the fleet in Vietnam numbering over 60 aircraft. This includes 90 percent of the Vietnamese military helicopter fleet and about 50 percent of the current civil inventory.

● Proposals to assemble an upgraded Mil Mi-2A in China have been dismissed by Russian Helicopters chief executive director Dimitry Petrov, telling Helicopter INTERNATIONAL that it appears to be a plan put forward by a small private company acting without authority from the design bureau or the original manufacturer.



Above: PZL Swidnik has delivered the first four of eight W3 variant Sokol helicopters, ordered by the Philippines Air Force for a combat utility role. The aircraft were airfreighted from Jasionaka Airport in Poland to Manila aboard an Antonov An-124 transport on 13-14 February.

A contract for acquisition of the twin-engined 6400kg (14,110lb) class Sokol plus training and support was signed in 2010, with delivery of all eight expected to be completed by the end of 2012.

Russian Helicopters own the rights to the Mi-2 design and production was licenced to PZL Swidnik in Poland. Rostvertol later developed the Mi-2A in 2004, re-engining the aircraft with the uprated 450shp Progress AI-250 turboshaft engine and installing new composite main and tail rotor blades, as well as a new avionic package. PZL Swidnik also has an agreement to upgrade the aircraft to a Mi-2A standard through conversions of existing airframes.

The new Chinese factory reportedly represents an investment of around \$224 million and is expected to become operational in July 2012, eventually building up to production of 100 helicopters per year and also providing maintenance repair facilities. Production of the original Mi-2 ceased some time ago, but a large fleet still exists in Russia and the Commonwealth of Independent States and it is believed that this is the likely source of airframes being explored by the private Russian company with its Chinese partner, The Xi-Ao Aeroplane Manufacturing Co. in Hubei Province.

Nevertheless Russian Helicopters believes any attempt to re-manufacture and upgrade existing Mi-2s would be illegal and the company would likely take action to stop such a project going ahead.



Below: Enstrom has completed the delivery of 16 480B helicopters to the Royal Thai Army.





Regional News

- NORTH AMERICA

- Coastal Helicopters in Juneau, Alaska has elected to re-engine its Eurocopter AS350B-SD2 fleet, replacing the Honeywell LTS101-700D-2 powerplants with the Turbomeca Arriel 1D1 turboshaft. Coastal converted five AS350B2 to SD2 configuration in 2005.

The decision to reverse the retrofit follows increased confidence in Turbomeca support and an increase in the time-between-overhaul of the Arriel 1D1 engine to 3,600 hours. Coastal is also part of a larger group which operates a number of Arriel-powered AS350 helicopters and the re-engineing will allow for more effective staff sharing and training, as well as simplifying maintenance and spares inventories.

Certified in 1988, the Arriel 1D1 has logged over 5 million flight hours to date and is operated by 466 customers in 57 countries worldwide.

- Great Slave Helicopters in Canada has announced the purchase of Northern Air Support (NAS), a helicopter charter company based in British Columbia and specialising in support of mining, forestry and seismic exploration from bases in Kelowna and over the border at Rocky Mountain House, Alberta.

NAS operates a mixed fleet, including Bell 407 and Eurocopter AS350B2 helicopters, and the intention is for the existing management team to remain in post and for the company to continue operating under the NAS title. However the operation is expected to benefit from being part of a larger organisation, with a more diverse fleet mix and international business. Great Slave Helicopters has also purchased a Chilean helicopter company, Servicios Aereos Helicopteros (SAH), in a business expansion programme that will benefit from counter seasonal opportunities to maximise fleet utilisation.

SAH was founded in 2002 and operates a fleet of up to 10 intermediate and medium helicopters in the mining, power construction and forestry sectors of the Chilean economy. The company has two main operating bases in north central and southern Chile, but also works in Argentina and Colombia.

Great Slave Helicopters carries out similar sector operations in Canada and is part of the Discovery Air Group, which already enjoys some contract work in South America. Bringing together the two companies is expected to help drive additional growth on the continent.

- Eagle Helicopters, based in Calgary, Canada has completed a comprehensive overhaul and upgrade on two Bell 412EP helicopters owned and operated by the Troll Remote Logistics Helicopter Division. The division specialises in providing support for government and resource companies in Australia and East Timor as well as in other areas of the world.

The modifications to the aircraft have included certified night vision goggle upgrades by sub-contractor Aero-Dynamix of Euless, Texas encompassing internal night vision avionics modifications, edge lit panels, overlays and all other aircraft illuminated components. These provide a cockpit optimised for both night vision and daylight readability performance.

- Canadian operator Custom Helicopters Ltd., which provides services in Manitoba and Nunavut, is to be purchased by Exchange Income Corporation in a deal valued at C\$29 million. The acquisition will be paid for through a combination of cash and common shares.

Custom Helicopters, founded in 1977 by president Jim Hawes and privately owned, has a fleet of 24 helicopters including Bell 205A1, 206B Jet Rangers and 206L Long Rangers with operating bases in Winnipeg, Thompson, Gilliam and Garden Hill in Manitoba and Rankin Inlet in Nunavut. The company specialises in long and short term contracts with government agencies, utilities, mining companies and First Nations groups in the region.

The purchase by Exchange Income Corporation is expected to bring new investment into the business, as well as operational synergies with other aviation companies in the Corporation's portfolio and its strong relationships with the northern communities. Custom Helicopters senior management will meanwhile be retained under long-term service contracts.

- Able Aerospace Services held a ground breaking ceremony at the Phoenix-Mesa Gateway Airport in Arizona on 8 February to launch construction of new, expanded company headquarters.

Later this year the company will move its 320 plus employees and equipment from the current cramped facilities in Phoenix into a 17744.480 sqm (191,000 sq.ft) plant on a 13 acre industrial estate at the airport. The new location and purpose-built hangar are designed for customer convenience and will offer enhanced maintenance, repair and overhaul facilities for both rotary and fixed-wing customers.

Able claims to be the largest helicopter dynamic component repair facility in the world, offering services for a number of helicopter fleets engaged in offshore, law enforcement, air medical and other mission profiles.

- Proposals for helicopter noise restrictions through the regulation of helicopter routes over Long Island, New York have been dropped from a US Federal Aviation Administration Reauthorisation Bill by House and Senate transportation lawmakers. The amendments had been introduced by a New York Democratic Senator.

The rejection puts in doubt similar legislation proposals being put forward in anticipation of the amendment becoming law and ensures that noise complaints alone cannot be used as justification for helicopter restrictions in the United States. It also ensures that safe helicopter routes and operations are not threatened by ill-conceived proposals.

A number of helicopter bodies had campaigned against the amendment, including the Helicopter Association International and the Eastern Region Helicopter Council.

- Northstar Aerospace, headquartered in Chicago, was facing Chapter 11 procedures at the end of January, after failing to persuade major customers to amend manufacturing contracts in the company's financial favour. If it is unable to agree additional credit with its lenders, the company says it will be unable to maintain its ongoing operations.

Northstar Aerospace is an important manufacturer of rotary wing flight critical components, including gears and transmissions, accessory gearbox assemblies, drive systems and other machined and fabricated parts. It also carries out the maintenance, repair and overhaul of components and transmissions. Major customers including Boeing, Sikorsky and the US Army, for whom the company manufactures CH-47 Chinook transmissions, parts and assemblies, and gears for the H-60 Black Hawk/Seahawk family. The company also provides rotor head and dynamic components for AgustaWestland, Bell Helicopters and Kaman Aerospace, manufactured at its Milton facility in Ontario, Canada.

Shares in the company plunged significantly on publication of the problem on 30 January having already lost half their value over the preceding six months, and recovered only slightly over the following days.

- In a case filed on the 15th December, Vector Aerospace is suing Bell Helicopter in the Alabama courts, claiming the manufacturer is using anti-competitive methods to block Vector from providing maintenance, repair and overhaul services for Bell helicopters in Alabama and north west Florida. Vector was purchased last year by Bell competitor, Eurocopter.

Vector claims that Bell is attempting to take work for its own repair facilities in the region by blocking a decades-long pattern and practice of certifying Vector as qualified to repair Bell helicopters at its Andalusia facility. The company claims this has already jeopardised several Vector contracts and is likely to cost jobs in the near term as well as threatening the long term viability of the Andalusia business.

According to Vector, Bell's conduct has "already caused substantial harm and if allowed to continue would also eliminate substantially all competition for the sale of maintenance, repair and overhaul services for Bell helicopters in the relevant geographical area".

Accident Spot

August

- 1 **Texas Helicopter M74A N51857** of Scotts Helicopter Service substantially damaged near Joice, Iowa, when aircraft struck unmarked wire whilst crop spraying. Helicopter impacted the field, separating main rotor blades and then cartwheeled before coming to a stop.
- 1 **Bell 206L4 N484AE** of Air Evac damaged in wire strike during takeoff from large field with accident victim aboard. Aircraft suffered only minor damage to windscreen and landed back safely.
- 2 **Bell 206B III PT-HCZ** of AVE Servicos Aeroeos damaged in hard landing at Belo Horizonte following loss of power whilst landing at construction site.
- 2 **Mil Mi-17 H610** of Angolan National Air Force written off at Malanje when it crashed during takeoff in adverse weather and strong winds. 1 fatal.
- 2 **Bell 47G-2 N4771N** of Scotts Helicopters Service substantially damaged during spraying mission near Charles City, Iowa after pilot was distracted after landing and forgot to refuel. Aircraft suffered loss of power during next spray run and landed heavily in autorotation, partially separating tailboom and bending landing gear skids.
- 3 **Bell 412 PK-FUG** of Nyaman Air destroyed when it impacted terrain on Mount Dua Saudara en route to Gosowong on a mineral company charter. 10 fatal.
- 3 **Robinson R44 II ZS-HTY** of Holographix Properties substantially damaged during photo shoot at Cape Town University Campus, Western Cape when it crashed on road in University grounds, rolling onto port side with main rotor, left skid, tailboom and other damage.
- 5 **Bell 407 C-FNAK** of Northern Air Support destroyed by fire at Hackett River, Nunavut in northern Canada following emergency landing after chip-light warning and uncontained engine failure.
- 5 **Eurocopter AS350B3 I-AMVZ** of Elitrentino written off after rotor blades apparently struck rock, whilst hovering during avalanche-prevention mission and fell to ground before catching fire. 1 fatal.
- 6 **Boeing CH-47D 89-00175** of 24th STC US Army destroyed in crash in Tanji Valley, Wardik province, Afghanistan during night-time special forces mission when it struck by rocket propelled grenade shortly after takeoff. 38 fatal
- 6 **Robinson R22** of Lin Tai Chaun substantially damaged in landing in Chai-I County, Taiwan when it overturned into field after touching down on adjacent dirt road.
- 6 **Hyde Helicycle N128BH** of W.R.Hyde substantially damaged at Mentone Airport, Indiana following loss of engine power at 30m (100ft) on approach. Helicopter landed hard in autorotation breaking landing skid, main and tail rotor blades and tailboom.
- 6 **Rotorway Exec 162F Ni62CT** of C.Tronaas substantially damaged in autorotation landing 4.8km (3 miles) from Chino Airport, California after engine failed at 152m (500ft). Helicopter touched down with forward movement in field and landing skids dug into terrain, causing aircraft to nose over before rolling onto left side with severed tailboom and main rotor damage.
- 6 **Eurocopter AS350NB3 GN-928** of Argentine Gendarmeria substantially damaged in forced landing near Los Pirpintos after tail rotor struck by gunfire from drug-running Cessna 210 during interception.
- 6 **Boeing CH-47** of US Army damaged during precautionary landing in Khost Province, Afghanistan.
- 8 **Boeing CH-47D** damaged in hard landing in Zarmat, Paktia province, Afghanistan.
- 8 **MBB Bo105LSA-3 P2-RUH** of Manolos Aviation destroyed in crash in mountainous terrain near Mumen, Papua New Guinea after being unable to land at original destination due to bad weather. 3 fatal.
- 8 **Robinson R22B N8332T** of Inland Helicopters substantially damaged during hover practice near Deer Park, Washington when pilot lost control and aircraft landed heavily, spreading skids and wrinkling firewall and fuselage.
- 9 **Boeing AH-6M** of 1-160th Avn US Army substantially damaged at Fort Benning, Georgia when it crashed on live fire range during training exercise. 2 fatal.
- 10 **Bell 206B-3 1632** of Mexican Air Force written off near Zoh Laguna, Calakmul municipality following engine failure on takeoff after maintenance repairs. Helicopter came down from height of 60m (200ft) and tail rotor struck building before aircraft fell into ditch on port side.
- 11 **Eurocopter AS350B2 C-FWCH** of West Coast Helicopters substantially damaged at Bella Coola, British Columbia when it rolled over during a hydraulics system check.
- 11 **Robinson R22 N62JF** of Airtrade Aviation substantially damaged in forced landing near Titusville, Florida after co-pilot pulled mixture control in error instead of carburettor heat during ferry flight. Pilot entered autorotation at 122m (400ft) whilst co-pilot attempted to restart engine but helicopter struck trees and fence in emergency landing.
- 15 **Bell 206L3 SE-HVI** of AB Friskflyg substantially damaged near Aitik mine, Gallivare during external water-carrying mission when pilot lost control whilst hovering to refill bucket. Helicopter crash landed in lakeside bog and rolled onto starboard side.
- 15 **Sikorsky CH-53E 164777** of HMH-464 Sqdn. US Marine Corps damaged in tail strike whilst landing at forward operating area in Afghanistan.
- 17 **Eurocopter AS350B3 I-LASF** of Italian State Forestry Corps substantially damaged in emergency landing at Pizzo Corvo, Messina after losing power during firefighting sortie.
- 17 **AgustaWestland AW139 G-11011** of Beijing Police destroyed when it struck surface of water reservoir in northern Beijing following training mission in Miyun County. 4 fatal.
- 17 **Agusta-Bell 212 ARBV-0608** of Venezuelan Navy ditched in the Caribbean Sea near Boca Uchire whilst en route to Caracas. 8 fatal.
- 18 **Bell 206B II XC-BAN** of Gobierno del Estado de Sinaloa substantially damaged at Culiacan, Sinaloa whilst trying to rescue family trapped on a car in a river following bridge collapse. Helicopter went out of control and crashed into water. 3 fatal.
- 18 **Robinson R44** of MTA Service written off in landing accident 20km (1.2 miles) south of Sabetta in Yamal region, Russia.
- 18 **Bell AH-1** of Turkish Army substantially damaged during training mission when it crashed at Topsogut-Malatya. 1 fatal.
- 18 **Eurocopter AS355F-2 VH-NTV** of Australian Broadcasting Corp destroyed in post accident fire after colliding with terrain shortly after takeoff near Lake Eyre, South Australia. 3 fatal.
- 19 **AgustaWestland AW139 PR-SEK** of Senior Taxi Aereo crashed in Atlantic Ocean after loss of tail rotor blade following takeoff from oil rig P-65 offshore Brazil and sank in 100m (328ft) depth. 4 fatal.
- 20 **Aerospatiale SA342M** of Tunisian Air Force destroyed in crash at Bbayh near Libyan border following a technical failure whilst en route to Gabes Air Base. 2 fatal.
- 21 **Bell Soloy 47G-4 N948DS** of Double Springs LLC substantially damaged whilst spraying cantaloupe field near Los Banos, California when main rotor blades struck wooden power poles. Helicopter crashed upside down into field, damaging main rotor and fuselage.
- 21 **Schweizer 269C N7505B** of Helibatics LLC involved in fatality at airshow at Selfridge Air Base, Michigan when wing-walker transferring from Boeing Stearman biplane failed to grab skid of helicopter and fell 46m (150ft) to ground. 1 fatal.
- 22 **AgustaWestland Lynx Mk.90B S-249** of Esk 723 Royal Danish Air Force substantially damaged when it ditched alongside docked ocean patrol vessel Hvidbjornen at Gronnedal in Greenland following suspected mechanical failure.
- 23 **Aerospatiale SA315B EP-ALV** of Alborz Helicopter Services written off in crash near Ghir Karzin, Iran. 1 fatal.
- 24 **Eurocopter EC135T2 PH-ULP** of ANWB Medical Air Assistance damaged when Fenestron housing struck iron football goal whilst helicopter was landing in playground at Vlaardingen, Netherlands.
- 26 **Mil Mi-24** of 319 OVP BU Russian Air Force substantially damaged during training flight when pilot lost control and helicopter crashed near Cherrigovka air base. 1 fatal.
- 26 **Eurocopter AS350B2 C-FMNE** of Mustang Helicopters substantially damaged in hard landing near Coleman, Alberta following hydraulics problem.
- 26 **Robinson R44 N99FJ** of J.Meyer substantially damaged in incident at Batesville, Texas when pilot failed to remove clamp securing left skid on towing trailer. During takeoff helicopter rolled to port, impacting ground and causing structural damage to fuselage and dynamic system.
- 26 **Eurocopter AS350B2 N352LN** of Air Methods Corporation substantially damaged when it crashed into a field near Mosby, Missouri whilst en route to refuel with a paramedic crew and patient aboard. The pilot had previously picked up the patient at Bethany Harrison County Hospital for a transfer to Liberty Hospital but realised en route that he needed to divert to Mosby for fuel. There was no post-crash fire. 4 fatal
- 27 **Schweizer 269C N2093U** of Bristow Academy substantially damaged after landing in clearing to reset altimeter to zero. On takeoff pilot suspected engine exhaust had set long grass on fire and attempted to maneuver out of the way but carburettor-equipped engine lost power and helicopter landed back in the fire, causing substantial thermal damage forward of the tailboom.

- 27 Robinson R44 C-GEBY** of 9049-5854 Quebec Inc. written off in crash near St. Ferdinand, Quebec when it impacted terrain in a remote wooded area shortly after takeoff. 4 fatal.
- 27 Bell 206B II N83AL** of Rotorcraft Leasing suffered minor damage after emergency landing on water in Gulf of Mexico 16km (10 miles) offshore Sabine Pass, Texas following technical problem.
- 28 Hughes 369D VJ-HEL** of Vanuatau Helicopters substantially damaged near Malekula, Vanuatau when long-line fouled rotor system during external load operations and helicopter collided with ground. 1 fatal.
- 29 Mil Mi-8MTV RA-25560** of Aviapankh substantially damaged in crash-landing on mountain ridge near Arkhyz in Karachaevo-Cherkessia, Russia. Helicopter was en route to Arkhyz with official delegation aboard to launch major resort construction project.
- 29 Enstrom F-28F N228F** of Enstrom Helicopters substantially damaged at Menominee, Michigan when test pilot lost control whilst trying to measure collective stick forces and helicopter landed hard on ramp, damaging tail rotor blades and shearing tail drive shaft.
- 30 Schweizer 269C OK-PIH** of Josef Hlavacek TTV written off in crash landing near Olomouc-Neredin airfield, Czech Republic following suspected fuel system malfunction.
- 30 Robinson R44II PP-CLE** of Seisa Clerman EMP Imobiliarios destroyed by fire when it crashed near Sao Sebastiao at 392m (1187ft) whilst en route to Angra dos Reis, Sao Paulo, Brazil in adverse weather and strong winds. 3 fatal.
- 30 Robinson R22B N169CW** of Bering Pacific Ranches substantially damaged following loss of engine power 96km (60 miles) southwest of Unalaska Airport, Alaska. Helicopter autorotated into shallow water, approx 46m (150ft) from shore line before rolling to starboard with damage to tail rotor drive system.

September

- 1 Bell UH-1H N205PJ** of PJ Helicopters substantially damaged in autorotational landing on uneven ground near Stockton, California after engine failed due to loss of oil whilst in flight. Helicopter rolled onto port side following touch down.
- 2 Eurocopter SA341H 12752** of Montenegro Air Force destroyed when it crashed into cliff on the Lustica peninsula during routine training flight. 3 fatal
- 3 Enstrom 280FX N280AD** of High Velocity Aviation substantially damaged in autorotational landing near Heber, Utah following engine failure during local tour flight. Helicopter touched down hard and rolled onto starboard side.
- 3 Robinson R44 VH-HCA** of Wieland Helicopter Co. substantially damaged in crash into scrubland near Plutonic Aerodrome, Western Australia during geological survey flight. 1 fatal.
- 4 Bell 205A1 N205WW** of Kern County Fire Dept. substantially damaged during fire-fighting operations near Tehachapi, California when engine lost power and helicopter autorotated onto uneven terrain, landing hard and collapsing skids and buckling tailboom.
- 6 Mil Mi-8** of Georgian Air Force substantially damaged when pilot lost control whilst attempting to land in strong, gusting winds in a mountainous area of the Khevsuretia District.
- 6 Bell OH-58** of US Army damaged in hard landing during training north of Fort Rucker.

- 8 Eurocopter AS350BA VH-RDU** of Heli Charters substantially damaged in crash in dense bush whilst supporting a communications tower maintenance task near Rockhampton, Queensland. 2 fatal.
- 10 Eurocopter AS350B2 D-HFAX** of FJS Helicopter Lufttransport substantially damaged during external load lift when it crashed onto factory roof near Hannover following loss of power due to fuel starvation.
- 10 Bell 412 HA-5113** of Indonesian Army crashed in jungle near Timika in mountain range in the Jayawajaya district. 5 fatal.
- 10 Robinson R44II PR-CEC** of Nat Aero Taxi written off when it struck wooded terrain during a night time aerial photography flight near Rio de Janeiro. 2 fatal.
- 13 Robinson R44 II RA-04205** Newscopter substantially damaged in arson attack at Elektrostal, Moscow.
- 13 Bell 230 ZS-HMP** of Pacific Coast Investments destroyed by post-impact fire after striking post in brownout whilst attempting to land near Groblersdal, South Africa.
- 14 Mil Mi-17-1V EP-617** of Peruvian Army damaged by rebel fire whilst attempting to land at Chorobamba to pick up troops. 2 fatal.
- 14 Eurocopter AS350B3 F-HFBI** of Mont Blanc Helicopters destroyed by fire after crashing near Vallorcine when tail rotor struck wires whilst landing at dam site. 4 fatal.
- 15 Bell 206B N3181J** of W.Doffing substantially damaged in autorotational landing on hilly terrain near Spicewood, Texas after pilot noticed low rotor rpm and suspected loss of power. Helicopter struck ground after maneuver to avoid powerlines and rolled onto starboard side, separating tail boom and bending main rotor blades.
- 15 Robinson R44 N828PM** of R.Myers substantially damaged whilst landing at remote hunting lodge near Ocate, New Mexico when pilot noted low rotor rpm and lost control as helicopter spun to left before impacting terrain, collapsing skids.
- 16 Eurocopter AS350B1 C-GJUP** of Quantum Helicopters written off after crashing near Coquihalla Mountain, British Columbia. 1 Fatal.
- 18 Robinson R44 Clipper II XA-UFE** of GPM Aeroservicio substantially damaged when it struck the surface of the Nichupte lagoon in Cancun and sank.
- 18 Bell 206B III D-HONY** of Rotorflug substantially damaged at EL Puerto de Santa Maria, Spain when it struck buildings whilst filming in city centre and fell into narrow street.
- 19 Bell AH-1W 161015** of HMLA T-303 US Marine Corps destroyed in crash and subsequent bush fire near Fallbrook, Camp Pendleton, California during training flight. 2 fatal.
- 19 Bell 412HP EC-JRY** of FAASA written off after crashing in mountainous terrain near Fuente de la Gitana, Spain en route to fire-fighting base. 3 fatal.
- 20 Eurocopter AS350B3 JA6522** of Shikuku Air Services destroyed by fire near Higashikagawa, Japan after crashing due to a wire strike.
- 22 Hughes 269C N1088Y** of Civic Helicopters substantially damaged during training flight near Romania, California when it landed hard following a loss of power during an autorotation demonstration, spreading skids and separating tail boom, as well as causing structural damage to the forward fuselage.

23 Robinson R44 N8324F of Logghe Stamping Co. destroyed in collision with trees and terrain near Curren, Michigan whilst en route to a hunting camp near Alpena. Helicopter wreckage spread over 152m (500ft) long debris path. 2 fatal.

23 Bell 206B3 N204PA of Pathfinder Aviation substantially damaged on the Harding Ice Field near Seward, Alaska when helicopter flew into white out conditions and touched the surface before coming to rest with tail rotor in the snow. Finding no damage helicopter was re-started and brought to a hover, when a tail rotor drive shaft coupling separated.

24 Robinson R22B N3070S of J.Hoeffler substantially damaged at Douglas, Wyoming when pilot lost control whilst hover taxiing downwind and helicopter spun left before impacting ground, damaging landing gear and wrinkling forward tail cone.

25 Nurtanio Bell 412SP PK-OVC of PT Airfast substantially damaged when it crashed in jungle whilst en route from Dodo Camp Airport with cargo for delivery to Lemurung Camp in West Nusa Tenggara, Indonesia. 2 fatal.

26 Eurocopter AS350BA N230CH of Coastal Helicopters substantially damaged after landing at a remote mountain site 35km (22miles) northwest of Juneau, Alaska when a gust of wind struck the helicopter whilst it was at flight idle and rolled it onto its port side.

26 Bell 206L4 PR-HLB of IBAMA substantially damaged when it force landed into street in Itaituba.

27 Bell47D1 N9158R of L.Haley substantially damaged whilst returning from check flight when it descended into trees during approach to land near Ahwahnee, California.

27 Robinson R44 NP82DH of Razor Blades Helicopters substantially damaged on takeoff when student pilot lost control and aircraft rolled onto starboard side, with damage to tail boom and main rotor blades

28 Robinson R44 D-HMOB substantially damaged on takeoff at Warren-Vienst, Neubrandenburg when it rolled onto starboard side, bending main rotor blades and partially detaching tail boom.

28 Bell AH-1W 165320 of HMLA-269 US Marine Corps destroyed in crash while supporting combat operations in Helmand Province, Afghanistan. 1 fatal.

29 Robinson R22B VH-RTB of Better Helicopters substantially damaged during mustering operations in Northern Territory when tail rotor struck tree and helicopter landed heavily 62km (38 miles) from Maringrida Airport.

30 Boeing CH-47 damaged by small arms fire during medevac mission in southern Afghanistan.

30 Bell 212 CC-CIS and EC-GIC of Inaer substantially damaged/written off following a collision whilst picking up water from reservoir for fire fighting near Bienservida, Spain. 1 fatal.

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Reports in Accident Spot are drawn from a number of sources, and the detail given may be provisional only, pending confirmation and official investigation. These factors should be taken into consideration when analysing the data provided.



Marketing Data

- CIVIL SALES

Region Type c/n Owner/Remarks

Australia

VH-HBA	Robinson R44 Raven II	13244	Heliflite
VH-HUP	Schweizer 269C1	0128	Heli Surveys
VH-ISL	Robinson R22 Beta II	4532	Heliflite
VH-KJI	Robinson R44	1558	Heliflite
VH-KCE	Aerospatiale AS350B	1713	Somerbrook P/L
VH-LWF	Bell 412EP	36572	Helicorp
VH-LWI	Bell 412EP	36573	Helicorp
VH-MJI	Bell 429	57043	Borg Fleet Management
VH-NPP	Bell 429	57047	Raytheon Australia
VH-NVH	MBB Bo105CBS-5	5-923	Surf Life Saving Queensland
VH-OAU	Robinson R22 Beta II	4545	Heliflite
VH-RBR	Robinson R22 Beta II	3522	Heliflite
VH-RCL	Robinson R44 Raven II	13246	Heliflite
VH-RIL	Robinson R22 II	4546	Heliflite
VH-UXU	Robinson R66	0084	Synergy
VH-TSC	Robinson R44	2165	Heliflite
VH-VMJ	Robinson R44	2166	Heliflite
VH-WEP	Robinson R22 Beta II	4544	Heliflite
VH-WhW	Aerospatiale AS350BA	2562	Katian Investments
VH-WKZ	Robinson R22 Beta II	4534	Heliflite
VH-YSR	Robinson R44	2163	Outback Helicopters
VH-YSY	Robinson R44	1801	Austek Communications
VH-ZLP	Robinson R22 Beta	3705	M.Doriche

Austria

OE-XFM	Schweizer 269C	51462	Rotor Sky Christian Gruber
OE-XXY	Robinson R44	0632	Startrade

Belgium

OO-NHV	Aerospatiale AS365N3	6510	Noordzee Helikopters Vlaanderen
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Canada

C-FEBF	Bell 206B	3379	E & B Helicopters
C-FGHT	Bell 407	53103	Great Slave Helicopters
C-FHED	Bell 407	53597	Great Slave Helicopters
C-FNRR	Bell 206B	379	Ridge Rotors
C-GBHH	Bell 212	30962	Great Slave Helicopters
C-GFCA	Robinson R44 Raven II	13219	LR Helicopters
C-GLVP	Hughes 269C	27-0580	Machinerie St-Pierre
C-GNYE	Robinson R44 Raven II	12902	LR Helicopters
C-GOCR	Bell 212	31199	Campbell Asphalt
C-GUJZ	Eurocopter EC120B	1002	West Coast Aircraft Sales
C-GVBD	Aerospatiale AS350BA	1631	9235-9538 Quebec
G-GYCH	Bell 206B	787	Hayduk Rentals

Finland

OH-HEG	Eurocopter EC120B	1394	Nordic Environmental Group
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France

F-GXJH	Bell 206L	45082	Heli SRL
F-HFAC	Robinson R44 Raven II	13244	SBD SAS
F-HJOF	Robinson R44 Raven II	13237	CCJ Aviation
F-HOUP	Aerospatiale AS350B3e	4767	JCE Helicopteres
F-HPSE	Robinson R44	2073	Aspiration Machines a Bois
F-HUMB	Eurocopter EC225LP	2821	Cie Nationale de Navigation
F-HUPM	Eurocopter EC225LP	2815	Cie Nationale de Navigation
F-HYPE	Eurocopter EC120B	1126	PMeyer

Germany

D-HALB	Robinson R44 Raven II	13194	Air Lloyd
D-HALZ	Robinson R44	2148	Air Lloyd

Great Britain

G-CGGD	Aerospatiale AS365N2	6435	Multiflight
G-CGZS	Sikorsky S-92A	920054	Bristow Helicopters
G-CHBJ	Westland Gazelle AH.1	A2702	MW Helicopters
G-CHBN	Westland Gazelle AH.1	A2703	MW Helicopters
G-CHBR	Westland Gazelle AH.1	A2704	MW Helicopters
G-HOLD	Robinson R44 Raven II	10773	Mignini & Petrini
G-HVLL	Robinson R44 Raven II	11308	Holbeck Ghyll Country House
G-KSIN	Eurocopter EC225LP	2822	CHC Scotia
G-KLJN	Robinson R44 Raven II	12508	Saxonair Charter
G-PERD	AgustaWestland AW139	41270	Bond Offshore Helicopters
G-PETO	Hughes 369HM	520214M	P.E. Tornberg
G-PUMR	Eurocopter EC225LP	2818	Bond Offshore Helicopters

Region Type c/n Owner/Remarks

G-TRAW	Agusta A109 Power Elite	11084	Castle Air
G-WPDA	Eurocopter EC135P1	0109	WPD Helicopter Unit
G-YRKS	Robinson R44 Raven	1388	Storetec Services

Hong Kong

HL9198	Aerospatiale AS350B2	2987	SN Air
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Iceland

TF-SYN	Aerospatiale AS332L1	2384	Icelandic Coast Guard
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Ireland

EI-ICG	Sikorsky S-92A	920150	CHC Ireland Ltd
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Italy

I-HFVG	Eurocopter EC135T2	1025	Elifruilia
I-LCCO	AgustaWestland AW109SP	22248	INAER Aviation Italia

Japan

JA31AR	AgustaWestland AW139	41275	Mitsui Bussan Aerospace
JA015W	Eurocopter EC145	4023	Kyushu Jidosha Lease
JA03FD	AgustaWestland AW139	41274	Mitsui Bussan Aerospace
JA119Z	Aerospatiale AS365N3	6939	Eurocopte
JA01KG	AgustaWestland AW109SP	22256	Kagoshima International Aviation
JA970A	AgustaWestland AW139	31362	Japanese Coast Guard

Netherlands

PH-EOR	Eurocopter EC155B	6557	Heli Holland Air Service
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New Zealand

ZK-HOT	Aerospatiale AS350B2	2653	Alpine Deer Group
ZK-HHS	Robinson R44 Astro	0805	Heliflite Pacific
ZK-HLL	Robinson R44 Raven II	13210	Heliops
ZK-HMU	Agusta-Bell AB206A	8127	H.F.T. Ltd
ZK-HNX	Aerospatiale AS350BA	1828	Helicopters NZ
ZK-IBC	Aerospatiale AS350BA	2562	Mount Hutt Helicopters
ZK-IBQ	Aerospatiale AS350BA	2050	B.J.Comerford
ZK-IRP	Bell 427	56078	Hawker Pacific
ZK-ISP	Robinson R44 Raven II	11696	Skysales Aviation

Norway

LN-OHO	CHR Safari 2	144	H Olsen
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South Africa

Z S-HHX	Sikorsky S-76C+	760543	Titan Helicopters
Z S-HIG	Robinson R44	2150	D.Knel
Z S-HTL	Aerospatiale AS350B3	4434	Geotech Aviation
Z S-HUT	Aerospatiale AS350B3	4534	Geotech Aviation
ZU-RHH	Aerospatiale SA342L	1787	Identity Signage

Spain

EC-LPK	AgustaWestland AW119 Koala	14716	FAASA
EC-LOB	AgustaWestland AW119 Koala	14529	FAASA

Sweden

SE-JPP	Bell 206B	2275	Tefo Teknik
SE-JVB	Agusta-Bell AB206B	8208	Statens Forsvarshistorika

Switzerland

HB-XZB	Agusta-Bell AB206B3	8735	Mountain Flyers 80 Ltd
HB-ZMY	Aerospatiale AS350B3	339	Heli Bernina
HB-ZMZ	AgustaWestland AW109E	11033	Swift Copters operator
HB-ZPM	Aerospatiale AS350BA	1833	Swift Copters operator
HB-ZRP	AgustaWestland AW109SP	22213	Schweizer Luftamulanz

Turkey

TC-HBR	Robinson R66	0113	Bereket Energy
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United States Extracts

N161LG	Aerospatiale AS350B2	4586	Sturder Fertilizer
N192A	Aerospatiale AS350B3	7184	Dept. of Homeland Security
N350ZR	Aerospatiale AS350B2	7260	Kenneth Lian Corp
N7UC	AgustaWestland AW109E	11088	TriState Care Flight
N808FG	AgustaWestland AW139	31383	ERA Helicopters
N124PT	Bell UH-1H	63-08817	Monte E. Schaper
N811SF	Bell UH-1H	64-13888	Helicopter Applications
N440HR	Bell 407	53740	Maritime Helicopters
N1387B	Bell 407	53838	Microseal
N224AM	Bell 407	54070	Air Methods
N408GM	Bell 407GX	54307	George. J. Mandes
N459XB	Bell 412EP	36586	Mitsui Bussan Corp
N42GH	Eurocopter EC120B	1093	Blue Helo
N120BA	Eurocopter EC120B	1121	Bell Aviation
N120JO	Eurocopter EC120B	1663	JO Health
N30RX	Eurocopter EC135P2+	1001	Reach Air Medical Services
N153DB	MBB Bo105M	5019	Michael D. Landa
N5405G	MBB BK117B-2	7179	CJ Systems
N90011	MDH MD900	900-00115	Hirecopter
N463ZC	Sikorsky S-61N	61721	Carson Helicopters



Marketing Data

- ON THE MARKET

- SEI Industries has signed an agreement with Absolute Fire Solutions (AFS) to purchase the latter's Fast Bucket product line. The deal will close on 1 March and will see SEI offering the Fast Bucket, together with the Fast Fill, Fast Foam and the Fast Cockpit Controller accessories.

SEI already markets its own Bambi Bucket line for fire-fighting but will now also carry a complete inventory of Fast Buckets to meet new orders, as well as parts and service. The company is currently working with AFS to transition the Fast Bucket product line to SEI's manufacturing plant in Delta, British Columbia, Canada.



- Helijet in Vancouver, Canada has installed the Max-Vis EVS-1500 enhanced vision system on three Sikorsky S-76 helicopters contracted for Emergency Medical Service (EMS) missions with the British Columbia government.

EVS-1500 uses infrared sensors, signal processing and a cockpit display to show

terrain and other obstacles through poor visibility conditions including haze, light fog and light rain, and darkness. Installation on the S-76 is allowing EMS crews to see obstacles at night and also fog, rain and cloud formations during the day, enabling them to avoid inadvertent IMC conditions and pick safer routes.

- Van Horn Aviation (VHA) from Tempe, Arizona displayed a prototype of its new Bell 212/412 tail rotor blade at Heli Expo, designed by the company's engineers in collaboration with Bell Helicopter representatives.

The new blade builds on the success of the VHA tail blade developed previously for the Bell 206B/L family, using the same NASA-designed laminar flow airfoil and a similar swept tip for greater efficiency and reduced noise. The new blade features a carbon fibre structure and an electroformed nickel abrasion strip, which should double the life and eliminate inspections required on the current blade.

VHA expects the new blade to increase tail rotor authority whilst reducing pilot workload and, having completed the detail design and spar manufacturing development tests, is now working to develop the bird strike tests as required by FAR Part 29.631.

- Rolls-Royce is to provide a Value Improvement Programme (VIP) upgrade for the Model 250-C47 class engines powering the Bell 407 and MD Helicopters MD600N helicopters, using technology previously developed for the new RR300 and RR500 powerplants. These include modifications to the engine impeller and diffuser and the first-stage turbine nozzle.

During tests the upgrade reduced fuel burn

by two percent whilst increasing hot/high engine performance by five percent, with no increase in engine weight. The upgrade was certified at the end of last year and is now available to operators as a retrofit kit, for installation at any Rolls-Royce authorised network location.

The company has already identified several customers looking to install the VIP upgrade in the coming year.

- CAE has recently secured new contracts in Canada, Europe and Asia to provide upgrades, support and the manufacturing for full-flight helicopter simulators.

In Canada the company will upgrade the computer systems and instructor operator station on the Bell CH-146 helicopter simulator at the Gagetown Canadian Forces Base, whilst in Europe it will design, manufacture and deliver a CAE 3000 Series Full-Flight simulator to an undisclosed customer.

CAE has also signed a long term contract with Professional Way Sdn Bhd in Malaysia to provide maintenance and life cycle support services for the CAE 3000 Series AgustaWestland AW139 Full-Flight simulator, currently being developed by CAE for installation in Professional Way's new training centre near Kuala Lumpur.

- Scott's-Bell 47 Inc. has confirmed a contract with International Aviation Composites (IAC) Ltd. in Fort Worth, Texas to develop new composite main rotor blades for the Model 47 helicopter.

The new blade will be designed to retain the aircraft's benign autorotation characteristics, whilst using a new airfoil to enhance hover performance and reduce fuel burn. The development plan also includes fatigue and damage tolerance testing to provide a service life increase over the current metal blades. IAC Ltd. is well known for its main and tail rotor repair facility and is currently developing new blade designs for several helicopter models. The new Model 47 blades are expected to be available to customers by late 2013.

Scotts-Bell 47 has also signed an agreement with Oregon Aero Inc. for development of specialised seating and custom interior upgrades. Oregon Aero will adapt its VK Smart Cushion seating system for the Model 47, designed to interface with other cockpit requirements and to shift the hips, pelvis and back into the proper sitting position. The system also mitigates vibration, reduces fatigue and prevents uncomfortable hot spots.

In addition to the new seating, Oregon Aero will develop improved custom interiors including new upholstery, window and glare shield replacements, and other approved modifications.

- Tanis Aircraft Products in Greenland, Minnesota has entered into a partnership with Bruce's Custom Covers in Sunnyvale, California to manufacture Tanis brand insulated covers for the protection of fixed and rotary wing aircraft in harsh and demanding winter conditions.

Tanis is well known in the aviation industry for its aircraft pre-heat systems, and combining this recommended best practice in cold climates with insulated or non-insulated aircraft covers is seen as enhancing operational safety and reducing costs and downtime. With over 8,500 patterns, Bruce's Custom Covers already offers a comprehensive line in aircraft covers and, by combining forces, the two companies believe they can offer a more cost-effective solution for increasing aircraft utility and longevity in cold climates.



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Tail Rotors

- DATELINE: 29th FEBRUARY 2012

● Russian Helicopters is to receive some \$164 million to develop new vertical take off unmanned air vehicles, including the Kamov Ka-135 and Ka-175 coaxial contra-rotating helicopters and the larger 3,000kg (6614lb) Albatros.

● An early production Westland Lynx helicopter is to be retained in flying condition by the Royal Navy Historic Flight, based at RNAS Yeovilton in Somerset.

The aircraft, XZ233, was originally the seventh Naval Lynx HAS Mk.2 off the line, delivered to the Intensive Flying Trials Unit at Yeovilton in February 1977 and subsequently seeing service with a number of Ship's Flights. Upgraded to HAS Mk.3 in 1986, the helicopter continued in service with HMS Endurance Flight for Polar missions support until the 1990s, when it was re-allocated to a training role.

Earlier this year it was repainted in its original colours for the Lynx 40th Anniversary celebrations before going into storage.

● Bell Helicopter recorded an operating profit of \$521 million in 2011, a 22 percent increase over the previous year. Revenue increased by nine percent to \$3.53 billion. Quarter 4 revenue growth was four percent to \$1.01 billion, with a 21 percent increase in operating profit to \$167 million.

The company is forecasting further growth in 2012, with revenue expected to increase to \$4.2 billion at a profit margin of at least 13 percent. Bell recently received confirmation of an 80 percent 12 month tax abatement and a 19 year Economic Development Programme Grant from the Fort Worth City Council, to support the company's restructuring programme, revealed last November.

● Sikorsky Aircraft financial results for 2011 showed a 17.3 percent growth in operating profit to \$840 million, with revenue increasing ten percent to \$7.35 billion. Officials predict further growth in operating profit this year of between \$25-50 million but a slight decline in revenue.

The company delivered a total of 235 military and 39 commercial helicopters last year, up from a total of 219 helicopters in 2010.

● A new global helicopter sales and acquisition service provider has been launched by Heli Asset, a company set up to deliver a high level brokerage service to helicopter operators and lessors. With offices in Europe and the USA and through affiliates worldwide, the company deals in all Western-built civil helicopters, used or new and configured for all missions.



Above: The EC145T2 prototype has recently completed cold weather trials in Canada as part of the certification process.

● Certification of the Sikorsky 434 is now expected this quarter after previously being promised by the end of 2011. The upgraded variant of the Schweizer 333 uses technology developed for the Northrop Grumman MQ-8 Fire Scout, including a four-blade main rotor system to offer 136kg (333lb) of additional payload and improved performance.

A military version of the Model 434 is already in service in Saudi Arabia but commercial sales have been delayed pending certification. Production will take place at the Sikorsky Aircraft Coatesville facility in Philadelphia, and is expected to succeed the Model 333 which has sold relatively slowly in recent years.

● Eurocopter is now offering an upgraded version of the short cabin AS332C1e helicopter for specialist heavy lift and logging operations, with new glass cockpit avionics and an autopilot system based on that installed in the EC225.

The new AS332C1e seats 17 passengers in the 72cm (28in) shorter cabin and has a maximum take off weight of 8600kg (18960lb). The maximum sling load is 4499kg (9920lb).

● Helibras in Brazil has been identified by Eurocopter as a future design and production centre for a national helicopter manufacturer, capable of developing and building rotary-wing aircraft for export from 2025.

Eurocopter is already investing in the affiliate company to develop new facilities at Itajuba for Brazilian production of EC725 helicopters, and Helibras has long been an assembly centre for the AS350B helicopter. The company is now expected to become a Eurocopter centre for South America production and sales.


● Heli-Charter in Manston Kent are offering the UK air show circuit the only Bell 222 helicopter flying in the cult 80's TV series

"Airwolf" livery. "Airwolf" was an attack helicopter operated by the "firm" to hunt down and destroy the baddies, usually in a Hughes 500, and was portrayed by a modified Model 222.

Heli-Charter took the decision in 2011 to brand their 222 into the Airwolf scheme and offer to the air show circuit and the general public something a little different and certainly exciting that they will not have seen in the UK before. The helicopter is flown by Captain Gary Slater, who holds a Display Approval for the 222. The routine is geared around the TV show typical chase routine with plenty of its unique rotor thud and presence. The display lasts for approximately 8 minutes but can be tailored to all tastes.

In addition to the display Heli-Charter also offer their "Santini Air" Jet Ranger to carry out pleasure flights for the public. The Santini Jet Ranger was in the series and was the cover front for the Airwolf operation.

● Eurocopter carried out EC145T2 cold weather trials in Canada at the end of January, basing the prototype D-HADJ at Inuvik in the North West Territories with a test crew. Local temperatures were well below -40oC during the trials, which were also subjected to winds gushing up to 100km/hr (62mph).

Despite the more severe winds delaying the flight testing for three days, the team successfully completed the trials including high altitude flying to 6100m (20013ft), general handling qualities and engine starts. The company is now analysing the data from the 400 onboard sensors as part of the certification submission process. 



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World Military Helicopter Inventory 2012

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The World Military Helicopter Inventory is compiled annually from a variety of independent sources and personal observation. Updates and corrections are welcome and personal confidentiality guaranteed. E-mail changes should be forwarded to office@helicopterinternational.info

AFGHANISTAN

Army

2 x Mil Mi-8
44 (+12) x Mi-17
9 (+2 stored) x Mi-24/25

ALBANIA

Air Force

3 x Aerospatiale AS350B
4 x SA316B
3 x Agusta A109C
6 x Agusta-Bell AB205A
7 x AB206C
2 (+3) x Eurocopter AS532AL
3 x Harbin Z-5 (+5 stored)
10 x MBB Bo105 E4
1 x Mil Mi-8T

ALGERIA

Air Force

4 x Aerospatiale SA330
4 (+2) x AgustaWestland AW101
4 x Super Lynx
5 x Bell 206L
3 x 412 EP
9 x AS355N
6 x Hughes 269A
3 x Kamov Ka-27
20 x Mil Mi-2
4 x Mi-6
12 x Mi-8
47 x Mi-17
42 x Mi-171
33 x Mi-24 Mk.III

ANGOLA

Air Force

1 x Aerospatiale SA315B
15 x SA316B
6 x SA342M

ANGOLA continued

3 x AS365C
8 x AS565UA
8 x Bell 212
28 x IAR 316B
10 x Mil Mi-8
7 x Mi-17
24 x Mi-25
8 x Mi-35

ARGENTINA

Air Force

4 x Aerospatiale SA315B
8 (+12) x Bell UH-1H
7 x 212
1 x 412 (stored)
2 x Boeing Vertol CH-47C (stored)
1 (+9) x Helibras HB350B
3 x MDH MD500D
7 x 500M
1 x 530F
2(+3) x Mil Mi-171
1 x Sikorsky S-61R (stored)
2 x S-76B

Army

5 x Aerospatiale SA315B
1 x SA330L
3 x AS532C-3
5 x Agusta A109A
20 x Bell UH-1H
9 (+5) x Huey II
2 (+3) x OH-58A
2 x 212
8 x Hiller UH-12ET

Navy

2 x Agusta-Sikorsky ASH-3H
4 x Eurocopter AS555N
4 x Helibras HB350B
4 x Sikorsky SH-3H

Coast Guard

1 x Aerospatiale AS332C
3 x AS565MA
2 x MDH MD500M
1 x Schweizer TH-300C

ARMENIA

Air Force

3 x Mil Mi-2 (+3 stored)
6 x Mi-8
2 x Mi-9
12 x Mi-24P/K/R

AUSTRALIA

Army

41 x Bell 206B
7 x Boeing Vertol CH-47D
(+7) x CH-47F
22 x Eurocopter Tiger
17 (+23) x NH Industries MRH-90
34 x Sikorsky S-70A-9

Navy

11 x Aerospatiale AS350B (+12 stored)
3 x Bell 429
2 (+4) x NH Industries MRH-90
16 x Sikorsky S-70B-2
(+24) x MH-60R

AUSTRIA

Air Force

20 x Aerospatiale SA316B (+8 stored)
23 x Agusta-Bell AB212
11 x Bell OH-58
9 x Sikorsky S-70A

AZERBAIJAN

Air Force

7 x Mil Mi-2
13 x Mi-8
15 x Mi-24
4 (+20) x Mi-35M

BAHAMAS

Defence Force

No helicopters currently on strength

BAHRAIN

Air Force

12 x Agusta-Bell AB212
4 x Bell 412SP
(+6) x 412 HP
12 (+14) x AH-1E
2 x TAH-1P
1 x 430
4 x MBB Bo105C
2 x Sikorsky S-70A
2 (+7) x UH-60M
1 x S-92

BAHRAIN continued

Navy

2 x MBB Bo105 CBS-4

Public Security

1 x Bell 407

2 x 412

BANGLADESH

Air Force

4 x Bell 206L

12 x 212

18 x Mil Mi-17/171

2 x Mi-17-IV

Navy

2 x AgustaWestland AW109

BARBADOS

Defence Force

No helicopters currently on strength

BELARUS

Army Aviation

11 x Mil Mi-6 (stored)

105 x Mi-8

1 x Mi-9

1 x Mi-172

70 x Mi-24P/V/R

10 x Mi-26 (+4 stored)

BELGIUM

Air Force

4 x Westland Sea King Mk.48

10 x Agusta A109HA

18 x A109HO

(+8) x NH Industries NH90

Navy

3 x Aerospatiale SA316B

BELIZE

Defence Force

1 x Bell UH-1H

BENIN

Air Force

1 x Aerospatiale SE313B

2 x AS555

4 x Agusta A109BA

BHUTAN

Air Force

2 x Mil Mi-8

BOLIVIA

Air Force

3 x Aerospatiale SA315B

1 x Aerospatiale SA316B

1 x AS532AC

18 x Bell UH-1H

2 x Eurocopter AS350B3

(+6) x Harbin Z9

5 x Helibras HB315B

(+ 5) Mil Mi-17

6 x Robinson R44

Army

1 x Helibras HB315B

BOSNIA & HERZEGOVINA

Air Force

6 x Aerospatiale SA341H/L

8 x Bell UH-1H (+5 stored)

2 x UH-1V

4 x Mil Mi-8T/MTV

1 x Mi-17

5 x Mi-24 (stored)

1 x Mi-34 (stored)

BOTSWANA

Defence Force

11 x Aerospatiale AS350B/BA/B3

1 x Agusta-Bell AB412

5 x Bell 412SP

1 x 412EP

1 x Eurocopter AS555

BRAZIL

Air Force

2 x Aerospatiale AS332L

8 x AS332M

20 x Bell 47G

33 x UH-1H

11 x 206B

2 x Eurocopter EC135

1 (+ 17) x Eurocopter EC725

27 x Helibras HB350B

8 x HB355B

4 x Hughes OH-6A

6 x MDH MD500D

6 (+6) x Mil Mi-35M (AH-2)

8 (+ 19) x Sikorsky UH-60L

Army

34 x Aerospatiale AS565K

8 x AS532UE

20 x AS550A2

1 (+15) x Eurocopter EC725

16 x Helibras HB350L

4 (+6) x Sikorsky S-70A-36

Navy

5 x Aerospatiale AS332F1

2 x AS532F1

4 x Agusta-Sikorsky SH-3H

15 x Bell 206B

1 (+15) x Eurocopter EC725

10 x Helibras HB350B

8 x HB355F

4 x Sikorsky SH-3A/SH-3B

(+4) x S-70B (MH-16)

13 x Westland Lynx Mk. 21A

BRUNEI

Air Force

2 x Bell 206B

10 x 212

1 x 214ST

5 x MBB Bo105C

2 x Sikorsky S-70C

(+12)x S-70i

4 x UH-60L

BULGARIA

Air Force

3 x Bell 206B

12 x Eurocopter AS532AL

4 x Mi-17 (+ 8 Stored)

2 x Mi-24V (+4 Stored)

BULGARIA continued

Border Guard

14 x Kamov Ka-26

Navy

3 x Eurocopter AS565MB

10 x Mil Mi-14

BURKINA FASO

Air Force

1 x Aerospatiale AS350B

2 x AS565

3 x Mil Mi-8

2 x Mi-35

BURUNDI

Army

3 x Aerospatiale SA316B

2 x SA342L

1 x AS350B

2 x Mil Mi-24

CAMBODIA

Air Force

2 x Aerospatiale AS350B

1 x AS365N

5 x Mil Mi-8

5 x Mi-17

3 x Mi-24

2 x Mi-26 (stored)

CAMEROON

Air Force

2 x Aerospatiale SA318C

2 x SA319B

3 x SA342L

1 x Bell 412EP

Government

1 x Aerospatiale SE3160

1 x SA330C

1 x AS332L

1 x AS565

CANADA

Armed Forces

12 x Bell 206B (CH-139)

95 x 412CF (CH-146)

4 x Boeing CH-47D (CH-147) (Stored)

(+15) x CH-47F

14 x EH Industries EH101 (CH-149)

4 x Mil Mi-17 (CH-178)

27 x Sikorsky SH-3A (CH-124)

(+28) x H-92 (CH-148)

CAPE VERDE

Army

2 x Harbin Z-9

CENTRAL AFRICAN REPUBLIC

Air Force

1 x Aerospatiale AS550

1 x Mil Mi-8

CHAD

Air Force

2 x Aerospatiale SA316B
6 x Eurocopter AS550C2
6 x Mil Mi-17
5 x Mi-35

CHILE

Air Force

5 x Aerospatiale SA315B
1 x AS332L
1 x AS350B
18 Bell UH-1H
(+1) x 206B
3 x 206B
1 x 212
12 x 412EP
2 x Hiller UH-12E
4 x UH-12L-4
6 x MBB Bo105LS
2 x BK117
5 x MDH MD530F
1 x Sikorsky S-70A-39

Army

13 x Aerospatiale SA315B (3 x stored)
5 x AS350B
5 x SA330H/L
3 x AS532C
8 x AS532AL
21 x Bell UH-1H
1 x Helibras HB355
17 x MDH MD530F
1 x Sikorsky S-76A

Navy

6 x Bell 206
1 (+8) x 412
3 x Eurocopter AS365N2
4 x Eurocopter AS365F
6 x Eurocopter AS532SC
4 x MBB Bo105CB/LS

CHINA

Air Force

3 x Aerospatiale SA315B
15 x SA316B
7 x AS350B
5 x SA321J/Z-8

Army

8 x Aerospatiale SA342L-1
6 x AS532C
7 x Changhe Z-8
61 x Z-9 (AS565)
31 x WZ-9 (combat)
8 x Z-10
37 (+16) x Z-11
(+6) x WZ-11
8 x Harbin HC120
30 x Mi-8
54 x Mi-17
69 x Mi-17U5
34 (+11) x Mi-171
2 x Mi-26TS
19 x Sikorsky S-70C

CHINA continued

Navy

6 x Aerospatiale SA321J/Z-8
30 x Harbin Z-5 (Mi-4)
25 x Z-9 (AS565)
8 x Kamov Ka-27PS
9 x Ka-28
4 (+5) x Ka-31

COLOMBIA

Air Force

27 x Aerospatiale SA315B
11 x Bell 47G
6 x UH-1B
14 x UH-1H
12 x 205A1
9 (+11) OH-58
15 x 206
11 x 212
1 x 412
12 x Enstrom F-28F
4 x Hiller UH-12E
16 x MDH MD500D/E/G/M
32 (+1) x Sikorsky UH-60A/L

Army

27 x Bell UH-1N
23 x Huey II
1 x Kaman K-Max
12 x Mil Mi-17
10 Mi-17MD
25 (+19) x Sikorsky UH-60L

Naval Air Arm

2 x Aerospatiale AS555N
2 x Bell 212
4 x 412
4 x MBB Bo105CB
1 x BK117
1 x Robinson R22

COMORES

Air Force

1 x Aerospatiale AS350B (stored)
1 x Mil Mi-14P

CONGO

Air Force

3 x Aerospatiale SA318C
1 x SA365C
3 x Mil Mi-2
1 x Mil Mi-8

CONGO DEMOCRATIC REPUBLIC

Air Force

3 x Aerospatiale SE3160
3 x SA316B
9 x SA330
1 x AS332L
6 x Bell 47G
3 x Mil Mi-24 (+9 stored)
1 (+1) x Mi-26

COSTA RICA

Air Force

2 x MDH MD500E

CROATIA

Air Force

5 x Aerospatiale SA341
9 x Bell 206B-3
6 x UH-1H/212
4 x MDH MD500D
2 x Mil Mi-2
3 x Mi-8S/T
6 x Mi-8MTV-1
1 x Mi-17
12 x Mi-24D/V (stored)
10 x Mi-171Sh

Navy

2 x Mil Mi-8
Coast Guard
4 x Mil Mi-8

CUBA

Air Force

5 x Mil Mi-1
2 x Mi-2
12 x Mi-4
14 x Mi-14
10 x Mi-17 (+6 stored)
4 x Mi-24D (+7 stored)

Navy

4 x Kamov Ka-28

CYPRUS

Air Force

6 x Aerospatiale SA342L-1
1 (+2) x AgustaWestland AW139
2 x Bell 206L
12 x Mil Mi-24VK2
1 x Mi-26
2 x PZL-Swidnik Kania (stored)

CZECH REPUBLIC

Air Force

21 x Mil Mi-2 (+17 stored)
20 x Mi-8
1 x Mi-9
12 x Mi-17 (+5 stored)
16 x Mi-171
12 x Mi-24D (stored)
12 (+4 stored) x Mi-24V
10 x Mi-35
10 x PZL-Swidnik W3

Border Guard

17 x Mil Mi-2
9 x Mi-8

DENMARK

Air Force

12 x Aerospatiale AS3550C2
14 x AgustaWestland AW101
6 x Westland Lynx Mk.90

DJIBOUTI

Air Force

2 x Aerospatiale AS355F
1 x Mil Mi-8T
1 x Mi-17
3 x Mi-24V

DOMINICAN REPUBLIC

Air Force

1 x Aerospatiale SA316B
10 x AS350B
1 x SA365C (stored)
2 x Bell 47G
10 x 206A-1
8 x Huey II
2 x UH-1H
3 x Schweizer 333

Army

9 x Bell OH-58A/C
4 x Robinson R22
2 x R44

Navy

2 x Bell OH-58C

ECUADOR

Air Force

3 x Aerospatiale SA315B
3 x SA316B
3 x AS350B
2 x AS332L
2 x AS532C
2 x Bell 47G
24 x UH-1H
9 x TH-57
2 x 206B
6 x HAL Dhruv

Army

1 x Aerospatiale SA316B
1 x SA319B
5 x SA330L (stored)
19 x SA342L
4 x Eurocopter AS532C
2 x AS350B
2 x AS350B2
(+7) AS550C3
4 x AS550
1 x Bell 214B
9 x Mil Mi-17-1

Navy

1 x Aerospatiale SA319B
5 x Bell 206B
1 x 230
2 x 430
(+2) x Kaman SH-2G
2 x Helibras HB350B

EGYPT

Air Force

4 x Aerospatiale SA342K
75 x SA342L
3 x Agusta-Sikorsky AS-61
35 (+10) x Boeing AH-64D
16 (+6) x CH-47D
16 x Hiller UH-12E
30 x Mil Mi-8
20 x Mi-17
1 x Sikorsky VH-3A
4 x Sikorsky S-70A
5 x Westland Commando Mk. 1
16 x Commando Mk. 2
2 x Commando Mk. 2B
4 x Commando Mk. 2E

EGYPT continued

Navy

12 x Aerospatiale SA342L
9 x Kaman SH-2G(E)
10 x Mil Mi-8

EIRE

Air Corps

1 x Aerospatiale SA342L
1 x AS355N
6 x AgustaWestland AW139
2 x EC135

EL SALVADOR

Air Force

12 x Bell UH-1H (+25 stored)
2 x UH-1M (+4 stored)
4 x Bell 412EP
5 x Hughes 269A (+1 stored)
1 x MDH MD500D
3 x MD500E

EQUATORIAL GUINEA

National Guard

2 x Aerospatiale SA316B
1 x AgustaWestland A109A
2 x Enstrom 480B
1 x Mil Mi-172
4 x Mi-24V
1 x Mi-26
1 x Sikorsky S-92

ERITREA

Air Force

1 (+2) x Agusta-Bell 412
4 x Mil Mi-17
1 x Mi-35

ESTONIA

Air Force

3 x Mil Mi-2 (stored)
2 x Mi-8
4 x Robinson R44

Border Guard

2 (+1) x AgustaWestland AW139

ETHIOPIA

Air Force

5 x Aerospatiale SA316B
1 x SA330
4 x Agusta-Bell AB204B
10 x HAL Chetak
6 x IAR 316B
2 x Mil Mi-2
10 x Mi-6
21 x Mi-8/Mi-17
2 x Mi-14
9 x Mi-24
2 x Mi-35

Army

5 x Bell UH-1H
(The majority of the Ethiopian helicopter fleet is believed to be unserviceable)

FIJI

Air Force

No helicopters currently on strength

FINLAND

Army

2 x MDH MD500D
1 x MD500E
11 (+9) x NH Industries NH90

Frontier Guard

2 x Aerospatiale AS332L
5 x Agusta Bell AB206B
4 x AB412
1 (+3) x AgustaWestland AW119Ke

FRANCE

Air Force

24 x Aerospatiale SA330B/H
6 x AS332L
3 x Eurocopter AS532C
41 x AS555AN
3 x AS565
6 (+5) x EC725

Army

5 x Aerospatiale SE3130
35 x SE3160
94 x SA330B/H (+ stored a/c)
56 x SA341F (+ stored a/c)
29 x SA342L
140 x SA342M
24 x AS532UL
18 x AS555UN
30 (+8) x Eurocopter Tiger HAP
(+40) Tiger HAD
8 x EC725R
1 (+33) x NH Industries NH90

Navy

16 x Aerospatiale SA316B
4 x AS565F
6 x AS365N
1 (+1) A3365N3+
22 x AS565MA
2 x Eurocopter EC225
6 (+21) x NH Industries NH90 NFH
14 (+ 17 stored) x Westland Lynx HAS Mk. 4

GABON

Army Aviation

4 x Aerospatiale SA330C/H
5 x SA342L
2 x Eurocopter AS350B
1 x AS355F
1 x AS332L
1 (+1) x EC135
1 x Bell 412SP

GAMBIA

No helicopters currently on strength

GEORGIA

Air Force

10 x Bell UH-1H
(2x) EC725
1 x Mil Mi-2
16 x Mi-8
2 x Mi-14
2 x Mi-24D

GERMANY

Air Force

3 x Aerospatiale AS532U2
82 x Bell UH-1D
2 (+40) x NH Industries NH90

Army

79 x Bell UH-1D
15 x Eurocopter EC635
15 (+65) Tiger UHT
150 x MBB Bo105P
14 (+66) x NH Industries NH90
108 x Sikorsky CH-53G/GS

Navy

22 x Westland Lynx HAS Mk. 88A
21 x Sea King HAS Mk. 41

GHANA

Air Force

2 x Aerospatiale SA316B
4 x Agusta A109A
1 x Agusta-Bell AB412
2 x Bell 212 (stored)
1 x Mil Mi-2
3 x Mi-17V-5

GREAT BRITAIN

Air Force

33 x Aerospatiale SA330E/M
28 x AS350B/HT.1
2 x Agusta A109E
28 x AgustaWestland Merlin HC3/HC3A
3 x AW139
11 x Bell Griffin HT.1
4 x Griffin HAR.2
32 x Boeing Vertol Chinook HC2
6 x Chinook HC2A
8 x Chinook HC3
(+12) x HC.4
5 x Mil Mi-17-IV
19 x Westland Sea King HAR 3
6 x Sea King HAR3A

Army

22 (+24stored) x Aerospatiale SA341B/AH1
10 x AS350BB
43 x AgustaWestland Lynx AH7
22 x Lynx AH 9A
(+38) x Lynx Wildcat
67 x WAH-64D
8 x Bell 212
5 x Eurocopter AS365N3

Navy

42 x AgustaWestland Merlin HM1/HM2
5 x Westland Lynx HAS.3
28 x Lynx HMA.8
(+28) x Lynx Wildcat
37 x Sea King HC 4
15 x Sea King HU5 (+7 stored)
5 x Sea King HC.6CR (stored)
15 x Sea King ASAC.7

Marines

6 x AgustaWestland Lynx AH7

GREECE

Air Force

14 x Agusta-Bell AB205A
1 x AB206A

GREECE continued

6 x Bell 47G-3B
2 x OH-13
4 x 212
4 x Eurocopter AS532C
8 (+2) x AS532A2

Army

49 x Agusta-Bell AB205A
16 x AB206A
1 x AB212
2 x Bell 47G-5
41 x UH-1H
12 x Boeing AH-64A+
11 x AH-64DHA
15 x Boeing Vertol CH-47DG
20 x Nardi-Hughes NH-300
(+20) x NH Industries NH90

Navy

2 x Aerospatiale SA319B
8 x Agusta-Bell AB212 ASW
2 x AB212EW
11 x Sikorsky S70B-6

Coast Guard

4 x Eurocopter AS532C1
5 x AS565N3

GUATEMALA

Air Force

3 x Bell UH-1D
5 x UH-1H
4 x Huey II
1 x 206B
3 x 206L
2 x 212
6 x 412
3 x Sikorsky S-76A

GUINEA REPUBLIC

Air Force

1 x Aerospatiale AS350B
1 x SA316B
1 x SA330
1 x SA342K
1 x IAR 330L
2 x MD Helicopter MD500MD
1 x Mil Mi-24D

GUINEA BISSAU

Air Force

1 x Aerospatiale SE313B
2 x SA316B

GUYANA

Defence Force

2 x Aerospatiale SA319B
2 x Bell 206B
1 x 412
2 x Mil Mi-8

HAITI

No helicopters currently on strength

HONDURAS

Air Force

1 x Bell 47G (stored)
4 x UH-1B (stored)
4 x UH-1H
8 x 412SP
5 x Hughes TH-55A (stored)
2 x MDH MD500D
(+7) x Sikorsky UH-60A

HONG KONG

Government Flying Service

3 x Eurocopter AS332L2
4 x EC155B

HUNGARY

Air Force

32 x Mil Mi-2
5 x Mi-8S
39 x Mi-8T
1 x Mi-9
7 x Mi-17
2 x Mi-17PP
32 x Mi-24D/V (+20 stored)
2 x Mi-24P (+4 stored)
10 x Mi-24W
3 x Robinson R22

ICELAND

Coast Guard

1 x Aerospatiale AS332L
1 x AS350B
1 x AS565
1 x MDH MD500D

INDIA

Air Force

(+12) x AgustaWestland AW101
6 x Eurocopter SA365N
37 x HAL Chetak
24 x Cheetah
10 x Cheetal
37 (+40) x Dhruv
45 x Mil Mi-8
78 x Mi-17
48 (+139) x Mi-171V
3 x Mi-26
20 x Mi-35

Army

67 x HAL Cheetah
10 (+20) x Cheetal
45 (+88) x Dhruv
80 x Chetak
12 (+8) x HAL Lancer

Navy

32 x HAL Chetak
5 x Dhruv
4 x Hughes 300B
5 x Kamov Ka-25
19 x Ka-28
9 (+5) x Ka-31
4 (+2) x Sikorsky UH-3H
11 x Westland Sea King Mk. 42/42A (stored)
18 x Sea King Mk. 42B
6 x Sea King Mk. 42C

Coastguard

17 x HAL Chetak
2 x Dhruv

INDONESIA

Air Force

1 x Aerospatiale SE313B
2 x SA318C
8 x SA330B/L
3 x SA330SM
12 x Eurocopter EC120
2 x 204B
2 x 206
1 x 412
21 x Hughes 300C
12 x MDH MD500D
5 x Nurtanio-Aerospatiale NAS332B
7 (+9) x NAS332L/L2
15 x Nurtanio-MBB NBo105C
10 x Sikorsky S-58T
1 x S-61A
7 x Soloy-Bell 47G (+4 stored)

Army

5 x Aerospatiale SE3160
22 x Bell 205A
6 x 212
14 x Nurtanio-Bell NB412
16 x Nurtanio-MBB NBo105
12 (+6) x Mil Mi-17-V5
5 x Mil Mi-35
15 x Schweizer 269C

Navy

3 x Aerospatiale SE3160
4 x AS532SC
5 x Eurocopter EC120
2 x Mil Mi-2
4 x Nurtanio-Bell NB412
6 x Nurtanio-MBB NBo105C (+7stored)
8 x Westland Wasp HAS 1 (stored)

IRAN

Air Force

3 x Agusta Bell AB206
5 x AB212
2 x Agusta-Sikorsky AS-61/A-4
8 x Bell 214C
2 x Boeing Vertol CH-47C
7 x IDI Shabaviz
5 x Mil Mi-17
10 (+20) x Shahed 274
6 x Shahed 285

Army

23 x Agusta Bell AB205A
80 x AB206
11 x AB212
100 x Bell AH-1J
130 x 214A
12 x Boeing Vertol CH-47C
27 x Mil Mi-17

Navy

4 x Agusta-Bell AB205
12 x AB206A
19 x AB212ASW
12 x Agusta-Sikorsky ASH-3D
5 x Mil Mi171
1 x Sikorsky HH-53H
7 x RH-53D

(Note: A number of Iranian aircraft are unserviceable)

IRAQ

Army

6 x Aerospatiale SA342M
10 x Bell 206B
10 x OH-58
12 x 407
(+27) x Armed 407
16 (+16) x Huey II
2 (+22) Eurocopter EC635
42 x Mil Mi-17
38 x Mi-24D
2 x PZL-Swidnik W-3 Sokol

ISRAEL

Air Force

1 x Aerospatiale SA366G
8 x SA565SA
7 x AB206
64 x Bell AH-1E/F/S
29 x Boeing AH-64A
18 (+3) x AH-64D
35 x MDH MD500M/D (stored)
45 x Sikorsky S65C/CH-53D
49 x UH-60A/L

ITALY

Air Force

32 x Agusta-Bell AB212AM/CO
2 x Agusta-Sikorsky AS-61A-4
1(+9) x AgustaWestland HH-139
(12) x AW101
2 x Nardi-Hughes NH500D
42 x NH500E
(+10) x NH Industries NH90
29 x Sikorsky HH-3F
Army
22 x Agusta A109EOA
60 x A129CBT
70 x Agusta-Bell AB205A
50 x AB206C
18 x AB212
22 x AB412
27 x Boeing Vertol CH-47C
(+ 16) CH-47F
12 (+47) x NH Industries NH90TTH

Navy

1 x Agusta A109E
49 x Agusta-Bell AB212ASW
8 x AgustaWestland AW101ASW
4 x AgustaWestland AW101AEW
4 x AgustaWestland AW101UT
6 x AgustaWestland AW101ASH
1 (+45) x NH Industries NH90NFH
(+10) x NH90TTH
6 x Agusta-Sikorsky ASH-3D/H

Carabinieri

23 x Agusta A109
2 x A109E
41 x Agusta-Bell AB206
32 x AB412

IVORY COAST

Air Force

2 x IAR 330L
3 x Mil Mi-24 V/P

JAMAICA

Defence Force Air Wing

4 x Bell UH-1H
2 x 412EP
2 (+2) x 407
4 x Eurocopter AS355N

JAPAN

Air Self-Defence Force

2 x Kawasaki BK117
21 x CH-47JA
34 x Sikorsky UH-60J
(+49) x UH-60JA

Ground Self-Defence Force

3 x Aerospatiale AS332L
9 (+3) x Boeing AH-64D
2 (+28) x Enstrom 480B
89 x Fuji-Bell AH-1S
131 x UH-1H
54 (+13) x UH-1J
2 (+1) x Eurocopter EC225
28 (+2) x Kawasaki OH-1
181 x Kawasaki-Hughes OH-6D
1 x OH-6J (50 stored)
4 x TH-55J (10 stored)
34 x CH-47J
20 x CH-47JA
24 (+1) x Mitsubishi-Sikorsky UH-60JA

Maritime Self-Defence Force

3 (+8) x AgustaWestland MCH-101
(+3) x AW101
5 (+10) x Eurocopter EC135T2i
11 x Hughes OH-6D
9 x OH-6J
9 x Kawasaki-Vertol KV107
10 x MH-53J
101 x SH-60J
19 x UH-60J
17 (+12) x SH-60K

JORDAN

Air Force

8 x Aerospatiale SA342
10 x AS332L
6 x AS350B3
20 x Bell AH-1F (+3 for spares)
35 x UH-1H
18 x UH-1L
9 (+4) x Eurocopter EC635
3 x MBB Bo105S
8 x MDH MD500D
6 x MD530F
5 x Sikorsky S-70C
8 x UH-60L
(+1) x UH-60M

KAZAKHSTAN

Air Force

2 (+4) x Bell Huey II
4 x Mil Mi-2
6 x Mi-6 (stored)
10 (+47 stored) x Mi-8
12 (+12) x Mi-17V5
34 x Mi-24
4 x Mi-26 (+15 stored)

KENYA

Air Force

2 x Aerospatiale SA330L
7 x Harbin Z-9WE
8 x IAR330
2 x MDH MD500D
15 x MD500MD
15 x MD500MD(TOW)
8 x MD500ME
5 x Mil Mi-17

KOREA (NORTH)

Army Air Force

1 x Hughes 300C
20 x Mil Mi-4
20 x Mi-8
5 x Mi-14
30 x Mi-17
48 x Mi-24
4 x Mi-26

KOREA (SOUTH)

Air Force

2 x Aerospatiale AS332L
5 x Bell UH-1D
2 x UH-1N
3 x 412
6 x Boeing Vertol HH-47D/Model 414
7 x Kamov Ka-32
48 x MDH MD500MD
3 x Sikorsky S-92
12 x UH-60P

Army

6 x Bell AH-1J
59 x AH-1F
25 x UH-1B
44 x UH-1H
16 x Boeing Vertol CH-47D/Model 414
6 x MH-47E
12 x MBB Bo105
122 x Hanjin-MDH MD500MD
68 x MDH MD500MD
129 x Sikorsky UH-60P

Navy

6 x Aerospatiale SA319B
2 x Bell 206B
4 x UH-1H
23 x MDH MD500MD
24 x Westland Lynx 99

KUWAIT

Air Force

8 x Aerospatiale SA330H
8 x SA342K
7 x SA342L
5 x AS532SC
6 (+10) x Boeing AH-64D
3 x Sikorsky S-92

KYRGHYZSTAN

Air Force

6 x Mil Mi-8
2 x Mi-8MTV
15 x Mi-24

LAOS

Air Force

approx. 12 x Bell UH-1D/H
2 X Harbin Z-9
6 x Kamov Ka-32T
2 x Mil Mi-6 (stored)
9 x Mi-8
12 x Mi-17
1 x Mi-26
approx. 6 x Sikorsky S-58

LATVIA

Air Force

3 x Mil Mi-2 (+2 stored)
2 (+2) x Mi-8MTV-1

LEBANON

Air Force

4 x Aerospatiale SA316B
3 x SA330L
9 x SA341
2 x SA342L
7 x Agusta-Bell AB212
15 (+6 stored) x Bell UH-1H
10 x IAR SA330SM6
(+6) Mil Mi-24
4 x Robinson R44
3 x Sikorsky S-61N

LESOTHO

Defence Force Air Wing

2 x Agusta-Bell AB412
1 x Bell 412EP
1 x MBB Bo105LS
1 x Mil Mi-2
1 x Soloy-Bell 47

LIBERIA

Air Force

3 x HAL Chetak
3 x Mil Mi-2 (Stored)
2 x Mi-17

LIBYA

Air Force

4 x Aerospatiale SA316B
2 x Agusta A109A
1 x Agusta-Bell AB212
1 x Agusta-Sikorsky AS-61A
20 x Mil Mi-2
5 x Mi-8
30 x Mi-24

Army

10 x Aerospatiale SA316B
40 x SA342L
3 x Agusta-Bell AB206A
2 x AB212
8 x Bell 47G-4A
6 x Boeing Vertol CH-47C+

Navy

10 x Aerospatiale SA321G (stored)
12 x Mil Mi-14

LITHUANIA

Air Force

2 x Mil Mi-2
7 (+3) x Mi-8

MACEDONIA

Air Force

2 x Bell UH-1H
(+2) x 206B
13 x Mi-17
2 x Mi-24V

MADAGASCAR

Air Force

2 x Mil Mi-8 (stored)

MALAWI

Army

3 x Aerospatiale SA330
1 x AS350L
1 x AS332L
1 x AS532UL

MALAYSIA

Air Force

22 x Aerospatiale SE3160/SA316B
2 x Agusta-Sikorsky AS-61N1
3 x Bell 47G (stored)
(+10) x Mil Mi-17Sh
29 x Sikorsky S-61A
2 x S-70C

Army

11 x Agusta A109LUH

Navy

6 x Eurocopter AS555N
1 x Mil Mi-8
6 x Westland Super Lynx 300

MALDIVES

1 x HAL Dhruv

MALI

Air Force

1 x Aerospatiale AS350B
1 x Harbin Z-9A
1 x Mil Mi-8
4 x Mi-24D

MALTA

Helicopter Flight

3 x Aerospatiale SA316B (+2 stored)
2 x Nardi-Hughes NH500C (stored)

MAURITANIA

Air Force

3 x Aerospatiale SA316B
2 x Harbin Z-9A
4 x MDH MD500M

MAURITIUS

Coastguard

1 x Aerospatiale AS350B
1 x HAL Dhruv

MEXICO

Air Force

5 x Aerospatiale SE3160
2 x SA330J
2 x AS355F
4 x AS332L
1 x Agusta A109A
5 x Bell 47G
5 x 205
62 x 206B
7 x 206L
23 x 212
11 x 412
(+12) x Eurocopter EC725
22 x MDH MD530F
10 x Mil Mi-8
20 x Mi-17
1 x Mi-26
4 x Sikorsky CH-53 2000
6 x Sikorsky S-70A

Navy

2 x Aerospatiale AS355F
2 x AS565N3
4 x AS565MB
3 x Hiller UH-12E
11 x MBB Bo105CBS-5
4 x MDH MD500E
10 x MD902CE
2 x Mil Mi-2
22 x Mi-8
(+3) x Mi-17V-5
4 x Mi-24P
1 x Robinson R44
2 x R22
4 x Schweizer 300C
(+10) x Sikorsky S-92
3 x UH-60M

MOLDOVA

Air Force

8 x Mil Mi-8
12 x Mil Mi-24D

MONACO

Government

2 x Agusta-Bell AB206A

MONGOLIA

Air Force

11 x Mil Mi-8
2 x Mi-171
12 x Mi-24 (stored)

MONTENEGRO

Air Force

14 x Aerospatiale SA341/SA342
5 x Mil Mi-8T

MOROCCO

Air Force

28 x Aerospatiale SA330C
18 x SA342K
6 x SA342L
46 x Agusta-Bell AB205A

MOROCCO continued

20 x AB206B
2 x AB212
2 x Bell 212
9 x Boeing Vertol CH-47C
(+3) x CH-47D

Navy

3 x Eurocopter AS565MB

MOZAMBIQUE

Air Force

3 x Aerospatiale SA316B
4 x Bell 47G-5
5 x 205A
5 x 206B
2 x Mil Mi-8
4 x Mi-25

MYANMAR

Air Force

10 x Aerospatiale SA319B
14 x Bell 205A/UH-1H
7 x 206
21 x Mil Mi-2
12 x Mi-17
4 (+6) x Mi-35
12 x PZL W-3 Sokol

NAMIBIA

Air Force

2 x AgustaWestland AW139
1 (+2) x HAL Chetak
2 x Cheetah
2 x Mil Mi-8
2 x Mi-24

NEPAL

Army

2 x Aerospatiale AS332L
1 x AS350B3
2 x Bell 206L-4
2 x HAL Cheetah
2 x Chetak
2 (+1) x Dhruv
2 x Lancer
2 x Mil Mi-17

NETHERLANDS

Air Force

4 x Aerospatiale SE3160
3 x Agusta-Bell AB412SP
23 x Boeing AH-64D (+6 stored)
11 x CH-47D
(+6) x CH-47F
8 x Eurocopter AS532U2

Navy

7 x Westland Lynx SH-14D (+13 Stored)
6 (+14) x NH Industries NH90NFH

NEW ZEALAND

Air Force/Army/Navy

(+5) x AgustaWestland A109LUH
4 x Bell 47G/OH-13
11 x UH-1H (+ 2 stored)
5 x Kaman SH-2G(NZ)
2 (+6) x NH Industries NH90

NICARAGUA

Air Force

1 x Mil Mi-2 (stored)
13 x Mi-17

NIGER

No helicopters currently on strength

NIGERIA

Air Force

10 x Aerospatiale SA316B
4 x SA330 (stored)
6 x AS332M1 (stored)
2 (+2) x AgustaWestland AW139
4 (+6) x AW109LUH
2 x MBB Bo105C (stored)
15 x Bo105D (stored)
(+4) x Mil Mi-171
9 x Mi-34
7 x Mi-35P

Navy

2 x Agusta A109E
1 x AW139
1 x Eurocopter AS365N2
(+12) x AS550C
2 x Westland Lynx Mk. 89

NORWAY

Air Force

18 x Bell 412SP
(+14) x NH Industries NH90NFH
5 x Westland Lynx Mk. 86
12 x Sea King Mk.43B

OMAN

Air Force

2 x Aerospatiale AS332L
1 x AB212
2 x AgustaWestland AW139
15 x Super Lynx 300
5 x Bell 205A
3 x 206
2 x 212
4 (+16) x NH Industries NH90

PAKISTAN

Air Force

6 x Aerospatiale SE3160
16 x SA316B
4 x SA319B
1 x SA330J
4 x Mil Mi-171Sh

Army

1 x Aerospatiale SE3160
28 x SA315B
23 x SA316B
35 x SA330F/J
12 x Agusta-Bell AB205
5 x AgustaWestland AW139
12 x Bell 47G/OH-13S
29 x AH-1F/S
6 x UH-1H
5 (+10) x Huey II
10 x 206
(+40) x 407

PAKISTAN continued

25 (+20) x 412EP
10 x Eurocopter AS550B3
(+10) x AS550C3
5 x IAR 330 XM
1 x MDH MD530F
10 x Mil Mi-8
2 x Mil Mi-14PG
32 (+25) x Mi-17
14 x Schweizer TH-300C
(+10) x TH-333

Navy

13 x Aerospatiale SA316B
10 x Harbin Z-9EC
6 x Sea King Mk. 45

PANAMA

Naval Air Service

(+6) x AgustaWestland AW139
2 x Bell 407
4 x UH-1N
1 (+4) x 412 EP
1 x Eurocopter EC145
1 x McDonnell Douglas 500E
1 x Sikorsky S-76C

PAPUA NEW GUINEA

Air Force

4 x Bell UH-1H
1 x Nurtanio - MBB NBo105

PARAGUAY

Air Force

4 x Bell 47G
1 x 427
7 x UH-1H
2 x Helibras HB350B
2 x Hiller UH-12E
2 x UH-12SL-4

Navy

3 x Helibras HB350B

PERU

Air Force

7 x Aerospatiale SE3160
12 x Bell 47G
8 x UH-1H
(+16) x Huey II
8 x 206B
8 x 212
1 x 412EP
3 x 412
3 x Helibras HB350B
10 x MBB Bo105C (stored)
6 x Bo105LS
5 x Mil Mi-17 (+2 stored)
6 x Mi-171
10 x Mi-25 (+5 stored)
(+2) x Mi-35
6 x Schweizer 300C

Army

5 x Agusta A109K
1 x Bell 412
7 x Enstrom 28F
9 x Mil Mi-2

PERU continued

22 x Mi-17
1 x Mi-26 (+2 stored)

Navy

5 x Agusta-Bell AB212AS
2 x AB412
3 x Agusta-Sikorsky ASH-3D
3x Bell 206B
(+2) x 412EP
6 x Enstrom F28F
3 x Mil Mi-8T
3 (+13) x Sikorsky UH-3H
(Many helicopters unserviceable)

PHILIPPINES

Air Force

43 x Bell UH-1H (+30 stored)
15 x 205A
3 x 412
9 x MBB Bo105C
9 x MDH MD500
18 x MD520MG
4 (+4) x PZL Swidnik W3 Sokol
1 x Sikorsky S-70A-5
10 x S-76/H-76

Navy

6 x MBB Bo105C

POLAND

Air Force

2 x Bell 206B
2 x 412
8 x Mil Mi-2
14 Mi-8
16 x PZL W3
(+5) x W3WA
4 x W3PL
14 (+12) x SW-4

Land Forces

78 x Mil Mi-2
45 x Mi-8
5 (+5) x Mi-17
21 x Mi-24D
14 x Mi-24V
17 x PZL W-3W Sokol
4 x W-3PL
15 x W-3WA
1 x W-3PPD

Navy

4 x Kaman SH-2G
1 x Mil Mi-2D
1 x Mi-8MTV-1
12 x Mi-14L/PS
1 x Mi-17
2 x PZL W-3TM Sokol
9 x W-3RM Anakonda

PORTUGAL

Air Force

17 x Aerospatiale SA316B
3 x SA330CS1 (+7 stored)
12 x AgustaWestland EH101

PORTUGAL continued

Army

(+10) x Bell AH-1F
(+10) x NH90TTH
(+50) x UH-1H

Navy

5 x Westland Lynx Mk.95

QATAR

Air Force

11 x Aerospatiale SA342L
8 (+13) x AgustaWestland AW139
(+6) x Sikorsky MH-60R
3 x Westland Commando Mk. 2A
1 x Commando Mk. 2C
12 x Commando Mk. 3

ROMANIA

Air Force

3 x Aerospatiale SA365N (stored)
20 x IAR316B (+30 stored)
14 x IAR330
25 x IAR330SOCAT
5 x Mil Mi-8

Navy

5 x IAR 316B
3 x IAR330

RUSSIA

Air Force

4 x Kamov Ka-27Ps
8 x Ka-50
16 (+26) x Ka-52
4 (+26) x Ka-226
8 (+48) x Kazan Ansat
100 x Mil Mi-2
450 x Mi-8
20 (+10) x Mi-8AMTSh
25 x Mi-9
270 x Mi-24
30 (+26) x Mi-26
30 (+40) x Mi-28N
(+40) x Mi-35M

Military Transport Aviation

96 x Mil Mi-2
95 x Mi-8

Naval Aviation

87 x Ka-27
43 x Ka-29
4 (+2) x Ka-31
1 x Kazan Ansat
35 x Mil Mi-2
25 x Mi-8

RWANDA

Air Force

1 x Aerospatiale AS355F
1 x AS565
4 x Mil Mi-17V-5
3 x Mi-24V

SAUDI ARABIA

Air Force

8 x Agusta-Bell AB205
27 x AB212
8 x AB412EA
8 x Bell 412EP
3 x Agusta-Sikorsky AS-61A
(+2) x AgustaWestland AW101
11 x Eurocopter AS532A2
(+12) x EC725

Army

15 x Bell 406CS
12 x Boeing AH-64A
(+70) x AH-64D
(+36) x AH-6i
12 x MD Helicopters MD530F
21 (+15) x Sikorsky S-70
(+72) x UH-60M
12 (+7) x S-333

Navy

27 x Eurocopter AS565SA
6 x AS565MB
20 x AS532SC
(+10) x NH Industries NH90NFH

SENEGAL

Air Force

2 x Aerospatiale AS355F
3 x SA330H
1 x SA341F
2 x Mil Mi-2
2 x Mi-17
2 x MI-35P

SERBIA & MONTENEGRO

Air Force

12 x Aerospatiale SE3160
3 x SA341G
14 x SA341H
2 x Kamov Ka-28
7 x Mil Mi-8 (+20 stored)
2 x Mi-17
2 x Mi-24V (stored)
44 x Soko-Aerospatiale SA341H

Navy

1 x Aerospatiale SA341G
6 x Mil Mi-14

SEYCHELLES

Defence Force Air Wing

2 x HAL Chetak

SIERRA LEONE

Defence Force

2 x Aerospatiale SA316B
2 x Mil Mi-17
1 x Mi-24V

SINGAPORE

Air Force

30 x Aerospatiale AS332M
20 x Boeing AH-64D
16 x Boeing Vertol CH-47D
5 x Eurocopter EC120
6 x Sikorsky S-70B

SLOVAKIA

Air Force

6 x Mil Mi-2
2 x Mi-8
14 x Mi-17
4 x Mi-171
2 x Schweizer 300C

SLOVENIA

Air Force

1 (+2) x Agusta A109E
3 x Bell 206B
8 x 412HP/EP
4 x Eurocopter AS532AL

SOMALIA

Government

4 x Agusta-Bell AB212

SOUTH AFRICA

Air Force

29 x Agusta A109LUH
12 x Denel Rooivalk
47 x Denel/IAR SA330 Oryx
4 x MBB BK117A (+4 stored)
4 x Westland Super Lynx 300

SOUTHERN SUDAN

Army Air Force

9 x Mil Mi-17v-5
1 x Mi-172

SPAIN

Air Force

6 x Aerospatiale SA330J
4 x Agusta-Bell AB205
4 x AB206A
7 x Bell UH-1H
2 x Eurocopter AS532AL
9 x AS532B
4 x AS532M
15 x EC120
(+15) x NH Industries NH90
8 x Sikorsky S-76C

Army

6 x Agusta-Bell AB212
30 x UH-1H
13 x OH-58B
8 x Boeing Vertol CH-47C/414
9 x CH-47D
1 (+17) x Eurocopter Tiger HAD
6 x Tiger HAP
17 x AS532B
15 (+5) x AS532UL
6 (+6) x EC135
57 x MBB Bo105
(+15)x NH Industries NH90TTH

Navy

7 x Agusta-Bell AB212ASW
11 x MDH MD500M
(+8) x NH Industries NH90NFH
9 x Sikorsky SH-3D/G
3 x SH-3D(AEW)
12 x SH-60B
(+6) x SH-60F

SRI LANKA

Air Force

2 x Aerospatiale SA365C
6 x Bell 206A/B
11 x 212
8 x 412
3 (+14) x Mil Mi-17 (+6 stored)
9 x Mi-24

Navy

1 x HAL Chetak

SUDAN

Air Force

2 x Aerospatiale SA316B
5 x Agusta-Bell AB205
5 x AB212
15 x IAR 330J
9 x MBB Bo105
6 x Mil Mi-8
34 x Mi-25

SURINAM

Air Force

2 x Aerospatiale SA316B
1 x Bell 205

SWAZILAND

Government

3 x Aerospatiale SA316B

SWEDEN

Armed Forces

20 x Agusta A109M (Hkp 15A/B)
10 x AB206B (Hkp 6B) (stored)
11 x Eurocopter AS532M (Hkp 10)
20 x MBB Bo105CBS (Hkp9A)
2 (+16) x NH Industries NH90HC
6 (+9) x Sikorsky UH-60M

SWITZERLAND

Air Force

15 x AS332L-1
12 x Eurocopter AS532UL
20 x EC635
2 x EC135

SYRIA

Air Force

3 x Aerospatiale SA342K
65 x SA342L
10 x Mil Mi-2
10 x Mi-6
65 x Mi-8
45 x Mi-17
25 x Mi-24D (stored)
35 x Mi-35

Navy

5 x Kamov Ka-25
12 x Mil Mi-14

TAIWAN

Air Force

10 x Bell 47G
15 x UH-1H
3 (+17) x Eurocopter EC725
16 x MDH MD500M
13 x Sikorsky S-70C
4 x S-70C-6

Army

62 x Bell AH-1W
39 x OH-58D
45 x UH-1D/H
29 x TH-67
3 x Boeing Vertol Model 234
(+9) x CH-47SD
(+30) x AH-64D
19 x Hughes 300C (stored)
10 x MDH MD500M
(+60) x Sikorsky UH-60M

Navy

9 x MDH MD500MD-ASW
18 x Sikorsky S-70C(M)-1

Marine Corps

6 x MDH MD500M

TAJIKISTAN

Air Force

10 x Mil Mi-8
5 x Mi-24

TANZANIA

Air Wing

1 x Agusta-Bell AB205A
2 x AB206B
2 x AB412
2 x Bell 206L-1

THAILAND

Air Force

33 x Bell UH-1H
1 x UH-1N
6 x 206B
2 x 212
2 x 214ST
2 x 412
3 x 412 HP
8 (+12) x 412EP
1 x Robinson R22B
5 x Sikorsky S-58T (stored)
3 x S-92
2 (+3) x UH-60L

Army

7 x Bell AH-1F
29 x UH-1D/H (+62 stored)
4 x 206B
2 x 206L
14 x 212 (+23 stored)
6 x Boeing Vertol CH-47D
10 (+6) Enstrom 480B
3 (+3) x Mil Mi 17
57 x Schweizer-Hughes TH-300C
4 x Sikorsky S-70A

THAILAND continued

Navy

4 x Bell UH-1H
5 x 212
5 x 214ST
6 x Sikorsky S-70B-7
2 x MH-60S
5 x S-76B
2 x Westland Super Lynx 300

TOGO

Air Force

1 x Aerospatiale SA315B
2 x SA318C
1 x AS332L

TONGA

Defence Force

No helicopters currently on strength

TRINIDAD & TOBAGO

Defence Force

1 x Aerospatiale SA341H
1 x MBB Bo105C
2 x Sikorsky S-76

TUNISIA

Air Force

4 x Aerospatiale SE3130
4 x SA316B
1 x SA330
5 x SA342
6 x AS550
1 x AS565
17 x Agusta-Bell AB205A
17 (+7) x Bell UH-1H
3 x Sikorsky HH-3E

TURKEY

Air Force

15 x Aerospatiale AS532UL
74 x Bell UH-1H
4 x UH-1H(EW)
(+2) x Sikorsky S-70
1 x S-92

Army

28 x Aerospatiale AS532UL
10 x Agusta-Bell 204B
63 x AB205A
20 x AB206B
3 x AB212
4 x Bell OH-58B
(+6) x Boeing CH-47F
(+60) x AgustaWestland T129
12 x AH-1P
12 x AH-1S
11 x AH-1W
92 x UH-1H
4 x TAH-1P
8 x Schweizer 269C
88 x Sikorsky S-70A
5 x S-70A-28DSAR

TURKEY continued

Navy

3 x Agusta-Bell AB204AS
9 x AB212AS
3 x AB212EW
7 (+18) x Sikorsky S-70B

Coast Guard

1 x Agusta A109A
3 x Agusta-Bell AB206B
8 (+5) x AB412EP

Jandarma

5 x Agusta-Bell AB47
31 x AB 204
8 x AB 205
8 x AB206A
1 x 212
17 x Mil Mi-8
15 x Sikorsky S-70A

TURKMENISTAN

Air Force

(+2) x AgustaWestland AW101
1 x Eurocopter AS332L2
10 x Mil Mi-8
10 x Mi-24
2 x Sikorsky S-92

UGANDA

Defence Force

4 x Agusta-Bell AB206
1 x Bell 206
4 x Mil Mi-17
2 x Mi-24
(+6) x Mi-24PN

UKRAINE

Air Force

10 x Mil Mi-2
49 x Mi-8 (+60 stored)
4 x Mi-9
26 x Mi-24

Army Aviation

80 x Mil Mi-2
30 x Mi-6 (stored)
100 x Mi-8 (+150 stored)
8 x Mi-9
70 x Mi-24 (+207 stored)
10 x Mi-26 (+8 stored)

Navy

6 x Ka-27
12 x Ka-29
1 x Mil Mi-8
4 x Mi-14

UNITED ARAB EMIRATES

Air Force

2 x Aerospatiale SA341
13 x AS350B3
4 x AS365N3
2 x AS332L
6 x AS532SC
6 x AS550C-3

UNITED ARAB EMIRATES continued

7 x AS565M
3 x Agusta Bell AB412SP
6 x AB412HP
1 x 206L
1 x 212
1 x 222
1 x 407
10 (+3) x AgustaWestland AW139
30 x AH-64D
(+30 AH-64DIII)
7 x CH-47C+
6 (+10) x CH-47F
1 x Eurocopter EC155
7 x MBB Bo105
3 x Bo105S
2 x BK117
40 (+20) x Schiebel S-100
20 Sikorsky UH-60L
6 (+34) x UH-60M
1 x Sikorsky S-76A

UNITED STATES OF AMERICA

Air Force

2 x Bell AH-1S
2 x HH-1H
20 x UH-1H
4 x TH-1H
15 x HH-1N
44 x UH-1N
30 (+8) x Bell-Boeing CV-22
4 x Mil Mi-8MTV
1 x Sikorsky TH-53A (+6 stored)
88 x HH-60G
13 x MH-60G
2 (+13) x HH-60M

Army

51 x Bell UH-1H
264 x OH-58A/C
332 (+30) x OH-58D
2 x AH-1 Hokum X
181 x TH-67A
8 x Boeing MQ-18A
40 x Boeing AH-64A
922 (+14) x AH-64D
275 x Boeing CH-47D
132 (+320) x CH-47F
61 x MH-47G
204 (+39) x Eurocopter UH-72A
1 x Kamov Ka-32T
15 x MDH (Hughes) AH-6J
25 x MH-6J
9 x MH-6M
10 (+5) x MD500
2 x Mil Mi-2
2 x Mi-14
13 x Mi-17
3 x Mi-24
9 x Sikorsky JCH-3E
12 x JHH-3E
921 UH/MH-60A
717 x MH-60K/L
184 UH/MH-60M

Coast Guard

99 x Aerospatiale HH-65C
42 x Sikorsky HH-60J/MH-60T

UNITED STATES OF AMERICA continued

Marine Corps

106 x Bell AH-1W
18 (+7) x AH-1Z
62 x UH-1N
42 (+28) x UH-1Y
145 (+115) x Bell-Boeing MV-22B
145 x CH-46E/F
2 x Kaman K-Max UAV
115 x CH-53E
1 x UH-3H
11 VH-3D
8 x VH-60N

Navy

46 x Bell TH-57B
86 x TH-57C
1 x UH-1N
5 x Eurocopter TH-72A
5 (+3) x Northrop Grumman MQ-8B
38 x CH-53E
31 x MH-53E
40 x HH-60H
85 (+214) x MH-60R
99 (+121) x MH-60S

URUGUAY

Air Force

1 x Aerospatiale SA365N2
10 x Bell UH-1H (+3 stored)
2 (+6) x 212

Navy

2 x Bell 47G-2
1 x Helibras HB350B
1 x Westland Wessex HC.2 (+12 stored)
6 x MBB Bo105P

UZBEKISTAN

Air Force

30 x Mil Mi-6
60 x Mi-8
43 x Mi-24
1 x Mi-26

VENEZUELA

Air Force

1 x Aerospatiale AS355F
4 x AS532B
9 x AS532AC
5 x AS550/HB350B
1 x Bell UH-1B
7 x UH-1H
2 x UH-1N
7 x 206L-1
2 x 212
2 x 412
2 x Mil Mi-172

Army

1 x Aerospatiale AS555
(+15) x AS532M2
8 x Agusta A109A

VENEZUELA continued

3 x Agusta-Sikorsky AS-61D
1 x Bell 47G
8 x UH-1H
2 x 205A-1
1 x 206B
1 x 206L
3 x 412SP
18 x Mil Mi-8
19 (+4) x Mi-17-IV
3 x Mi-26
9 x Mi-35

Navy

5 x Agusta-Bell AB212ASW
3 x Bell 206B
1 x 212
6 x 412EP

National Guard

3 x Agusta A109A
9 x Aerospatiale AS355F
11 x Bell 206B/L
12 x 412EP/SP
4 x Enstrom 280FX

VIETNAM

Air Force

5 x Bell UH-1H(+ 15 Stored)
36 x Boeing Vertol CH-47A (stored)
12 x Ka-28
2 x Ka-32
15 x Mil Mi-6 (Stored)
54 x Mi-8/17
30 x Mi-24D
(Note: Most US equipment is probably unserviceable)

Navy

2 x Eurocopter EC225

YEMEN

Air Force

2 x Aerospatiale SA316B
2 x Agusta-Bell AB205
6 x AB206
6 x AB212
4 x Bell Huey II
46 x Mil Mi-8
(+10) x Mi-17
12 x Mi-24D

ZAMBIA

Air Force

16 x Agusta-Bell AB47G-4A
12 x AB205A
3 x AB206
2 x AB212
(+2) x Harbin Z-9
5 x Mil Mi-8

ZIMBABWE

Air Force

3 x Aerospatiale SE3160
8 x SA316B (+27 Stored)
2 x AS332L
2 x Agusta-Bell AB412
9 x AB412 Griffon
4 x Mil Mi-24