

Rotorbreeze[®]

Bell Helicopter

A Textron Company

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World's First Civil Tiltrotor Achieves

First Flight

A new chapter in aviation history opened today (March 7) with the maiden flight of the world's first civil tiltrotor, the Bell/Agusta Aerospace BA609.

The nine-passenger aircraft, jointly developed by Bell Helicopter, a Textron company, and by Agusta, an AgustaWestland company, hovered at an altitude of 50 feet, performed left and right pedal turns, both forward and aft flight maneuvers, four take-offs and landings, nacelle position changes and stability testing for .6 flight hours (36 minutes) before setting down. The first flight follows seven weeks of ground runs and taxi testing for the BA609 conducted at Bell's Flight Research Center.

"The first flight was flawless; the 609 performed exactly as we knew it would," explained Bell/Agusta Senior Flight Test Pilot Roy Hopkins, who is the world's high time tiltrotor pilot with over 1,000 flight hours in the V-22 Osprey and XV-15 tiltrotor aircraft. Bell test pilot Dwayne Williams flew as co-pilot on today's first flight of the BA609.

"Today's first flight of the BA609 is truly an historic occasion, for it marks the first flight of an aircraft that will be available to the public that can not only fly with the high speed and range of an airplane, but can take-off, hover and land with the versatility of a helicopter," declared Bell Helicopter's Chairman and CEO John Murphey, adding, "Until today, commercial helicopters were limited to a top speed of about 150 knots. The BA609 smashes through that barrier with a top speed approaching 300 knots. This achievement is as remarkable as when the Bell X-1 first broke the sound barrier over 50 years ago."

"With nearly 70 advance orders from customers around the world, there is no doubt the BA609 will revolutionize air transportation," added AgustaWestland's CEO Amedeo Caporaletti.

With its rotors in the vertical position, the tiltrotor is able to take-off, land and



hover like a traditional helicopter. When the rotors are tilted forward to the horizontal position, the aircraft is able to fly similar to a turboprop fixed-wing airplane. The transition from helicopter mode to airplane mode takes 20 seconds, as does the transition from airplane mode to helicopter mode.

The BA609, a six- to nine-passenger aircraft, is expected to be certified by the FAA in 2007 with first deliveries to begin immediately following. Bell/Agusta will produce a total of four prototype tiltrotor aircraft for flight-testing. Final assembly for production aircraft will take place at Bell's Amarillo, Texas, facility with another assembly line to be established at the Agusta plant in Italy. Fuji Heavy Industries of Japan has the contract to build all of the production fuselages for the BA609. All parts and components for both lines will come from the exact same source, yielding aircraft that will be identical, whether assembled in Italy or Texas.

Headquarters for the Bell/Agusta Aerospace Company is located at Alliance Airport in Fort Worth, Texas. BA 609 customer training will be conducted at this location, which will also serve as a delivery center. The BA609 will cruise at 275 knots with a maximum unrefueled range of 750 nautical miles, 1,000 nautical miles with auxiliary fuel tanks. The aircraft in standard configuration is fully pressurized and de-iced.

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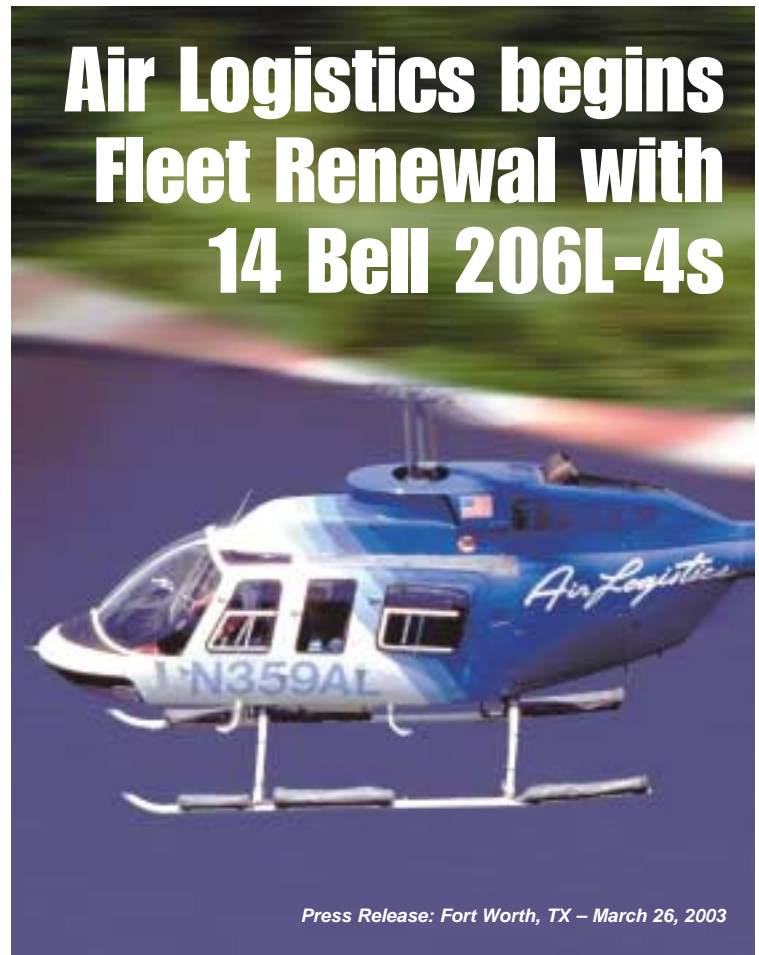
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Bell and Air Logistic officials today announced the signing of an agreement for Bell to provide 14 new 206L-4 Long Ranger helicopters to Air Logistics of New Iberia, La. The sale is part of a fleet renewal program announced by Air Logistics and its parent Offshore Logistics (NYSE: OLG) earlier this year. The new 206L-4s will be used for offshore oil support in the Gulf of Mexico. Deliveries will start in second quarter 2003 and continue through 2005.

John Murphey, chairman and chief executive officer of Bell Helicopter, said of the sale, "Making a fleet sale is always exciting for our company, but this renewal fleet sale is even more exciting because it means we have met the expectations of a more than 30-year Bell customer and an astute business operator. We are very pleased to partner with Air Logistics to meet their helicopter needs."

Air Logistics provides helicopter transportation and other support services to the oil and gas industry worldwide. Air Logistics provides its flight services from 16 strategic locations across the Gulf of Mexico, stretching from Corpus Christi, TX, to Mobile, AL, and supports more than 90 aircraft operating in international areas such as Mexico, Nigeria and Brazil.

Drury Milke, president of Air Logistics, said of the purchase, "The Long Ranger is known for its versatility and reliability and provides an important role in servicing our customers' production operations. Add to that the well known Bell after sale product support, and the 206L-4's low operating cost, and it is obvious that the Bell 206L-4 is a clear choice for the mission it will perform."



Press Release: Fort Worth, TX – March 26, 2003

Aeronautical Accessories Inc. & Edwards & Associates Inc. Add More Products & Services to Enhance the Bell Helicopter Line

Aeronautical Accessories, Inc. and Edwards & Associates Inc. recently announced the availability of several new products for the Bell model 407 and 412.

Aeronautical Accessories Inc. now has certified and available new lightweight float kits for the model 407 and 412. These innovative kits are simple to install and reduce maintenance cost, as well as offering a significant reduction in weight, in comparison to previous systems. The kits utilize a mechanical inflation system eliminating the need for any electrical installation. Additionally, both kits are available

with optional integrated life raft systems which enable the operator to have the life rafts stowed externally and removes the problems associated with stowing the rafts in the cockpit or passenger compartments.

Edwards and Associates Inc. is now able to offer a Visual Flight Rules (VFR) Autopilot system to the owner/operators of the Bell Model 407. The system provides pitch and roll stability augmentation, attitude retention, and with the optional Yaw-Axis Stability Augmentation System (SAS), full-time stability and rate dampening in the yaw axis. Also available as a

stand-alone system is the Force Trim System. When installed, this system provides cyclic stick positioning around a pilot-selected position while in flight or during startup or shutdown.

An optional Flight Director Coupler System is also available which provides flight path guidance with additional autopilot modes *Very-high Omnidirectional Range (VOR)* enroute and approach, *Auxiliary Navigation (GPS)*, *Localizer and Glide Slope Capture and hold*, and *Instantaneous Vertical Speed Indicator (IVSI-Vertical Speed Hold)*.

There is no scheduled maintenance or overhauls throughout the life cycle of these systems. Installation can be accomplished in conjunction with a new helicopter completion or alternately as a modification to an existing helicopter.

Contact Aeronautical Accessories, Inc. or Edwards and Associates, Inc. for additional information.

WE TRAIN THE WORLD

By David Oglesbee

A Look at the Bell Helicopter Training Academy

"We Train the World"—that's what the banner reads as you walk into the training hangar at Bell Helicopter Training Academy. Awards, pictures and "thank you" memorabilia lining the walls of the academy seem to prove that "We Train the World." Displayed is the picture of Eric Frazier, an Airborne Law Enforcement Association (ALEA) member from the Louisiana State Police Aviation Unit. The picture is dated 10 June 2002 and recognizes Eric as the 85,000th student trained at Bell Helicopter Training Academy. When you look in Jim Szymanski's office, the safety and HELIPROPS manager for Bell, you'll see the Joe Mashman Safety Award. This coveted award was presented to Bell Helicopter by the Helicopter Association International (HAI) for outstanding contributions to the promotion of safety and safety awareness throughout the helicopter industry. Continuing down the hall, you'll find Gary Young's office, the chief flight instructor for Bell Helicopter. On his desk, you'll notice the Dub Blessing Award, presented by HAI to the top-flight instructor of the year. You'll see the exact same award on Lon Wimberly's desk, one of the other senior flight instructors for Bell.

Bell Helicopter Training Academy offers a wide variety of helicopter related training. The training spans from pilot transition training into a particular Bell Helicopter model to training a maintenance technician, or pilot courses for FAA certified Part 141 Night Vision Goggle (NVG) training.

Bell Helicopter offers training that is particular to aircrews and maintenance crews operating in support of an airborne law enforcement operation. Pilots are offered the Law Enforcement Public Service course, where an in-depth review of the aircraft systems and operating characteristics takes place in the classroom. The crew will get a chance to experience every type of emergency possible in the Flight Training Device (FTD). In the FTD, the crew will see the lights, hear the bells and experience the aircraft as it appears during actual emergencies. *Ever thought about what it's like to suddenly realize you are in a cloud and can't see the ground?* Instructors guide students through that scenario, monitor for incorrect reactions to the situation and provide suggestions on how to handle such an emergency. A look at human factors, and how they cause or prevent accidents is also part of the course. Next, it is on to the flight line. Each pilot performs in flight emergency maneuvers in Bell's private training area during the day. Once the pilot is comfortable during the day the same emergency maneuvers are conducted at night; this includes full touchdown autorotations.

"We train the World"

"The Bell Helicopter Training Academy is totally dedicated to the needs of the customer," said Larry Stone, supervisor of the pilot ground section. "If the customer will let us know what type of training is needed, we will make sure they get it." That is the attitude you will find in all of the departments at Bell Training Academy (BTA). "If a law enforcement agency would like to see some training that is part of one course and something else that is

part of another course, we'll attempt to tailor the course to fit their needs." This can't always be accomplished but it is apparent from watching the different subjects being taught, if you want it, you can find it here.

What maneuvers could you expect a Bell flight instructor to teach you? "If it is safe to train it in the air, we will do it," according to Gary Young, chief flight instructor. "If we feel it is not a safe maneuver, or history has proven it to be something we don't need to do in the air, we'll teach you in our flight training device." Gary continued, "We are not about showing you how great the pilots are at Bell Helicopter—we are about showing you how to safely and professionally handle your aircraft when something breaks in flight and we are not there to help you."

The roots to another highly recognized "Safety Program," HELIPROPS, belong to Bell Helicopter.

If you have attended any regional or the national ALEA conference, you've had the opportunity to hear Jim Szymanski speak on human factors and aircraft accidents. Bell Helicopter supports, through the BTA, the HELIPROPS program. HELIPROPS, which is now in its 15th year at Bell Helicopter, is an *Accident Prevention Program*, which addresses Human Factors and Human Errors that contribute to incidents and accidents.

HELIPROPS is an acronym that stands for **HEL**icopter **PRO**fessional **P**ilot **S**afety. Three major human factors addressed in HELIPROPS are: *Physiology*, *Psychology*, and *Ergonomics*. The target audience for HELIPROPS is helicopter pilots and mechanics, although the principles apply to everyone involved in aviation operations.

HELIPROPS complements traditional pilot ground, flight training, and maintenance training. The Bell Helicopter Training Academy addresses a variety of subjects under the HELIPROPS Program. The three most significant are (1) produce and distribute a safety newsletter the *Human AD*, (2) conduct safety seminars, and (3) run an FAA Wings Program.

The *Human Airworthiness Directive (AD)* newsletter is a quarterly publication distributed free of charge to thousands of subscribers around the world. It is written with the helicopter pilot and mechanic in mind, and stresses the human factors involved in actual incidents and accidents. Bell translates the *Human AD* into Spanish and Portuguese, and distributes these translations, along with an English version, to subscribers in Spanish- and Portuguese-speaking countries. The *Human AD* can also be viewed on the NASA website safecopter.arc.nasa.org, and via the Bell Training Academy website.

Requested Safety Seminars are tailored to select topics which are of particular interest to the audience and suitable for the time allowed. These seminars are often conducted in an atmosphere in which the presenter also acts as a moderator to guide audience participation. Material found in these seminars is similar to that found in current Crew Resource Management (CRM) programs. Typical topics addressed in these seminars are *Fatigue*, *Spatial*

Continued on next page





Med-Trans Corporation recently placed an order for five new Bell 407 helicopters and plans to take delivery of these aircraft in the coming months. Med-Trans, a privately owned air medical company with the corporate headquarters based in Bismarck, N.D., specializes in providing air medical services throughout the United States. Med-Trans exclusively flies a Bell fleet, operating 14 Bell 407s and two Bell 206 helicopters.

Dennis Rohlfs, president/chief executive officer of Med-Trans Corp., said, "Our company continues to experience steady growth, and I am very excited and optimistic about our future. We have flown flying safely for more than twenty years. Safety continues to be our number one priority. Our utilization of the Bell 407 has played a critical role in our perfect safety record. The aircraft has been a solid performer in the Emergency Medical Service (EMS) industry and provides an ideal platform for patient care."

The Bismarck-based Med-Trans Corporation continues to experience steady growth. Their highest priority at all times is to

provide the safest air medical service for their flight teams as well as the air-transported patient. With more than 20 years of accident-free service and a safety rating that has been recognized as one of the best in the air medical industry, Med-Trans Corp. has recently received national recognition by Helicopter Association International with an Operator Safety Award for their outstanding service record.

"We take great pride in this award, which represents an achievement not only for Med-Trans Corporation, but for the entire helicopter industry. By increasing safety and reliability, we believe we are helping to meet challenges that we face now, and which we will surely face in the future," Rohlfs said.



We Train the World *(Continued from previous page)*

Disorientation, Decision-Making Process, Ergonomics, Mental Preparedness, Learning, Forgetting, Memory, Complacency, Interpersonal Relationships, and the Ability to Determine Risk and Willingness to take Risk.

For customers who attend training at the Fort Worth BTA, we also conduct an FAA Pilot's Proficiency Awards Program. The BTA is authorized by the FAA to issue the FAA Wings Certificates and Lapel Pins for any of the completed phases. The Wings Program adds significant value to the customer's training.

Each of these HELIPROPS activities, the *Human AD*, Safety Seminars, and the FAA Wings Program has the same objective – to prevent human-error accidents by stimulating an understanding of *human factors*.

There are many courses available for the law enforcement pilot. There are over 30 separate pilot courses now available at the BTA. Student pilots can go from zero time to a fully rated Airline Transport Pilot, all at Bell Helicopter. Looking for your Certified Flight Instructor Rating, or Instrument Instructor Rating? You can get that at the BTA also. For those law enforcement agencies that are looking to expand the knowledge and capabilities of their current pilot staff, Bell Helicopter is your answer.

The most popular course currently being offered for pilots at the BTA is the NVG course. The FAA recently approved and certified the FAR part 141 NVG training course last year. The only instructors in the world that can provide FAR 141 FAA-approved NVG instruction are at the BTA. This course runs one week and includes

ground and flight training. The flight training focuses on normal and emergency procedures while wearing the NVGs, including full touchdown autorotations. As more and more law enforcement agencies realize the advantages of NVGs, this course is expected to continue to expand to include an FAA-approved refresher course and the instructor's course. The NVG certification course does not limit the pilot to only flying Bell products while under NVGs.

The maintenance side of the house is not forgotten at the BTA. When you climb in your helicopter for a night patrol flight, you can focus on the mission, knowing factory trained maintenance technicians properly maintain your aircraft. Bell Helicopter offers over 50 courses for the aviation technician. The courses offered range from field maintenance courses to complete overhaul of component courses.

Bell Helicopter has also teamed with Flight Safety, whose facility is right next door to the BTA. Operators who fly the larger aircraft, such as the Bell 412 or Bell 430, routinely schedule training which involves both Bell Helicopter and Flight Safety. These schedules are coordinated between the two facilities in order to make the training smoother for the student.

Every course taught at Bell is also available at *your facility*. Bell Helicopter will send instructors to you, anywhere in the world. Recent training trips have included Washington State, Missouri, the Czech Republic, Saudi Arabia and New York.

For further information on the Bell Helicopter Training Academy, please contact Sylvia Ospinal at (817) 280-1116.

Considering the Options:

By Greg Marshall, Chief NDE/Field Investigations

Everyone from the pilot to the maintenance technician performs aircraft and component inspections. The routine visual inspection is categorized as a nondestructive testing method. Simply put, Nondestructive Testing (NDT) involves any form of inspection that does not harm or render unserviceable the item being examined. The most common NDT methods are visual, liquid penetrant, and magnetic particle. Though these methods are adequate for detecting some of the in-service or damage-related defects, they are not always the best option for the job.

The Rotorcraft has often been referred to as a flying fatigue machine striving to shake itself apart with every flight. The environment in which we operate can play a role in the type of degradations that occur over time. Even though components and aircraft are designed with most environmental conditions in mind, they do encounter problems along the way. Inspection is the only way to ensure the airworthiness of an aircraft once it has been placed in service. One of the Bell Helicopter Nondestructive Testing Evaluation Laboratory's (NDE Lab) primary functions is to match the best inspection methods with problems and situations that affect the customer. This is not always an easy job. The NDE Lab must be well staffed and equipped in order to adequately perform this function. The Bell Helicopter NDE Lab employs eight highly skilled individuals with experience and expertise in a wide range of inspection methods, materials, and industries. We spend much of our time working with various customers, not only internal to Bell Helicopter, but also with external customers such as the regulatory agencies (domestic and international), maintenance depots (military and commercial), material suppliers, and universities throughout the United States. We also maintain industrial and academic partnerships so that the technology we employ will be validated and cost-efficient for Bell Helicopter customers now, and for the foreseeable future. Our job is to provide the best inspection options available in order to ensure the safety of our operators and their clients.

So what exactly are the options to consider when we talk about non-destructive testing? Our options refer to the type (method) of inspections we want to perform on an aircraft. This may be as

simple as the option of performing visual inspections instead of any other type inspection. Whichever inspection method we choose, it is important to know that each option involves give and take decisions. For example, in order to permit the use of a visible dye penetrant over eddy current as a means to inspect for a crack emanating from a fastener hole, we must give up finding small flaws (penetrant inspection becomes less reliable with diminishing flaw size). *Another consideration we are all familiar with is the cost of performing one inspection method over another.* This is by far the most common concern voiced by *you*, the customer. Customer costs associated with NDI can be significant, combining the actual cost of the inspection method, costs associated with the aircraft being out-of-service, and miscellaneous logistical costs. There is no easy way to explain the process of controlling the cost of an unplanned inspection without turning this into a rather lengthy article. Please be assured though that we do our best to balance cost with other technical issues such as detectability.

Traditional visual and penetrant inspections are low-cost inspection methods and they do play an important role when it comes to maintenance, but as the old saying goes, "you get what you pay for." There are other inspection options available that complement standard visual and penetrant methods. Eddy current is one of those methods. Eddy current has the ability to find cracks without removing paint or primer, and is capable of finding extremely small flaws reliably. It can distinguish between a scratch and a crack, measure material loss due to corrosion, measure paint thickness and conductivity, and even measure skin thickness if necessary. This is just one example of the advantage of having a broad range of inspection options available, and not being limited to only one or two.

I know, I know...you're saying to yourself, *"But what about the cost of training and certifying personnel to a particular inspection method?"* Training of personnel is an integral part of rotorcraft maintenance. Higher-level NDT methodology such as eddy current and ultrasonic can provide the customer with earlier detection of in-service anomalies. Rotorcraft is particularly susceptible to fatigue failures due to vibrational loads, high stress working

environments and severe environmental conditions. Early detection capability and reduction in labor associated with aircraft disassembly required to allow for visual inspections would more than justify the initial investment associated with personnel training and equipment. Additionally, inspection costs associated with unexpected requirements such as ASB's, AD's, etc., which dictate the usage of higher-level NDT methodology, would be significantly reduced or almost totally averted. The latest ASB concerning model 212 MR Grip ultrasonic inspections fits this example. Greg Marshall, Chief of the Bell Helicopter NDE and Field Investigation Laboratories had this to say:

"We have had nothing but positive feedback from the Bell customers trained as Ultrasonic Level I Special personnel. It was unfortunate we had to place our customers in that situation, but it was necessary to ensure their safety. We were glad we could offer their people the specialized training needed to keep them flying with minimal down time. Initially we were concerned with the reception we would get from the students that attended the classes; what we found was an overwhelming common desire to incorporate this type of technology into normal inspection operations. We learned that the worldwide family of Bell operators are more than capable of executing this transition and they actually encourage its inception."

In contrast to the fixed-wing community, the majority of rotorcraft maintenance facilities do not use advanced inspection methods such as eddy current or ultrasonics. The NDE infrastructure in the rotorcraft world is not nearly as strong as it could be. These advanced inspection methods do not appear to provide enough motivation for operators to invest their time and money. This may be due to the lack of first hand knowledge of what the added capability would enable. For example, tasks such as nose wheel inspection can be done in-house with the same equipment used for routine crack detection. Another example would come in the form of the incorporation of advanced materials into the airframe structure and/or other critical components. New aircraft are using more composites than ever. Traditional visual and penetrant inspection methods are not adequate to inspect these parts for

a Look at Nondestructive Testing

damage. Instrumented NDE methods such as ultrasonic inspection will have to be used on these components in the future.

Research and Development

As if the challenge to build NDE infrastructure in commercial rotorcraft weren't daunting enough, the advent of rotorcraft with more complex composite materials makes the job that much tougher. Fortunately, several advanced NDE and enabling information technologies are converging to make the NDE future bright for our customers and our company. A future vision for handling NDE field support is outlined by Tony Hamilton, Senior Engineer Specialist for NDE Research and Development:

"A laptop computer or a Personal Digital Assistant (PDA) might be included with every single helicopter or group of helicopters sold. The unit will contain basic NDE procedures, specialized procedures with animated illustrations and embedded video, and tutorial applets that will give the customer command over common NDE problems."

Communication software that includes simulation capability, enhanced vision and video tools, electronic engineering of critical areas, and cost modeling will provide the customer and customer support service personnel with a "probe's eye" view, aiding in a quick assessment and implementation of the safest and most cost-efficient solution. NDE technology modules would provide the customer with NDE capability customized for their needs. Where possible, technologies that provide wide-area coverage and real-time video imaging (thermography, acoustography, magneto-optical imaging) will be used. These technologies often require a larger initial investment, but pay for themselves with shorter inspection times and less disassembly. All of these NDT technologies would, of course, reside on the same high-speed computer platform.

"Common situations could be handled by pre-loaded video tutorials on a 24-hour website; other more complex situations could be dealt with in real or near-real time via two-way communications link. The virtual NDE Laboratory would indeed be at hand."

According to Mr. Hamilton, this scenario could be commonplace in a matter

of years and can be one of many ways of facilitating NDE field services to ensure the safety and economic viability of Bell rotorcraft now and many years into the future.

Conclusion

In summation, several key categories can be examined to visualize the benefit of higher level NDT methodology:

- 1) Sensitivity.** Visual methods currently in use are not sensitive to small service-induced defects. These methods generally are incapable of detecting defects that are below the outer accessible surface. Inspections must be performed more often than what higher-level methodologies would theoretically require. Non-detection of flaws due to low sensitivity of inspection reduces levels of inspection confidence and can lead to premature problems. Costs related to such problems could be substantial.
- 2) Preventative Maintenance.** By the time the telltale signs of corrosion, cracking or other service-induced defects appear visually, extensive repair or refurbishment is required. Consequently, standard present-day maintenance procedures can be very costly and involve large amounts of spare parts. The proper use of proven NDT techniques with predictable Probability-Of-Detection (POD), accompanied by damage tolerance assess-

ments, can be used to safely extend the inspection intervals and in some cases the life of selected components.

- 3) Composites.** Visual inspections are even less sensitive for composite components. As these materials become more prevalent, ultrasonic, infrared or other compatible methods must be implemented. The implementation of full-field methods (i.e. infrared) and their ability to segregate defects for further evaluation by established NDT methods (i.e. ultrasonics) is an essential element of reducing cost and cycle time for field NDT.
- 4) Regulatory.** Momentum has been building within regulatory agencies to promote the usage of enhanced inspection methodologies. So far the concentration (Aging Aircraft initiative) has been on fixed-wing aircraft. It is only a matter of time until the worldwide commercial rotorcraft fleet will begin to see some of this regulation. Composite structure will cause acceleration in this momentum.

We here in the BHTI NDE Laboratory feel these benefits far outweigh the cost of implementation of the methodology in our customers operations. We are dedicated to support such implementation as we continually strive to improve our products and services and drive costs down.

SHOP Talk

Q: What is available for quartz halogen lamps?

A: QUARTZ HALOGEN PAR LAMPS ANSI APPROVED
Whelen's family of quartz halogen PAR lamps offer two distinct features over standard incandescent PAR lamps: sustained light intensity and 10 times the average life. Tests have shown 250 hours life versus 25 for standard off-the-shelf lamps. This dramatically reduces costs associated with replacement labor and parts. Where incandescent lamps decline in intensity (beam candlepower) over time due to filament deterioration, Whelen's lamps maintain their rated intensity throughout their life, providing a constant level of visibility.

SPECIFICATIONS						
Model #	Part #	DWG #	Replaces:	Wattage	Voltage	Style
Q5596	34-0750692-00	50692	4596	250	28 volt	Par 36 Landing
Q5587	34-0750707-00	50707	4587	250	28 volt	Par 36 Taxi
Q4509	34-0750478-00	50748	Q4509/4509	100	14 volt	Par 36 Landing
Q4591	*34-0750767-00	50767	4591	100	28 volt	Par 36 Landing
Q4566	34-0750820-00	50810	Q4566	450	28 volt	Par 46 Landing

* Indicates no PMA Approval

Shop Talk continued on next page...

Bell Helicopter in Popular Culture

Interview with Ernest Borgnine, Star of Airwolf

Submitted by Patrick Foley,
Business Development Manager,
US/Canada

Recently, *Bell Flyer* had the unprecedented opportunity to interview one of the most recognizable personalities ever to be associated with helicopters, Ernest Borgnine, star of the 1980s TV hit, *Airwolf*.

Besides a top acting staff, this series featured a highly modified Bell 222 that added to the action by attaining supersonic speeds, delivering countless varieties of ordnance, and always helping to save the day. Despite its enhanced performance, this Bell product was generally in a supporting role. Borgnine, and his co-star, Jan Michael Vincent, were the ones to watch.

Holding a conversation with Ernest Borgnine is what you might expect to experience if you had a discussion with Santa Claus. He never goes very long without a loud laugh or a chuckle, and he covers a lot

of ground, from reminiscing about an autogiro landing at his boyhood grammar school to discussing USMC rotorcraft operations.

The following comments reveal Borgnine's passion for life, and some interesting reflections on rotorcraft—past, present and future:

When asked how it felt to be the most famous helicopter guy of all time:

"Are you kidding? Oh my Lord! My God! You just paid me a great compliment, but I'll tell you one thing; it was fun working with the helicopter. Every day that we *could* go up in it, we *did*, until finally the insurance people got so they wouldn't let us fly anymore."

Concerning his first time at the controls with the stunt pilot:

"He said 'OK, go ahead and take over.' Well, I was all over the air in no time at all, boom, bam, bim, you know. Until suddenly I learned that by holding your arm steady on your knee it was cinch. We had a ball!"

On flying with close friend (and long time Bell customer) Mel Larson of Action Helicopters:

"Mel and I have actually flown helicopters clear across the country together following [Interstate] 40. We'd leave Las Vegas and just head for 40, the highway, and off we'd go. One time I had him fly over the theater that I had started out in, the Barter Theater, in Virginia. Abingdon, VA, but that's another story."

Remembering the cosmetically modified Bell 222 used in the TV series:

"This *Airwolf* was really something! We gussied it up with machine guns and everything else, and made it look like it was really something. We'd take it to air

shows and put a big cordon around it so people would just look at it, but (they were told) you can't touch, because even the Russians are very interested in this thing." [Long Laugh!!!!]

Relating how he got the role on Airwolf:

"The producer of the show came by one day and he said 'Listen, I've got a part for you, if you'd like to do it. It's written for you.' I said, 'Sure, what the heck, it's something different!'"



I went from motor torpedo boats to helicopters. Hey, it's all in a day's work as far as an actor is concerned."

Recounting the impact that Airwolf had on his acting career:

"I just looked on it as a job, and a fun job at that. That's the best part of being an actor. One day you're a train engineer, the next day you're flying a helicopter, or the next day you could be on a boat. Our imaginations are fulfilled."

Critiquing his piloting skills:

"I had pretty good control of the thing."

His opinion of helicopters in general:

"I think they're a marvelous mode of transportation. It's a form of wonderment."

On Tiltrotor aircraft:

"I've been begging him (friend Mel Larson) to get one of those."

Did Ernest ever get his helicopter pilot rating?

"Oh no, no, no. I'm strictly an amateur, and all I did was ride in them. I just love to go up in them. I still enjoy it. It's fun!"



Commenting on the Bell AH-1 Cobra:

"Wow! That's a piece of machinery! I'll tell you! That's a flying fortress in itself!"

Reflecting on his experiences with Airwolf:

"It was a lot of hard work, I'll tell you. I think we could still be doing it, because there are a lot of amazing stories connected to helicoptering. It's an amazing thing!"

Special Thanks to Mel and Marilyn Larson for arranging this interview.



SHOP TALK

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Q: Are manuals available for the P/N 214-070-300 Internal Rescue Hoist Assembly?

A: Operation and maintenance manuals, which include an illustrated parts list, are available only from the hoist manufacturer, Goodrich Hoist and Winch (formally TRW, Lucas Aerospace, Lucas-Western, Western Gear). Contact Goodrich Hoist and Winch Publications at telephone 909-569-0334 or fax 909-569-0382. P/N 214-070-300-001 (single-speed hoist) is covered by publication number 25-00-05 and P/N 214-070-300-101 (two-speed hoist) is covered by publication number 25-00-02.

Q: What is the part number of the electrical terminal cover for Droop Compensator actuator 205-060-762-103?

A: The (little) plastic cover part number is 6D1001.

Q: Can you indicate which shoulder restraints and lap belts I should order for the crew seats on my Bell 412?

A: The following should provide clarification about the crew seat applicable spare shoulder restraint/lap belts assemblies for the 412 helicopters:

ALL 412 prior to ship S/N 33074: Order shoulder restraint P/N: 501836-201 (Automatic locking feature—no manual lock cable and handle). Order lap belts assy: P/N: 501836-403. Or order the complete assembly for the two above under P/N: 501836-401

For 412 S/N 33074 and Sub: Order shoulder restraint P/N: 412-070-843-105 (Automatic and manual locking feature with cable and handle). Order lap belts assy: P/N: 501836-403. No complete assembly for the above exists. Parts must be ordered separately.