

Bell Boeing Tiltrotor Team's

OSPREY FACTS

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Chief Osprey test pilot takes home society's highest honor

By Ward Carroll
NAVAIR V-22 Public Affairs Officer

Tom Macdonald, the V-22 Integrated Test Team's Chief Test Pilot and a retired Navy helicopter pilot, was recently awarded the Society of Experimental Test Pilot's prestigious Iven C. Kincheloe Award for 2003. The Society, which awards the Kincheloe each year in recognition of outstanding professional accomplishment in the conduct of flight testing, made the announcement on September 29 at the organization's annual convention in Los Angeles.

"I'm very surprised," Macdonald said with his characteristic humility. "I'm honored by the personal recognition, but I consider this an award for the entire V-22 team."

The Kincheloe Award was established in memory of Captain Iven C. Kincheloe, Jr., USAF, who died in 1958 during a test flight in an F-104 Starfighter. Macdonald joins an august list of previous winners including Scott Crossfield, Neil Armstrong, John Glenn, and Dick Rutan.

Macdonald, who has accumulated nearly 700 hours of flight time in the V-22, was the first test pilot in history to fully define a high rate of descent - low airspeed envelope for a helicopter-like aircraft. In order to accurately define the Osprey's operating envelope, he repeatedly flew the aircraft to test points that were at once close to load limits, flapping limits, and the aerodynamic departure boundary. As he hit these test points he discovered that the V-22's prop/rotor gave off few physical cues to the pilot as the aircraft approached the departure boundary, or "Vortex Ring State," as the phenomenon is known in rotary wing circles. Macdonald flew the Osprey into departures and verified the proposed recovery technique. This skilled flying along with his recommendations for the

type and placement of a pilot high rate of descent warning system will ensure the Osprey is safe and operational for fleet pilots in the future.

"Tom flew every flight in a test program where no test pilot has been before," said Fred Madenwald, recent V-22 flight test director. "His leadership, piloting skills, and timely judgment carried this testing phase to a successful conclusion. It should also be noted that he did all of this under

the intense scrutiny of the Department of Defense, with the fate of the V-22 program in the balance."

"We're very proud of Tom," said Col. Craig Olson, V-22 Joint Program Manager. "Because of the revolutionary nature of the Osprey it's fitting that he would get this award on the centennial of flight, and that on a broader scale the V-22 program would be recognized for its great accomplishments this year."



Test pilot Tom Macdonald standing in front of Osprey 34, the newest aircraft in the nine-plane V-22 test force. (Photo by Randy Teufel)



PM Perspective: Mutual Trust

By Mike Tkach
Vice President; Program Director
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One Team Working with Mutual Trust and Respect to Provide an Effective, Suitable and Affordable V-22 Weapon System to the Warfighter.

In the past few months, we have continued to socialize the V-22 Vision and Guiding Principles with team members at various sites, our customers, suppliers and the media. Blue and red cards, with the vision imprinted on them, are being seen more and more in meetings of team members and suppliers alike. Every program meeting begins with a review of the vision and guiding principles and an opportunity to share recent examples of either "Blue Card" or "Red Card" behavior.

Through this continued sharing of the V-22 Vision and Guiding Principles, we are attempting to raise trust to another level among the V-22 Joint Program Office and all team members. By seeking to better understand each other's intent, motive and

constraints -- in other words - listening -- we are building an environment of trust that helps encourage higher levels of open and honest communication. This atmosphere allows issues to be addressed and resolved in a non-threatening, solution-focused environment.

During a series of recent "site immersion" visits, JPO Program Management has focused on increasing understanding of operations at our primary sites. Seeking to understand other's constraints and the opportunity to directly interface with team members at the sites on various issues has been invaluable. This will be an on-going process as we continue our journey toward a world-class high performing team.

We have completed over 900 flight hours since our return to flight in May 2002. This wouldn't have been possible without a program built on trust and dedicated to seeking solutions. Let's all stay focused on an effective, suitable and affordable V-22 Weapon System to the Warfighter.

... "the Osprey is the future of rotary wing aviation."

Rep. John Murtha (D-PA)

News and Notes

Osprey test squadron receives first aircraft

VMX-22, the test and evaluation squadron for the V-22 Osprey, recently accepted its first aircraft, V-22 No. 41, at industry partner Bell Helicopter's Amarillo, Texas, plant. Based at Marine Corps Air Station New River, N.C., the squadron is responsible for operational test and evaluation of the Air Force and Marine Corps V-22 variants. VMX-22, activated on Aug. 28, will operate up to 16 aircraft, including four for the upcoming operational evaluation, or OPEVAL, phase. According to program officials, OPEVAL will begin in November 2004 and last through the middle of 2005.



V-22 aircraft No. 41 is the first aircraft to join VMX-22, the program's new test and development squadron, and the first 'Block A' aircraft delivered to the Marine Corps. 'Block A' modifications include various software changes, weight reduction initiatives, a redesigned nacelle and additional safety of flight features.

Additional test aircraft arrives in Philadelphia

MV-22 aircraft No. 25 arrived Sept. 6 in Philadelphia, where it is being converted into a CV-22, the Special Operations version of the tiltrotor. A NASA Super Guppy airplane

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Above, workers load MV-22 aircraft No. 25 onto a barge (left) docked in the Delaware River prior to traveling downstream to the Boeing Philadelphia flight ramp. (Photo by Jim Hughes)

Marine keeps Ospreys airborne

By Ward Carroll
NAVAIR V-22 Public Affairs Officer

When Sergeant Chris Hanzlik joined the Marine Corps in March of 1997 he did so with an eye on eventually getting into law enforcement. But more than six years and a handful of duty stations later, he's come to realize that what he really loves is working on airplanes, and the airplane he's learned to love more than any other is the V-22 Osprey.

fact, all of the Marine maintainers currently working on the ITT have been together since then, if not longer. We've been through a lot together. We're the maintenance corporate knowledge for the Marine tiltrotor community."

After boot camp and "A" school, Sergeant Hanzlik was assigned to HMM-262, an H-46 squadron that was based in Japan. Since that tour he's focused his talents as an engine and drive shaft

"...troubleshooting the V-22 is a lot easier."

"I've been associated with the V-22 since January of 1999," the Minnesota native says, working under the expanse of the Integrated Test Team's new tension fabric structure, the high-tech hangar that houses two of the seven Ospreys assigned to the test force at Patuxent River. "In

technician exclusively on the V-22. "The Osprey is different than the Sea Knight, but definitely not harder to work on," Hanzlik says. "Because of the state-of-the-art design and health monitoring system, troubleshooting the V-22 is a lot easier."

While the Marines who are currently supporting the V-22 ITT maintenance effort are only one part of the government/contractor team, as the focus of Osprey testing begins to shift from developmental testing to operational employment the corporate knowledge of Sgt. Hanzlik and others will be fully exploited. They're joining VMX-22, the new tiltrotor operational test squadron and center of excellence in New River, North Carolina, in the near future. "Although I'm a northerner, I'm looking forward to going back down south," Hanzlik says. "It's great to take the V-22 one step closer to fleet operations."



Marine Corps Sergeant Chris Hanzlik inspects an electronics rack in the cargo bay of a V-22. (Photo by Randy Teufel)

First 'Block A' V-22 joins test program

The V-22 Integrated Test Team welcomed the first "Block A" MV-22 Osprey to its fleet on Aug. 20 when aircraft No. 34 touched down at Naval Air Station, Patuxent River, MD. The aircraft is the first to incorporate the "Block A" modifications, which include software modifications, weight reduction initiatives, a redesigned nacelle and other safety of flight features. The aircraft's arrival increases the test program's inventory to seven MV-22s. Two CV-22s are located at Edwards Air Force Base, Calif., as part of a concurrent test program for U.S. Special Operations Command. An additional CV-22 will arrive in November 2004, bringing the total number of test aircraft to 10.



Here, MV-22 Osprey No. 34, the first "Block A" aircraft, conducts its first flight on July 17 at industry partner Bell Helicopter's tiltrotor assembly center in Amarillo, Texas. The aircraft arrived at Pax River on Aug. 20.

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delivered the shrink-wrapped tiltrotor to the Philadelphia International Airport early September. After Boeing completes the modifications, the aircraft will be returned to industry partner Bell Helicopter in Amarillo, Texas, for final assembly.

Congressman flies in V-22

Rep. John Murtha (D-PA), ranking member of the Defense Appropriations Subcommittee, participated in a 20-minute orientation flight Sept. 12 aboard a V-22 Osprey at Naval Air Station Patuxent River, MD. "I'm impressed," the congressman said after the flight. "Every phase of the flight was amazing. I'm convinced, now more than ever, that the Osprey is the future of rotary wing aviation." Murtha's praise of the V-22 follows positive comments made last Wednesday by Defense Secretary Donald Rumsfeld during a National Press Club luncheon. "The aircraft has done quite well in its tests," he said. "To the extent it continues to pass through these various test hurdles, my guess is it would go forward because it is something that the Marines and Special Operations forces are interested in having." The V-22 program has flown more than 937 test hours since returning to flight in May 2002.



Above (from left), Program Executive Officer for Aviation Capt. Mark Skinner, Government Flight Test Director Lt. Col. Kevin Gross, Marine Corps Commandant Gen. Mike Hagee, Rep. John Murtha, Bell Boeing V-22 Joint Program Director Mike Tkach, V-22 Joint Program Manager Col. Craig Olson, USAF, and Chief of Marine Corps Legislative Affairs Brig. Gen. Tony Corwin, pose for a photo in the V-22 flight test hangar prior to the flight. (Photo by Randy Teufel)

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V-22 program receives NAVAIR contract

Naval Air Systems Command has awarded the V-22 program a \$61 million contract modification to convert an existing low rate production MV-22 aircraft into a CV-22, the Special Operations variant of the tiltrotor. The additional test aircraft, which will boost the program's testing capability, will join the flight test program at Edwards Air Force Base (EAFB), Calif., in November 2004. The addition of the program's third CV-22 will bring the total number of aircraft engaged in flight test activity to 10. The ongoing flight test program, split between EAFB and Naval Air Station Patuxent River, Md., has amassed more than 930 hours since May 2002. In addition to the standard communications and navigations suite found on all V-22s, the CV-22 has an electronic warfare suite, terrain-following radar and a retractable aerial refueling probe.



The CV-22 is the Special Operations variant of the V-22 Osprey. Once fielded, it will be used for long-range contingency, evacuation and maritime special operations missions. Through signals generated by the aircraft's multi-mission radar and processed by the mission computer, the CV-22 can safely fly very close to the ground, even at night and in bad weather. Here, CV-22 aircraft No. 7 conducts a test mission near Edwards Air Force Base, Calif. (USAF photo)

Program Manager briefs media on V-22 Osprey Progress

"The trend line is up," Col. Craig Olson, USAF, V-22 Program Manager, declared during a press briefing to a group of nearly 20 print and electronic media coincident with a recent Air Force Association conference in Washington, DC. "Now the program increases its focus on more mundane,

non-flight issues such as cost and fixing electronic maintenance manuals crucial to proving the Osprey is maintainable at the fleet level."

Following on the heels of the V-22's second Defense Acquisition Board this year, Olson told the press that the Pentagon has "confidence in the program

and is focused on ensuring the success of the V-22." In the most recent Acquisition Decision Memorandum, the Pentagon acquisitions chief recommended a production ramp rate that would plus-up the number of V-22s built through the next five year defense plan from 147 to 152. The recommended production rate was 11 aircraft in fiscal 2005, 17 in fiscal 2006, 26 in fiscal 2007, 39 in fiscal 2008 and 48 in fiscal 2009, according to briefing charts released today. Approval of full-rate production is scheduled for October 2005 assuming the aircraft successfully completes a rigorous round of realistic operational test and evaluation next year.

Olson said that the V-22 flight test program continues to be one of the most rigorous, thorough, and methodical programs in aviation history. He concluded his remarks by pointing out one of the main selling points for the tiltrotor: "Twice as fast, three times the payload, and six times the range of the aircraft it's replacing, the Osprey is not just evolutionary; it's revolutionary."

Olson took over responsibility for the program from Col. Dan Schultz, USMC in early August and is the first Air Force officer to hold the billet. Olson served as V-22 deputy program manager for a year and a half before assuming the program manager position.



Col. Craig Olson, USAF, V-22 Program Manager, providing updated V-22 Program briefing to media at recent Air Force Association conference in Washington, DC.