Bell Boeing Tiltrotor Team

OSPREY FACTS

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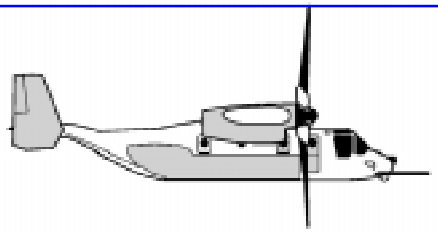

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A/C #9 begins remanufacture to CV-22

By 1st Lt. Dave Huxsoll
ASC Public Affairs

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (June 10, 1999) — An MV-22 Osprey was delivered to Bell Helicopter Textron's Arlington, Texas, facility June 7 to be remanufactured into the CV-22, the Air Force version of the tiltrotor aircraft. This aircraft, a representative of future production models, will be a flight test vehicle.

MV-22 No. 9 is one of four engineering, manufacturing and development (EMD) Marine Corps Ospreys that have been undergoing flight tests at the Naval Air Weapons Center - Aircraft Division (NAWC-AD) at Naval Air Station Patuxent River, Md. There are currently 10 Air Force managers from Aeronautical Systems Center assigned to the Navy facility, where the aircraft is being procured. These managers are supporting the procurement of 50 CV-22s for the Air Force.

"They're basically going to strip it (the MV-22) down and rebuild it to the CV-22 specifications," said Maj. Scott LeMay, CV-22 deputy program manager. "It's going to have CV-22 production wiring and all CV-22-unique systems." The Air Force is acquiring the Ospreys to replace its fleet of MH-53J Pave Low helicopters used to insert and extract special operations forces covertly from hostile areas. The Air Force version of the Osprey will have a Suite of Integrated Radio Frequency Countermeasures (SIRFC), which includes an active jammer. SIRFC can geolocate threats using its missile warning receivers, as well as incorporate real-time intelligence from a multi-mission advanced tactical terminal. "All of this information is shown to the pilot on a digital map," LeMay said.

"The idea is to get in and out undetected, but if the aircraft is detected it is very survivable. All of the critical areas will be hardened against ballistic attack, and there will be a chaff-and-flare dispense capability." Other differences between the CV-22 and its Marine counterpart include terrain following/terrain avoidance radar (TF/TA), an additional 900 gallons of fuel capacity, rope ladders, a survivor locator system, and additional radios and upgraded computers.

The remanufacture of aircraft No. 9 is scheduled for completion in May 2000. Later that summer it will enter a period of developmental testing. After completion of developmental testing in spring 2002, it will begin initial operational test and evaluation at Kirtland Air Force Base, N.M.

"We'll put it through its paces by basically doing a mock deployment," LeMay explained. "This is to make sure that it meets what's required in the Operational Requirements Document (ORD), and that it is operationally effective and suitable."

Another EMD MV-22, No. 7, will begin being modified to the CV-22 configuration in late July. The modification is less extensive than the remanufacturing process, and will mainly involve the addition of auxiliary fuel tanks and TF/TA radar. That aircraft is scheduled for its first flight at Bell Helicopter Textron Flight Research Center, Arlington, Texas, in January 2000. In May 2000 the modified Aircraft No. 7 will be turned over to the Air Force for developmental testing of the TF/TA radar system.

V-22 crew goes *all blue* for historic first flight

By Tech. Sgt. Ginger Schreitmueller, Public Affairs
Air Force Special Operations Command

NAVAL AIR STATION PATUXENT RIVER, Md. (AFPN July 7, 1999) — Despite its obvious gray color scheme, the V-22 was all blue June 25 as the first all-Air Force crew took the V-22 Osprey airborne.

Since V-22 test and evaluations began nearly two years ago, this is the first time Marine Corps and contractors were not on board the Osprey.

The Air Force crew, which is part of the Multi-service Operational Test Team here, flew the Osprey from Marine

First all Air Force crew flies V-22

The first all-Air Force crew to fly the V-22 Osprey (left to right): Staff Sgt. Chris Phillips, Master Sgt. Todd Anderson, Maj. J.D. Edwards, Lt. Col. Jim Shaffer and Tech. Sgt. Tim Welk. Though the flight lasted only about 20 minutes, the Air Force crew landed in the history books. (Photo by Mark Poovey)

Corps Air Facility Quantico, Va., back to Patuxent River, Md. Though the flight lasted only about 20 minutes, one of the Air Force pilots said the event was inspirational.

"We took off from Quantico, converted to aircraft mode and cruised at about 1,000 feet and 250 knots," said Maj. J.D. Edwards, one of the Air Force pilots on the historic flight. "It was breathtaking!"

The Osprey takes off and lands like a rotor aircraft, but flies like a fixed-wing aircraft. Edwards is one of 13 test pilots assigned to the MOTT, and has been at Pax River for nearly two years. The historic flight was the major's first airborne encounter with the Osprey.

"It is one of the easiest aircraft I've ever flown," said Edwards. "I've done more than 200 hours on the simulator, and though it prepared me for the flight it didn't prepare me for the phenomenal sensation! It was easy to fly, hover and land. Somehow, I expected more of a challenge, but the aircraft is incredibly easy to operate."

The Marine Corps took delivery of the first production Osprey, the MV-22B, in May and presented it at a static display at Quantico Marine Corps Air Base, Va., in June. Air Force Special Operations Command is scheduled to receive the CV-22 at Hurlburt Field, Fla., in 2003. The first two production representative V-22s to undergo re-manufacturing to the Air Force configuration, which began this summer, begin CV-22 developmental testing in May 2000.

Taking part in the historic event along with Edwards were: Air Force Lt. Col. Jim Shaffer, instructor pilot; and flight engineers Master Sgt. Todd Anderson, Tech. Sgt. Tim Welk and Staff Sgt. Chris Phillips.

"The all-Air Force crew was not as much a coincidence as by design," said Edwards. "It was a great way to boost morale and esprit de corps for the Air Force members of the MOTT. Though it was an all-Air Force flight, it was a team effort. Much of the credit for the flight belongs to the efforts of the MOTT maintenance team that helps make it happen. The mix of Air Force and Marine Corps maintainers ensure the Osprey keeps flying every day; their contributions are invaluable," said Edwards.

The AFSOC and Air Force community begins the next phase of the CV-22 program soon, as aircrew and maintenance training for the Osprey begins at Marine Corps Air Station New River, N.C.

An Engineering and Manufacturing Development aircraft flew from the USS Saipan during Sea Trials earlier this year.

V-22 wins Excellence in Value Engineering

By Gidge Dady, Public Affairs
Naval Air Systems Command

PATUXENT RIVER, Md. – The V-22 program was among the recipients of the annual Department of Defense Value Engineering Achievement (VEA) award, presented by the Under Secretary of Defense for Acquisition and Technology, Jacques S. Gansler, May 25 in ceremonies at the Pentagon.

V-22 Deputy Program Manager, Barbara Smith, accepted the award on behalf of the V-22 team, which was cited for "aggressively pursuing ways to reduce the V-22 acquisition and life cycle costs." This was accomplished by establishing a Value Engineering Change Proposal Integrated Product Team comprised of government and industry representatives from the Naval Air Systems Command, Defense Contract Management Command, and the V-22 Contractor, the Bell-Boeing Joint Program Office (JPO).

Although the V-22 program is just entering the low rate initial production phase of acquisition, this team devised a method to process more quickly the technical, logistics, configuration management and business value engineering change proposals submitted by the JPO. When in place, these engineering change proposals will result in significant program acquisition or life cycle cost savings without affecting the essential system performance requirements.

"Selection for this award indicates the commitment to total system cost reduction by the entire V-22 program team as well as our Bell-Boeing industry partners. I expect that many more V-22 Value Engineering change proposals will be submitted as the V-22 transitions to full rate production," said Dennis Malloy, the value engineering administrator, Naval Air Systems Command. Malloy added that in fiscal year 1998 six value engineering change proposals were submitted and two are in the final contract negotiation phase. If implemented, projected savings to the government would exceed $1 million.

Value engineering is defined as a systematic functional analysis leading to actions or recommendation to improve the value of systems, equipment, facilities, service and supplies with the goal of reducing costs and improving quality. The VEA award highlights such achievements in seven categories to include program management, the area in which the V-22 team was recognized.

An EMD aircraft performs confined area take offs and landings during operational testing in 1998

Three more LRIP Ospreys will be delivered to the Marines in 1999; seven in 2000, ramping up to 10 in '02, 20 in '04 and 30 in '06.

New River squadron redesignated at change of command ceremony

The first V-22 training squadron was designated at a ceremony held at the Marine Corps Air Station New River, Jacksonville, N.C., June 10.

Marine Training Squadron HMT-204, which has trained CH-46 aircrews and maintainers since the early 1970s was re-designated VMMT-204. Pending the outcome of an environmental impact statement study, VMMT-204 may receive production aircraft #5 in February next year. However, basing of any V-22 Ospreys at New River is contingent upon the results of the EIS study underway now. The first four production aircraft will be used for Operational Evaluations that begin this October and are scheduled for completion in May. They will then go to VMMT-204 to support the training effort.

A change of command of 204 was held coincident with the re-designation ceremony. Lt Col. Mark Reed, the out going commanding officer, turned the squadron over to the new commanding officer, Lt Col. Fred Leberman. Reed was presented a commemorative plaque by The Boeing Company that recognized the 96,390 CH-46 accident free flying hours HMT-204 has accumulated over the last 27 years.

V-22 praised at MCAT Day, Quantico

The Marines at Quantico came out early during MCAT Day for a close-up look at their first MV-22B, aircraft #11.

(See story next page)

By Sgt. Chris Hale
HMX-1 Public Affairs

MCB QUANTICO, Va. (June 22, 1999) — Like that of a maternity ward waiting room, the air was thick with anticipation on the HMX-1 tarmac May 27, as Marines awaited the arrival of the Marine Corps' first MV-22 Osprey. With its "proprotors" pointed skyward, the Osprey set down gently before taxiing into place alongside the CH-53D helicopters it will eventually be replacing.

"We don't see a bridge to the future in front of us. We see a leap," said Gen. Charles Krulak, Marine Corps commandant, referring to the Osprey tiltrotor aircraft and two smaller amphibious vehicles that will be used in seaborne landings. He said the trio of vehicles "will literally change the way the world looks at combat."

The V-22, which can hover like a helicopter or cruise like a turboprop plane depending on the angle of its rotors, will be able to transport 24 Marines into battle.

The other two vehicles displayed with the V-22 were the Advanced amphibious assault vehicle, or AAAV, an armored personnel carrier; and an upgraded version of the landing craft air cushion, or LCAC, a light vessel for equipment and troops. First tested by the Marine Corps in 1980, the MV-22 is a medium lift, tilt-rotor, vertical takeoff/landing aircraft. It is designed to provide combat assault transport of Marines (24 fully equipped combat troops) in an initial assault wave as well as subsequent stages of amphibious operations. Combining principals from fixed-wing and rotor aircraft, this newest addition to the Corps' air fleet offers the best of both worlds. It has the tight maneuverability of a helicopter, able to insert or extract troops without the aid of a runway. It also brings with it the longer range and speed of a twin turboprop.

According to LtCol. Keith Sweaney, V-22 multiservice operational test director, the new bird is capable of about twice the speed, three times the range and four times the payload of the CH-46E medium lift helicopter, which it will also be replacing.

Although this wasn't the first Osprey to land at Quantico, this landing was a "milestone" according to Berube, because this is the first one the Marine Corps owns and this was its first landing on Marine Corps property. "It doesn't look like all that much," said Berube, "but it really is pretty exciting."

SSgt. Julius Banks, Marine crew chief, was pretty excited as well. He said he's been flying the Osprey for so long its become an everyday job. "But looking back and seeing where we've been compared to today I know today is different. I know today is a big deal," he said. He added the best thing about this flight was "this morning we didn't have to ask anybody for permission to take off or anything, because it's ours now."

The Osprey went to VMMT-204 at Marine Corps Air Station, New River, N.C. Fielding of the MV-22 Osprey will begin in February 2000; the first squadron will join a Marine Expeditionary Unit in 2003.

V-22 ITT pilots win Feinberg Award

NAVAL AIR STATION PATUXENT RIVER, Md. (June 9, 1999) – The Frederick L. Feinberg Award was presented to the V-22 Integrated Test Team (ITT) pilots recently by American Helicopter Society president Dean Borgman.

Bell developmental test pilot Marty Shubert accepted the award on behalf of the team. Led by chief pilot Tom Macdonald at Naval Air Station Patuxent River, Md., each of the 13- member multi-service team was listed on the citation. The Marine Corps and Air Force pilots, along with Bell Boeing developmental test pilots, received the award at the annual American Helicopter Society awards banquet in Montreal, Canada, May 26.

"We're proud of the successes of the Engineering and Manufacturing Development program and the recent delivery of the first MV-22B production aircraft," said Shubert. "This award comes at a fortuitous time for the team as it winds down the developmental testing efforts and see many of our pilots go elsewhere to either facilitate (Air Force) CV-22 testing or field the Marine Corps' MV-22s."

The award was established in 1960 and is presented annually to the helicopter pilot(s) who accomplish the most outstanding achievement during the preceding calendar year.

"The professionalism and experience of the V-22 pilot staff and their willingness to operate as an integrated contractor/customer development test team was critical to the ITT achieving major program milestones in 1998," according to the nomination package. Under significant flight test schedule pressure, V-22 test pilots safely completed envelope and structural expansion to the full specification requirement.

Specific noteworthy achievements listed, include: carried external loads to 220 knots (an unofficial world record for rotorcraft); developed full operational capability which allowed successful completion of operational testing (OT-IID) in 140 hours; quickly trained six operational pilots who conducted the OT-IID evaluation; conducted aerial refueling tests and low-level tactical operations.

V-22 magazine, news stories listed

Paris Air Show, June 19, *Bell President Stinson expressed his disappointment that V-22s were not ready for use in Kosovo*

Inside the Navy, June 21, *Marine Aviation requiurements chief sees utility in new types of tiltrotors* **by Christopher J. Castelli**

The Times, June 21, *Osprey line moves forward* **by Doria Taylor**

Defense Daily, June 24, *Army will have to buy V-22, Krulak Says* **by Frank Wolfe**

Defense Daily, June 25, *Bell draws up quad tiltrotor design* **by Frank Wolfe**

Flight International, June 28, *Quad Tiltrotor under study* **by Graham Warwick/Montreal**

Flight International, *Aerospace Industry Awards***, June 23-29, Military Aviation, Paris, 1999**

Defense Week, June 28, Marine, *Army at odds over Osprey* **by Vince Crawley**

Inside the Navy, June 28, *Marine Corps Chief dismisses concerns over V-22 downwash effects* **by Peter J. Skibitski**

Seattle PI, June 28, *Boeing may get a boost in orders for V-22 tiltrotor*

Jane's Defence Weekly, July 9, *Work starts on first USAF Osprey* **by Craig Hoyle**

Flight International, July 7-13, *European split on competitor to V-22*

Jane's Navy International, July/August, *First Osprey takes off for Marines*

Jacksonville Daily News, July 21, *New River given edge for V-22 base* **by Kevin J. Dwyer**

V-22 EMD Flight Test Status as of July 20, 1999

A/C #	Total EMD Hours	Total EMD Flights
7	350	170
8	433	243
9	318	140
10	270	111
Totals	**1,371**	**664**

Total V-22 Flight Time (EMD/FSD)	2,527 hrs
(Not including LRIP production aircraft)	
Maximum Airspeed Attained	342 kt
Maximum Altitude Attained	25,000 ft
Max Take-Off Gross Weight	60,500 lb
Maximum Load Factor	3.9 Gs

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