

# Police Aviation News

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Heli-Expo 2007 Number

## HELI-EXPO

## 2007

## Fairfax County VA

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## POLICE AVIATION NEWS AT HELI-EXPO 2007

The Helicopter Association International's (HAI) annual showpiece event HELI-EXPO 2007 attracted more than 500 exhibitors to display their products and services at the Orange County Convention Center on International Drive, Orlando.

Although some manufacturers and operators bring along flight demonstration airframes to be flown out of other locations [mainly local heliports] the main show has its own airframes inside the Convention building on static display. This year the usually well stocked static park was quiet but even so HAI say that thirty-five helicopters were displayed throughout the showroom floor.

The event is just as much about HAI committee meetings and educational seminars held over a period of two weeks either side of the three day show [March 1-3]. In excess of five hundred participated in this year's Professional Education Series. Add to that the "Salute to Excellence"



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*COVER: Master Police Officer Michael Mountjoy of the Fairfax County Police Dept., in Virginia alongside the recently refurbished Bell 407 helicopter and its high ends L3 Wescam MX-15 sensor turret.*

Awards Celebration held in the Grand Ballroom of the Rosen Centre Hotel on March 2 and you have the tried and trusted formula that is Heli-Expo.

Orlando in 2007 was a strange show in many ways, on one hand quite predictable but on another wholly inexplicable.

The 'handover' of the **Sikorsky** S-92 for the UK Coastguard and the announcement of the long awaited turbine **Robinson** R66 fell into the first category and yet another about face by **Bell** with the cancellation of the model 417 fell firmly into the second. The 417 was a development of the 407 aimed at uprating the engine to give significantly more power and changing the cockpit from analogue to digital glass provided by **Chelton** - with a target market that encompassed law enforcement. It may have challenged the niche currently held by the AS350B3

I first heard that the 417 was to be cancelled just a day after the first flight of the 429, whilst attending a lack-lustre Bell press conference that was a very negative event bar the first flight. Just a year earlier [and repeated with a firm conviction by the former CEO Mike Redenbaugh at Farnborough 06] the 417 had promised much - even if it was much of the same 206 formula of a narrow cockpit area with restrictive walls. It was said a year ago that there were around a hundred customers signed up for the 417, later figures spoke of over 150, so where have they moved on to? Perhaps they will be happy to wait until the 429 is developed enough to consider a MAPL single development? I think not, so yet more sales falling to the Europeans.

In the ensuing days Bell representatives underlined the party line that the company decided they could not deliver a 417 at a competitive price so they had decided to withdraw the whole thing. At least some Europeans were worried by the 417 - but it appears that Bell was again displaying a lack of faith in their own design teams. It is an ongoing retreat. Remember the 210? No sign of that leading the way in Bell marketing and the 2006 statement about continued production of the VFR Bell 427 is also starting to look pretty much a sham. The AB139 replacement for the Model 412 was sidelined by Bell and became the best selling AW139 and the latest is that Agusta are agitating about the lack of real progress



Farnborough 2006

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on the surviving joint-project - the 609. Add to that there was no mention of that other joint venture with Urban Aeronautics Limited and their X-Hawk™ Fancraft™ rescue car. That project was a major launch at Farnborough International 2006 and as far as I am aware it has not been placed in front of a major US audience since. It may be a military project and a little 'fantasy' but according to Bell in 2006 it has EMS and security aspects and I guess they spent all that Farnborough money for some reason. The mock-up may have also taken some pressure off the sparse booth display of just two 407s.

Bell Helicopter may well have again been bestowed with some worthy accolades by Professional Pilot magazine, rated number one by customers for the 13<sup>th</sup> year in a row in its annual US customer survey, but overall it has been a bad year for Bell. You may have noticed other negative signs ... various US Government agencies complaining about late deliveries of existing contracts, the most recent being the delays to and recent crash of a prototype in the US Army ARH, the removal [a sudden 'resignation' that no-one believed] of Red Redenbaugh the CEO, and the security related removal of Canadian Bell employees from military contracts because they come from certain unacceptable backgrounds. It was perhaps an added irony that Honeywell's progress report on the HTS900 engine destined to power the ARH and scheduled for the Model 417 was delivered in an upbeat manner that was not reflected at Bell. It is due to be certified this year.



We have long identified with MD as the sick company [and they still are even if things have moved on tremendously] but with the US market for helicopters thrusting ever upward Bell's own place in future commercial markets looks decidedly lack-lustre. When a company of their stature neglects to even bring a mock-up of the star product - the 429 - to town it is tempting to wonder what is to be cut next! Bell is not dying, but at this moment in time it seems to need therapy!

There was much to be positive about in the US helicopter market-place – business is certainly booming and so much so the HAI appeared to be struggling to attract the usual large crop of aircraft for sale in the static park. Overall it is just unfortunate that most of the growth areas visible at the show could be associated with the European invaders [American Eurocopter and AgustaWestland]. Fortunately Sikorsky is on the crest of a somewhat smaller wave as their civil market S-92 finally comes in from the cold.

In terms of overall sales **Sikorsky** is primarily a military company and could turn to a healthy production line backlog of home produced Blackhawk's required for the current war effort. Beyond this there is resurgence in its 30-years old design the S-76, there is currently a two-year wait for a new order even with the company ramping up its now international production line. Completion work on Eastern European produced fuselages is now undertaken by Keystone Helicopter. Although there are examples of the S-76 in the emergency services arena this remains primarily an executive tool.



In contrast nine years ago the Sikorsky S-92 started with pretensions towards the utility and oil industries that have seen it move towards search and rescue to follow on from its former stable mate the S-61. The S-92 took its maiden flight in December 1998 at the Sikorsky Development Flight Centre, West Palm Beach, Florida. FAA certification was received in December 2002. European [EASA] certification was received in June 2004 and deliveries in September 2004.

The type entered a short state of limbo where it seemed to be somewhat unloved by potential customers but recently that has turned around and the orders are flowing. The company was showing the first dedicated SAR machine on its booth.



Although it flew in on its US marks [N8010S] the Sikorsky S-92 on the company's booth was displayed in as yet unregistered UK marks representative of its eventual transfer to the fleet of CHC for operation later this year around the northern coasts of the UK. CHC won the renewal contract to provide helicopters on SAR duties for the British Government's Maritime and Coastguard Agency [MCA]. The S-92 will replace venerable S-61 helicopters in the north [mainly Scotland and the islands] with AW139's replacing S-61s in the south of England. The latter has yet to appear in the MCA's colours.

Meanwhile the S-92 has a few hoops to jump through to gain SAR role specific EASA certification in Europe. It has been suggested that it is not only the 'showtime' registration that has yet to make a proper transition to fully meet European requirements.

The twin **General Electric** CT7-8 turboshaft powered S-92 dedicated to SAR is scheduled to enter service for the MCA later this year. With improvements added to the S-92 to tailor it for the SAR



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mission, the S-92 can go farther with two internal auxiliary fuel tanks of 210 gallons each. New SAR options include an Automatic Flight Control System with auto-hover capability, a **Wescam MX15i** sensor turret, dual Goodrich rescue hoist, full sliding-door with bubble window, cargo hook, search-light and loud hailer. The spacious cabin is designed to offer the utmost flexibility for installing a triple medical litter kit, one or two aux fuel tanks, folding utility seats and ample storage. The cabin is designed to be flexible, to allow for quick and easy removal or installation of interior elements, and can carry 10, 12 or 19 passengers, depending on the mission.

**AgustaWestland** were reporting an order backlog currently standing at \$11.23billion, 274 civil helicopters were ordered last year, roughly half of the backlog by value. In terms of airframe numbers this is 110 Koalas, a backlog of 90 A109E Powers [390 in all], and an additional 120 of the stretch A109 Grand version – with only a handful currently delivered.

The AW139 continues to go from strength to strength in the marketplace. It has been suggested that the Royal Oman Police will take delivery of their first airframe in mid-May. Meanwhile the type has stretched out into a new area of operation with the confirmation of an order for two for delivery to the Los Angeles City Fire Department. The type will replace Bell's.

AgustaWestland has improved their 119 Koala with the fitting of new main rotor blades [MRB] that confer greater carrying capacity and other advantages. The package, which can be retrofitted to earlier models, includes the option of a 287 lb increase in maximum take-off weight to 6,283 lbs. The new model termed the AW119 Ke continues to be produced at AgustaWestland's Philadelphia, Pennsylvania. Changes to the main rotor are said to have a positive effect on low speed handling. For some time now it has been evident that the MRB of the 109/119 series - types well known for their high-speed cruise - suffer significant vibration when operated in a low speed orbit typical of the law enforcement mission.



The launch of the improved Koala was allied to the announcement of six sales to a Spanish company Fumigación Aérea Andaluza SA (FAASA). FAASA is one of the leading Spanish companies providing helicopters and fixed-wing aircraft for fire-fighting. The AW119 Ke can be equipped with the Simplex Model 323 Fire Attack System or with a more traditional Bambi bucket. The 323 features an aerodynamic tank design that enables the 119 to be flown at a high speeds during fire-fighting operations. The system is designed for quick installation and removal with the process taking less than fifteen minutes, without the use of

	<h2 style="text-align: center;">Reims F406 Land &amp; Sea Surveillance</h2> 	
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tools. Thanks to the 323 the new version of the Koala can carry the greatest water volume capacity (1,200 litres / 317 US Gallons) of any helicopter in its weight class. The increased altitude performance and a wider temperature operating range of AW119 Ke improve further the fire fighting capabilities of the A119.

In a different field - that of EMS - TriState CareFlight has expanded their fleet with the purchase of an additional AW119 Ke. The EMS configured helicopter will enable TriState CareFlight to enlarge their service network and provide additional customers with the highest level of emergency air transport services. TriState CareFlight provides critical care air transport services for the South Western United States. They currently operate a fleet of single and twin engine AgustaWestland helicopters as well as fixed wing medical transport.

The **Pratt & Whitney Canada** PT6 powers the Koala and a new generation PT6C-67E engine has been selected to power the upcoming EC175/Z15 medium-sized helicopter, being developed by Eurocopter and Harbin Aviation Industry Group, a subsidiary of China's AVIC II corporation. The engine is equipped with a dual-channel full-authority digital electronic control (FADEC) system; offering reduced pilot workload along with increased dispatch reliability. The PT6C-67E is the latest derivative of the world-renowned PT6 turboprop/turboshaft family already installed a large number of airframes including the Agusta Westland AW139 helicopter and Bell/Agusta Aerospace BA609 Tilt rotor and a number of fixed wing airframes [Cessna 208, Pilatus PC-12 etc].

It has also been a good year in the US market for **Turbomeca**. With the production of 25% more helicopter engines in 2006 compared with 2005 [979 engines] and a consequent rise in the number of overhauls [up 18%] the company expects to see 2007 witness 1,000 new engine deliveries. The increased deliveries require an expanded support system and Turbomeca have now expanded their network to include new production facilities in the US, more field representatives and technicians as the reorganisation announced last year enters its last stages. Pending is a new production plant for engines in the US Army's fleet of EC145s, that should be in production late next year.



The San Antonio Police Department Helicopter Detail recently took delivery of its fourth Model 333™ to expand its fleet of Schweizer Model 333™ turbine helicopters for airborne law enforcement missions. The 333 helicopters fly more than 2,200 hours a year in Support of San Antonio's 1.3M residents, undertaking patrol, search, surveillance, photographic and command and control missions across the 520 square miles policed by San Antonio.

With the 333 fleet undertaking the patrol mission the San Antonio Police and Fire departments and the Office of Emergency Management looked to American Eurocopter to provide a more capable airframe. They have now received a \$3.2M AS350B3 helicopter designed to reduce emergency response times. The A-Star was purchased through the 2005 Urban Area Security Initiative grant as the first midsize, multifunction aircraft for the region. It will help emergency responders perform missions involving several people, such as aerial assessments of large, critical incidents or terrorist crime scenes.

**Rolls-Royce** has joined with CALSTAR to offer Eurocopter BO105LS A3 helicopter upgrades through a new STC Type Certificate programme. CALSTAR, a regional, non-profit, public-benefit helicopter ambulance organization in California operates a number of



BO105LS A3 helicopters powered by the Rolls-Royce [Allison] Model 250 engines. Under the agreement with Rolls-Royce, CALSTAR will upgrade the power plant of its fleet of air ambulances to 650shp Model 250-C30P engines to enhance hot and high performance, reduce DOC's and improve availability with longer TBO's. CALSTAR will be offering upgrades of A3 model Bolkow's to other operators after their own are modified.

Although only a relative few of the airframes involved in this programme are involved [around 50 were built] there are still some 1,000 examples of this venerable twin helicopter in service and there seems little sign that they will leave service in the immediate future. More upgrade options for the type can be expected.

In total, nearly 30,000 Model 250 engines have been produced, with approximately 16,000 remaining in service. The engine has its roots in Allison, a company taken over by Rolls-Royce many years ago. It remains one of the highest-selling engines made by the Rolls-Royce organisation.

A new generation of the 250 was launched at the show - albeit that **Rolls-Royce** was pretending it was a wholly new engine. The 300 as it is known was leaked a day earlier to a **Robinson** press conference fronted by Frank Robinson. Frank - a long standing opponent of going turbine power - was outlining his plans for his new five seat R66 helicopter when he let it be known that his new project was indeed to be turbine powered and that the chosen power plant was to be the as yet unknown 300 model. The R66 will be a five seat addition to the product range and should resemble the high selling four seat R44. The arrival of what was expected to be the next number in line - the R55 - always assumed that Frank would avoid turbine power in favour of something different, perhaps a Diesel, but the designer eventually accepted that the new 300 engine would meet his exacting needs. A couple of years from now the R66 will be putting further pressure on a venerable Bell 206 that currently has no replacement announced.



Finally launched the following day by Rolls-Royce the 300 looks like the earlier 250 and shares the same type certificate - but the new power plant has been redesigned to return less power but an improved overall performance to meet Robinson's specific needs. It is no accident that the projected 2,000 hour TBO of the engine matches that of the Robinson airframe. The new Robinson will not be appearing too soon, the whole design still exists largely in Frank's head but Rolls have said that the 300 will be FAA certified later this year.

There are already suggestions that the new 300 engine will be offered to MD for its 500s, although the editor understood that MD's pressing requirement for the 500/600 line was for more power not less.

Robinson continues to outsell all other manufacturers, overall numbers are down but values are up as the main production effort has moved from the R22 to the R44.

Rumour has it that Robinson is trying to trim the unit price of his R44 Police airframe by discarding the propriety sensor turret [from FSI and L3 Wescam] and replacing them with a less sophisticated system.

Helicopter Adventures, Inc., one of the world's leading helicopter flight training providers,





announced that it has entered into an agreement that will lead to the sale of 100% of its stock to Bristow Group Inc., one of the largest operators of commercial helicopters in the world. The sale is expected to be completed on April 1 and will be renamed as **Bristow Academy Inc.**



**Helicopter Adventures, Inc.** was a 20 year-old company specialising in career-oriented helicopter flight training—including training for the emergency responders. With bases in Titusville, Florida and Concord, California the training school employs a staff of 115, including 45 flight instructors. The company's 51 helicopters fly 40,000 flight hours per year and its graduates are working in nearly every major helicopter company around the world.

The **Fairfax County Police** Department's Mission Enhanced 407 Project has been completed by Paradigm Aerospace Corporation of Mt Pleasant, Pennsylvania. The project was designed to upgrade the Department's 1996 and 2000 model year Bell 407 aircraft with state-of-the-art safety and mission enhancements. Fairfax County's 1996 Bell 407 (serial number 50) was on display in the L-3 Communications booth. For the operator it was financially a stark choice between spending capital on a new airframe and fitting it out with whatever systems could be afforded or to select the best systems and enhance mission capability.

**Paradigm Aerospace** [formerly HAS Corp] installed the Chelton Flight Logic EFIS featuring integrated traffic advisory, ADS-B, lightning detection, digital fuel flow and radar altimeter. New Technisonics TDFM-7000 and TFM-550 tactical radios are controlled by Technisonics A711 audio panels with voice alerting. Outside visibility is maximized through use of a stock size instrument panel and Aeronautical Accessories hi-visibility cockpit doors.

Mission enhancements include the **L-3 WESCAM** MX-15 geo-stabilised infrared and video system integrated with **AeroComputer's** LE-5000 tactical moving map system enabling precision target locating, and a Tyler Tech Tactical Platform system. At the show the aircraft carried the **Vectorbeam Technologies A800 Trakka** Searchlight that is intended to be fitted as soon as certification is



	<div style="text-align: center;">   </div> <h2 style="text-align: center;">ACPO - APA 2007</h2> <h3 style="text-align: center;">International Policing Exhibition and Summer Conference</h3> <table border="1" style="width: 100%;"> <tr> <td style="width: 50%;">Conference 19 - 21 June 2007</td> <td style="width: 50%;">Exhibition 20 - 21 June 2007</td> </tr> <tr> <td>Midland Hotel Manchester</td> <td>G-Mex Manchester</td> </tr> </table> <p style="text-align: center; background-color: yellow;">The Biggest and Most Influential Policing Event of the Year</p>	Conference 19 - 21 June 2007	Exhibition 20 - 21 June 2007	Midland Hotel Manchester	G-Mex Manchester	
Conference 19 - 21 June 2007	Exhibition 20 - 21 June 2007					
Midland Hotel Manchester	G-Mex Manchester					

complete. The light system provides normal and covert illumination capability for NVG equipped ground officers and flight crews.

The sensor system also demonstrates some new thinking by a US operator. In selecting the MX-15 Fairfax County has moved towards European thinking in sensor technology. In general it is rare to see such a large and capable turret in general use on a US airframe – even in New York the MX-15 is mounted on a specialised Bell 412 where the Koala fleet ‘make do’ with smaller 12 inch turrets. The larger type will provide Fairfax County with the capability of operating high and covert – and incidentally safer. It has never been a secret that height provides the aviator with an enhanced degree of safety day or night and yet operators still buy sensor systems that oblige them to fly low in order to mitigate the shortcomings of smaller and cheaper units.

Paradigm Aerospace designed an open baggage compartment that improves access and cooling of mission equipment. A two-piece quickly detachable medical wall provides rapid access to avionics mounted in the hat rack area of the aircraft. The entire project was completed in only 8 weeks under the leadership of Paradigm Aerospace customising manager, Craig Harvey.

The Fairfax County Police Department's Helicopter Division has been in continuous operation since 1983. It operates a fleet of two Bell 407 helicopters performing 3,000 to 4,000 multi-role law enforcement and EMS missions each year in support of the County's public safety departments.

The aircraft may not in itself be new build but the systems being carried are intended to be leading edge. The 800 watt Trakka searchlight has been through some of the most demanding testing any searchlight has faced in an effort to prove its leading specification in a very competitive market. On their stand the manufacturers were displaying a somewhat battered test example that had been subject to most of the hazards found in the sky including lightning strikes.

For the past thirty-five years the opposition searchlight manufacturers have offered the same basic light beam system using a large bulb and reflector for projection of the beam. Vectorbeam need to burst the myth of the old to get its own accepted.

Trakka's optical design\* utilises a Xenon lamp the size of traditional searchlights to deliver a more intense and consistent beam on the target. Up to six different filters can be activated touch of a button from inside the cockpit. Filters can range from extremely covert IR to ultra. Others can reduce the



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glare from fog or sand. Having these filters built in and always available offers tactical advantages without necessarily incurring a performance or maintenance penalty.

All this testing and techno babble is pointless unless the searchlight works in an operational environment and this is where Fairfax County come into the equation. As soon as the certification authorities give the go-ahead it should be this unit the eventually decides whether it meets the claims to produce a robust and stable beam of light equal to the 1600 watt light level of its competitors in a smaller more robust package.

[www.vectorbeam.com](http://www.vectorbeam.com)

Beyond **Spectrolab** there are others keen to carve out a piece of the action in a competitive field. A new manufacturer in this field is **Universal Searchlights LLC** of Omaha, Nebraska. Their product, the HeliLight looks like the original SX-16 it seeks to replace but it is claimed to offer a

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higher level of brightness. The light uses the same SX series mounts and seeks to offer additional features in fitting bolt on additional thermal video or laser payloads alongside the searchlight. As envisaged these would not be stabilised but would allow a single point mount for those operators not needing a high level of vibration damping. Universal also offers a number of additional products including a searchlight slaving system [SLASS]. [www.universalsearchlights.com](http://www.universalsearchlights.com)

**Schweizer Aircraft Corp.**, a division of Sikorsky, manufactures three helicopters at the moment, the piston powered 300C™ and 300CBi™ helicopters and the turbine-powered Model 333™. In the face of a strong market position held by Robinson orders for the 300 model are currently quite strong. Schweizer delivered 66 helicopters last year, taking it to 1,000 helicopters overall. The company has also delivered 5,000 other aircraft [mainly gliders] the 6,000th aircraft overall being at the show.



The company announced a rise in sales of Schweizer 300CBi™ helicopters to international operators. Recent sales include eleven to Edra Aeronáutica, Schweitzer's exclusive distributor in Brazil. Eight of the helicopters will be delivered this year and will be used in a law enforcement role in Brazil. The 300CBi™ was selected as the light patrol helicopter of choice by the Secretaria Nacional de Segurança Publica (SENASP). The helicopters will provide airborne security at the 2007 Pan American Games in Rio de Janeiro this July.

Other sales of the 300 announced at the show included five 300CBi™ helicopters to French operators in recent months. Six additional 300CBi™ helicopters are currently on order for

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French customers. Australia and New Zealand have seen strong interest with a total of 18 new aircraft being placed into these markets by Schweizer Distributors - Aviation Sales in Australia, Oceania Helicopters, and Flightline Aviation in New Zealand. In the UK CSE and Caseright delivered nine aircraft recently and have another ten on order.

**Sagem Avionics Inc (SAGEM)** and **ACROHELIPRO Global Services Inc** are teaming up to provide Bell 206 operators the opportunity to take full advantage of the benefits offered by the Integrated Cockpit Display System (ICDS), also known as the "Glass Cockpit" system. The technology offers 206 operators enhanced performance and reliability, superior quality and reduced operating costs.

The EAD01 device is the standard fast roping/rappelling device for EC135/EC145 offered by Eurocopter and **ecms**. It provides two self-securing couplings with a mechanical release system for loads of 155kg [340 lbs] per coupling just above the sliding door of the helicopter. High load factors up to 3.5g are allowed for the appliance of rope brakes during rappelling. The device is quickly mounted to the rescue hoist interface hard points of the helicopter.

The manufacturer **ecms** has now added new features and operational applications to the fully certified (EASA STC) EAD01 device: As a low cost alternative to rescue hoist or cargo hook based HEC systems, **ecms Aviation Systems** has added the new LifeLine device to the EAD01 system. This HEC/NHEC certified redundant double rope system, which supports 270kg external load, connects directly to the couplings of the EAD01 installed above the sliding door of the helicopter. The double rope system eliminates the need for ground-supported anti-rotation leashes. With an overall system weight of approx. 20kg [44 lbs], a maximum of surplus load capability is given.

The unique combination of rappelling and HEC capability allows for new types of rescue operation procedures without the need for touchdown at an intermediate landing spot prior to the operation, thus minimizing crucial access time. For example, the rescue crew can access the rescue site via rappelling upon arrival. Rescue crew and patient(s) can then simultaneously be evacuated safely from the site with the LifeLine device. Two devices can be operated simultaneously from one helicopter, allowing for evacuation of up to 6 people at once.

**ecms** has now added new retractable interface adapters for the EAD01 device. The new adapters bring the rope point out of the range of the landing skid and thus greatly improve the safety of fast roping operations. The adapters are available as a retrofit for existing systems or can be obtained with new EAD01 fast roping and rappelling devices. The manual retraction mechanism of the interfaces brings only a minimal increase in system weight, but greatly improves the versatility of the EAD01.

**Metro Aviation, Inc.** exhibited their latest EC145 air medical completion for delivery to the Allegheny General Hospital LifeFlight operation. The 145 featured the Metro SPIFR avionics group, Spectrolab SX-5 Starburst, Ferno PowerFlex litter system, Garmin GMX 200 MFD coupled with the Honeywell RDR 2000 radar, along with external liquid oxygen (LOX) system designed by Metro Aviation. The aircraft is the second of four new EC145 helicopters to be completed under contract to American Eurocopter at the Metro Aviation facilities in Shreveport, Louisiana.





Whatever their industrial shortcomings this year Bell Helicopter know how to put on a show.

As always the company shone in its choice of venue for its annual entertainment venue.

The Kermit Weeks Fantasy of Flight air museum was chosen as this years venue and as ever the food and entertainment were second to none.

Not many rotors to be seen—just a Cierva C30A







MD were showing two examples of their Notar product line on their pretty low key booth, an unregistered MD520N that appears to be c/n 104 and fairly new, whereas the MD902 is part of the legacy fleet - c/n 0095. Both numbers underline the low sales success of the MD Notar system over the last decade [though many would seek to dispute that].

Although Explorer's are to be found with construction number around 120 the type has barely sold one hundred, all too often recently announced 'new' sales have employed re-manufactured airframes. According to some of the statements credited to Lynn Tilson at the Heli-Expo there may be a deeper reason for this. It seems that there are ongoing difficulties in settling on the terms of manufacturing of new 900 fuselages for Patriarch in Turkey. The 'problem' is not beyond resolution but it probably makes life difficult.

In spite of their undoubted attractions [low noise and best cabin in class] Explorer's continue to remain a low value type in the second-hand market - users are still having to prematurely depreciate their craft. There are sales being announced though including one to an unnamed UK operator. Although the story has been disclosed in the aviation media MD at the show were still not able to officially announce that the Greater Manchester Police in the UK has re-ordered the type. It is certainly not that MD is ashamed of making the sale! Beyond that, for the moment anyway, sales are largely of pre-owned airframes.



Reports from the show portray Tilson as being angry about much of the MDHI legacy, the long climb out of the pit that MD had fallen into is apparently proving stressful. In stark contrast to the reports RDM, the previous owners with whom she clearly has much to disagree with, remain in the industry and remain their UK agents.

This may all seem detrimental to the undoubted efforts being put into turning MD around by Lynn Tilson's team, but not so. The project is still apparently on target. In mid-2006 the company was speaking of the end game being realised no earlier than the end of this year – more likely 2008 and that is where it appears to be heading. At least the current operation has largely put behind it the dire situation it found when it walked in the door. A figure of 204 helicopters on the ground [AOG] when Patriarch took over speaks for itself. That has now been turned around somewhat so there are now few AOG issues around and from delivering just 13 airframes last year the company hope to deliver 48 this year. They claim a \$300M order backlog so perhaps they will get there this time. They should do just for sheer effort.

They may be a design from the Vietnam War era but the conventional MD500 with its new motor industry constructed fuselages which came on stream in January retains a strong following in the US law enforcement community. At Heli-Expo the City of Columbus has proven continued allegiance to the 500E with a new order for a ninth machine of this type.

But the hard road that led us to 2007 has taken its toll and the number of agencies clearly selecting alternative products will be hard to win back unless the new experience proves to be a particularly bad one.

The major winner in this traffic is **Eurocopter**, the company continues to rule the industry with its apparently unassailable A-Star and EC145 taking the lead slots. Financially it is a good job too, for the large losses made elsewhere in the EADS group [mainly at Airbus] were mitigated by Eurocopter profits. It was left to Eurocopter's CEO Lutz Bertling to issue a



word of warning. The industry is in such a buoyant state that Bertling fears that there is room for production and delivery to run out of inertia, leading to significant delivery delays.

The current strength of Eurocopter [and who knows how long it will last] was displayed throughout the show with people were signing on the dotted line for Eurocopter products at a breathtaking rate. One customer signed for an EC145 for personal use - and stumped up a \$100,000 deposit – on the last day. The value of these late orders was said to be \$442M made up of such as thirty EC225, ten EC135 and a final total of nine EC145s. The final total related to over sixty airframes contracted. Of such things is the Heli-Expo made.

Even without the sale of over 320 examples of the military spec UH145 [now the UH-72A Lakota] to the US Army the EC145 marches on as the air ambulance airframe of choice. Already over one hundred examples of this sub-type of the venerable and high selling BK117 have been sold. That alone outstrips the certified sales of the MD900 over ten years.

Era Helicopters LLC placed an order for twenty machines - selected across three members of Eurocopter's single- and twin-engine helicopter family for use in the offshore oil and gas industry in the Gulf of Mexico and the air medical market in the United States. The Louisiana-based company's major contract with American Eurocopter, announced at the convention was for eight EC145, eight EC135 and four AS350B2 with deliveries to begin next year.

**Air Methods Corporation**, the largest U.S. air medical transportation provider, signed a Memorandum of Understanding (MOU) with American Eurocopter to purchase ten AS350B2/B3 helicopters annually and indefinitely. Now the company has announced that it was adding a further ten B2s to the order due for delivery in 2008.



For what is now a thirty years old basic design the sales success of the AS350 AStar series continues to astound. The high-performance version of the single-turbine helicopter currently highly favoured helicopter, the AS350B3, made its first flight from Marignane ten years ago in March 1997 and yet Omniflight Helicopters an EMS operator ordered 24 of them at the show to add to seven already ordered. The new order will be delivered at a rate of eight a year in the period 2008-2010. Other orders for the AS350B3 announced included the eighth for the Royal Canadian Mounted Police – the sev-

enth has just been delivered. As if those pre-existing 'Press Release' orders were not enough a further three were confirmed at the show itself.

American Eurocopter has now completed the delivery of all the re-engining kits for US Coast Guard HH-65 Dolphin helicopters, marking a major milestone in the service's upgrade of its aviation resources for homeland security, search & rescue, and other missions. The kits are being integrated in HH-65s deployed throughout the United States, providing increased performance, safety and reliability and for the Coast Guard's Eurocopter Dolphin fleet.





**Dart Helicopter Services** are marketing high-technology inlet barrier filtration (IBF) systems under an agreement signed with Aerospace Filtration Systems (AFS), the industry leader in the design, development and manufacture of high-performance engine IBF systems for commercial and military propulsion systems. The company holds commercial STC's worldwide, including commercial IBF solutions for:

AgustaWestland A119 Koala

Bell 205A1, 206B, 407, 206L-3/4, 206L-1(C30)

MD Helicopters MD 369 (MD 500H/D/E/F Series)

Eurocopter AS 350D/SD/SD2 (Soloy STC)

Soon-to-be certified IBF systems are in development for:

MD 900/902 Explorer

Eurocopter AS 350B/BA/B1/B2/B3, EC 130

Bell 212/412

They filter out more than 99% of dirt, sand, ash and fine particulates, enhance engine performance when compared to traditional particle separators and deliver more engine temperature margin (thus more load-carrying capacity), and providing a greater margin of safety.

Dart Aerospace Ltd. has received FAA certification of its Forward Opening Spacepods™ and additional Spacepod™ Upgrade Kits that will provide Eurocopter AS 350/AS 355 operators with yet another DART cargo expansion option. Transport Canada Approval was received in December 2006 and EASA certification is pending.

DART now offers two optional Spacepod designs; the new Fwd Opening Spacepod and the original Upward Opening Spacepod. AS 350 and AS 355 operators will benefit from 5.5 cubic feet of increased stowing capacity per side, increased weight capacity by 100 lbs per side, a net weight increase of only 13 lb per side, easy installation and removal and yet no flight limitations





Both designs feature a lightweight sturdy construction, two or three locking latches for additional security and a gas spring that dampens swing and supports the door in the open position.

For further information, please call N. American Sales +1 (800) 556 4166 or +1 (613) 632 3336, International Sales +1 (246) 420 7282 [sales@darthelicopterservices.com](mailto:sales@darthelicopterservices.com) [www.darthelicopterservices.com](http://www.darthelicopterservices.com)

**Powervamp** the UK based battery and ground power unit supplier is represented in the United States by Sun Aviation, Inc. of Kansas City, MO Phone: +1 (816) 358-4925 [info@sunav.com](mailto:info@sunav.com)

**Fischer+Entwicklungen** were exhibiting a range of crew and passenger seats at the show. F+E are based in Germany but their US Contact Jeff Hall can be contacted at +1 (719) 287 4800.

Organising events such as the Heli-Expo is never easy and there will always be a section of the display area that falls outside the natural flow of the visitors traversing of the hall. And sure enough hidden away in a poorly signposted hall were a handful of exhibitors who let the organisers know they were not well pleased in being placed out of the way. In among this group were Universal Searchlights and a previously unknown airborne gyro-stabilised electro-optical systems supplier **Peiport Industries Limited**.

Hong Kong, China based Peiport are of greatest interest mainly because they appear to be the natural supplier of sensors to the up and coming China Police helicopters. Established in 1990, Peiport Scientific Limited specialises in importing scientific and technical instrument into China. Peiport now has eight sales and technical support service centers in Beijing, Shanghai, Guangzhou, Chengdu, Wuhan, Xi'an, Lanzhou, and Zhuhai.

The company has marketing links with FLIR Systems, Polytech and DRS but also markets a range of multi-sensor gimbals under the SkyEye name; these are the products of a local manufacturer **DNL Optoelec Systems Limited** also based in Hong Kong [www.dnl-opto.com](http://www.dnl-opto.com). It appears that the SkyEye sensors are equipping some of the Western helicopters supplied recent in the police role. [www.peiport.com](http://www.peiport.com) [sales@peiport.com.hk](mailto:sales@peiport.com.hk)

Among all the large exhibitors there are a large number of small special interest exhibitors – mostly they are given free space by the organisers to provide a welcome break in the hard nose business atmosphere of HAI. These range from the large widely known groups including the *Whirly Girls* down to the small niche group.



The **Combat Helicopter Pilots Association** [CHPA] based in Washington DC. In the past many law enforcement pilots in the USA came from Vietnam veterans and it is a sad fact of the World today that many current law enforcement pilots are regularly extracted from their homeland security operations to serve in the current wars in Iraq and Afghanistan. Veterans in the making. CHPA is the Veterans organization open to any individual who piloted helicopters in combat for any of the US Armed Forces. A community with both a local and national focus - local and state chapters are forming across the USA. [www.chpa-us.org](http://www.chpa-us.org)

## GOODRICH EVENT

Preceding the HAI Heli-Expo by a few days **Goodrich Hoist and Winch** based in California and France ran a Users Conference and workshop to interact with users on their own operational experience with the products. A couple of adjoining rooms at the Orange County Convention Center were used as the venue.

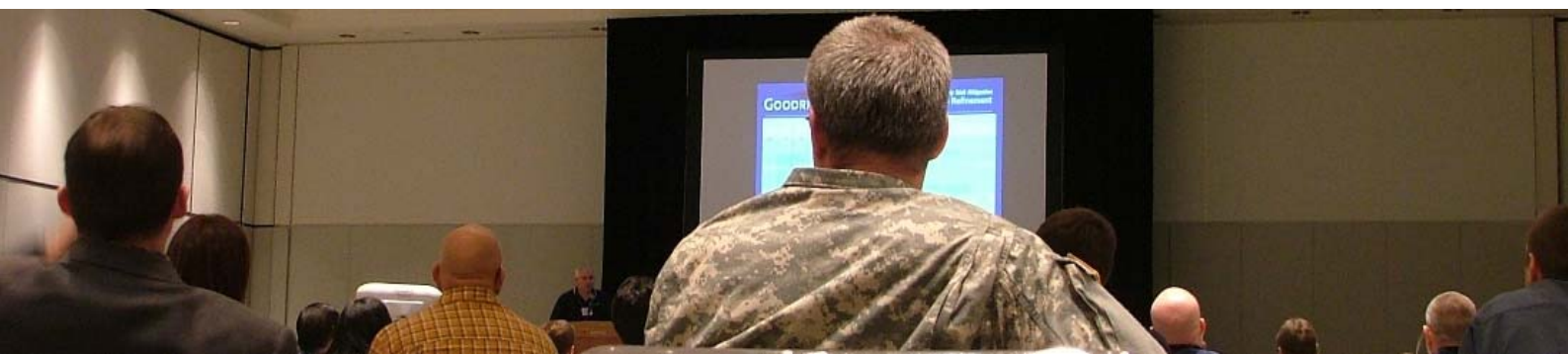
Both operational and technical forums were held for the purpose of exchanging information, observations, concerns and lessons learned. The two day conference was preceded by hoist maintenance training on February 26. The dates and the venue were chosen to coincide with the Helicopter Association International (HAI) Heli-Expo from March 1-3, 2007



Over the years Goodrich Rescue Hoists and Cargo Winches have been known by several names. Most recently these products carried the TRW logo, but prior to that Western Gear and Lucas Western were trademarks. Goodrich hoist and winch products utilise both the industry unique translating drum and conventional level wind technology, a diversity that allow the customer real choice.

Goodrich is to change the method by which they reckon the life of the winches they sell. Unlike the aircraft they are fitted on the winches have always been operated 'on condition' guided to a degree by a cycle meter. That in itself is a poor guide to use as the meter tends to show five cycles for a simple up and down operation and each mission tended to produce a different cyclic outcome. The new approach will count the hours the unit has been operated.

The event worked as was expected by Goodrich. There were perhaps few surprises on the day, the company knows its products pretty authoratively and imparted details on a number





of issues that it had encountered in recent times.

In operation the units are accompanied by a high pitched whistle created by the fan installed to cool electronics, instances of this fan unit failing – clearly evident by the accompanying silence – at least announce themselves very clearly but they are not seen as a no fly problem.

All in all the cables seem to survive a fair degree of neglect – abuse even – without biting the user back with a critical moment failure too often which is good to know if you are up to your neck in freezing seawater awaiting rescue. Nonetheless the majority of modern SAR craft are fitted with dual hoists to both further reduce the likelihood of equipment failure and to allow an entangled winch to be cut free without removing the winching capability from the craft. Men have died to underline the need for that provision.

One area where the company has yet to solve a problem is with an isolated repeat problem raised by just one unnamed European operator [believed to be Securite Civile in France Ed] with repeated instances of cable blooming.

*Before the event I suspected that the three days that this event encompassed were likely to be two days too many. I was wrong. The training sessions on the first day were useful and the conference subject matter was refreshing with the presentations among the best. Recommended – but only if you have a winch of course!*

The next Heli-Expo is in Houston, Texas.  
Heli-Expo 2008 will be held in the  
George R Brown Convention Center [below]  
from February 24-26, 2008.



**The International Exhibition for General & Sport Aviation  
June 8-10, 2007 - Wycombe Air Park, UK**



