U.S. Naval Helicopter Training
Going Vertical!
US Naval Helicopter Training: Going Vertical!

Story and Photos by Lyn Burks
Helicopters began to seriously contribute to that heritage in June 1943, when Lieutenant Commander Frank A. Erickson, USCG, proposed that rotorcraft be developed for anti-submarine warfare: "not as a killer craft but as the eyes and ears of the convoy escorts." To this end, he recommended that helicopters be equipped with radar and dunking sonar. The Navy ordered and received its first helicopter a mere few months later in October 1943. It was a Sikorsky YR-4B (Navy designation HNS-1) accepted at Bridgeport, Connecticut, following a 60-minute test flight by Lt. Cmdr. Erickson, and then delivered to NAS Patuxent River, Maryland.

Since that time, the mission sets have broadened and the aircraft have become exponentially more complex and capable. Whether transporting clean water and relief supplies into an earthquake-ravaged nation, performing medical evacuations to an aircraft carrier, moving supplies between a carrier and support ship, or deploying a torpedo against an enemy submarine, helicopters in America's Navy are in action around the globe. Regardless of the mission, each deployed aircraft utilizes state-of-the-art computer, sonar, radar, and air-to-ground weapon technology. Today, helicopters and tilt-rotors have become an indispensable component of naval operations, with 55 percent of all naval aviators being rotary-wing pilots.

"AGUSTA WESTLAND BELIEVES THAT IT, ALONG WITH THE RIGHT PARTNERS, CAN HELP THE NAVY COMPLETELY FLATTEN ITS ADVANCED HELICOPTER TRAINING PROGRAM COST CURVE OVER APPROXIMATELY THE NEXT DECADE..."
AN AGING FLEET

In order to sustain the tremendous capability it provides in its helicopter fleet, the Navy produces approximately 500 helicopter pilots per year. For nearly 35 years, the Navy’s primary helicopter trainer has been the TH-57 (Bell 206). Believe it or not, many of the early trainers are still in service today. Systemically, the training fleet and structure for training helicopter pilots is just old. Over the decades, it has had to adapt three different models of aircraft (TH-57B-C-CNVG) in order to train helicopter pilots. Although pilots are safely trained, the age of the fleet combined with several models can create many inefficiencies in the system, e.g., training flights being cancelled due to aircraft breaking down.

The current modern U.S. Navy helicopters are the Sikorsky SH-60 (Seahawk) and the MH-53E (Sea Dragon). The U.S. Marines fly the H-1Y, AH-1Z, and the MV-22. Given the complexity of these aircraft and their systems, there seems to be a significant disconnect between the less sophisticated training aircraft and the actual aircraft that naval helicopter pilots will fly once in the fleet.

In an era of ever tightening federal budgets, the Navy, like other U.S. military branches, is faced with upgrading their training fleets to meet modern day demands, while at the same time doing so as cost effectively as possible. As current training helo’s age, the costs to maintain them rise exponentially as years pass. It is estimated that the Aircraft Conditional Inspections (ACI) that occur at the depot level every five years cost between $750,000 and $1.2 million. The current budgeted amount for each ACI (performed by L3) is $618,000. Since many of these aircraft are over 30 years old, the cost curve is expected to steepen even more as they age. Essentially, as the aircraft get older and the cost of the ACI continues to climb, the Navy will essentially be paying the full value of the TH-57 several times over.
TRENDS AND OPPORTUNITY

The U.S. comprises 35 to 40 percent of the world’s military budgets. AgustaWestland has a clear goal of breaking into the U.S. military helicopter market and the recent Request for Information (RFI) issued by the Navy for a new single-engine, IFR-certifiable trainer looks like a real opportunity for the helicopter manufacturer to seize. AgustaWestland North America CEO Robert LaBelle says, “Based on the RFI put out by the U.S. Navy, it would seem that the AW119 Kx is a perfect fit and would be an excellent primary training helicopter for the U.S. Navy.”

It seems the military has moved away from long-range developments that require designing a brand new aircraft from scratch in order to meet some future need (think Comanche). Instead, it has shifted its focus to more immediate short-term needs. The trend of utilizing civil airframes as military platforms is becoming more commonplace in the global market. Not only is money saved, but also since civilian aircraft are FAA certified, they often meet or exceed military requirements from a flight standards perspective. This is not new territory for AgustaWestland; they have hundreds of aircraft in operation with several NATO allies.

COMPREHENSIVE PLAN

It’s pretty much agreed that if the U.S. Navy does nothing, it will be ‘nickel and dimed’ to death by rising budget overages required to maintain.
its obsolete aircraft fleet. Outright selling the U.S. Navy a hundred aircraft to replace the outdated TH-57s is an option, but AgustaWestland believes such a sale would be shortsighted and put the Navy right back into their current predicament in a couple of decades. AgustaWestland would prefer the Navy move in the direction of a “Full Services” contract (proposed by the Navy in the RFI) which uses a multifaceted approach rather than one of mere acquisition. The company believes that it, along with the right partners, can help the Navy completely flatten its advanced helicopter training program cost curve over approximately the next decade by providing aircraft, maintenance, training, and simulation as one comprehensive package.

Events and initiatives this fall provided a backdrop for bringing the aircraft, and this full service solution, straight to the instructors training the next generation of Naval Aviators. The 18th annual Naval Helicopter Association Gulf Coast Fleet Fly-In, held last October at NAS Whiting Field near Pensacola, Florida, brought together Navy, Marine, and Coast Guard aircraft, along with several civil OEM models for aircraft demonstrations and professional educational forums.
The event was a prime opportunity to join the AgustaWestland team for a flight in the AW119 Kx and to experience the capabilities of the aircraft that will allow it to be viable option in the selection for the Navy's next-generation advanced helicopter trainer. The U.S. Navy training community as a whole was further introduced to the AW119Kx at the Blue Angels Homecoming Air Show, where thousands of attendees got a glimpse of the aircraft on display during the three-day event in Pensacola.

Augmenting AgustaWestland's approach to provide government customers with detailed information about the AW119 Kx as an advanced helicopter trainer is a microsite (www.AdvancedHelicopterTrainer.com) and marketing initiatives that include showcasing the aircraft to U.S. Navy and Department of Defense decision-makers in 2015.

**PROOF OF CONCEPT**

Another U.S. military branch has proven the concept. The U.S. Air Force has an Initial Flight Screening Program (IFS) in Pueblo, Colorado, which every potential Air Force pilot must attend. The IFS program began operations in 2006 and is under the cognizance of the Air Force's 306th
Flying Training Group of the Air Education and Training Command. Doss Aviation, a civilian company under contract with the USAF, conducts flight screening for 1,300 to 1,700 USAF officers annually. The company provides complete services, including aircraft, maintenance, instructors, training facilities, and lodging for IFS candidates.

POTENTIAL BENEFITS FOR THE NAVY
AGUSTAWESTLAND’S PROPOSED ‘TURNKEY’ PLAN APPEARS IT COULD BENEFIT THE NAVY IN SEVERAL WAYS, INCLUDING:

Predictability – The Navy will be able to more accurately forecast their output with respect to training budgets. As stated earlier, procurement is an option. However, that requires a massive amount of capital outlay on the front end. In a service plan, there would be no additional operating costs above current levels and the Navy could slide right into new, modern day aircraft.

Efficiency – According to AgustaWestland, the AW119 Kx is a more capable aircraft than the current trainer in many ways: safety, power, range, avionics, and so forth. It believes that hour for hour, students will achieve a higher volume and quality of training per sortie.

Relevancy – Perhaps most importantly is the question of relevancy. Currently most fixed- and rotary-winged naval airframes have transitioned to glass cockpits. Even the Navy’s primary fixed-wing T6 trainer utilizes digital displays for performance and flight information. Yet, the TH-57 is still using antiquated analog gauges and instruments. Currently, it’s common for a naval aviator to be trained in the T6 trainer with glass cockpit, and then move into a larger fixed-wing glass-cockpit aircraft. Then if the aviator is selected to fly helicopters, he or she must regress back to a non-glass environment while training in the TH-57. To add insult to injury, once leaving primary helicopter training, the pilot will again go back to glass cockpits in the larger, more complex helicopters common in the fleet.

To cite an old cliché, it appears that the U.S. Navy’s 239 years of tradition has not been completely unimpeded by progress. From my vantage point, they are flying modern missions in modern aircraft that are equipped to handle complex missions in some of the most inhospitable environments known. Navy helicopter pilots are some of the best trained in the world. Looking toward 2016, if the U.S. Navy moves on the recent RFI, perhaps AgustaWestland can play a role in helping reconnect the naval training fleet with the rest of the fleet.
SUPPLEMENTING EVERY STUDENT NAVAL AVIATOR’S TIME IN THE AIR IS A COMPREHENSIVE GROUND-BASED TRAINING SYSTEM THAT FULLY PREPARES NAVY PILOTS FOR THE RIGORS OF TRAINING AND REAL-WORLD HELICOPTER MISSIONS. BEFORE A STUDENT PILOT TAKES THE CONTROLS, HE OR SHE HAS COMPLETED REALISTIC COMPUTER AND SYNTHETIC TRAINING, AND WILL CONTINUE THIS TYPE OF TRAINING THROUGH THE LIFE OF THEIR FLYING CAREER.

AgustaWestland offers the US Navy the same expansive range of ground-based training solutions that commercial and military customers are taking advantage of around the world.

The AgustaWestland Training Academy works on three continents (Europe, North America, and Asia) and trains more than 7,000 students, pilots, and technicians from over 70 different countries each year. Its courses stand out, thanks to the exclusive use of state-of-the-art technology and innovative flight simulators.

COMPUTER BASED TRAINING (CBT) CURRICULUM AND MULTIMEDIA LEARNING

The CBT system combines advanced visual aids with interactive learning media to deliver individual student training. Most systems have individual desktop personal computer-based workstations with one or two display screens. A networked classroom can be created by linking a set of workstations via a server to an instructor’s console.

A tablet and a USB stick containing all reference material are distributed to students in order to save notes and to facilitate access to electronic documents, texts, and books.

VIRTUAL INTERACTIVE PROCEDURAL TRAINER (VIPT)

The VIPT is a state-of-the-art reconfigurable and deployable cockpit trainer. The device employs advanced graphical visualization techniques to simulate the helicopter cockpit in a virtual environment, where flight deck controls, equipment, systems, and components are faithfully reproduced using graphics and touch-screen technology.

FLIGHT TRAINING DEVICE (FTD)

The FTD is a fixed-base cost-effective helicopter training system with the highest level of fidelity achievable from this type of device. The simulation is fully representative of the helicopter’s behavior and the fidelity of the represented cockpit is the best for this class of device. This increases the level of realism of the training experience, and also the level of proficiency that is achievable by the trainees.

FULL FLIGHT SIMULATOR (FFS)

This new generation of flight simulators delivers sufficient realism that one hour of training in the simulator is equivalent to one hour of flight training in the actual aircraft. This helps ensure naval aviators are fully prepared before they are responsible for control of the aircraft, and meets their recurrent training requirements.