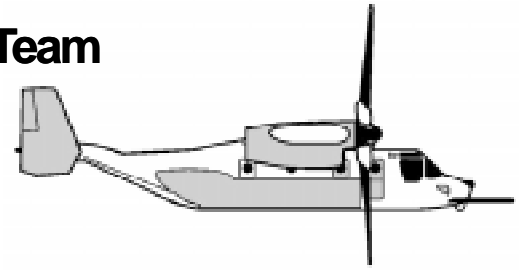


OSPREY FACTS



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Aircraft #7 flies with mods

By Capt. Scott Wallace
United States Air Force

The risk reduction aircraft, number 7, took flight on Feb. 28, at the Bell Helicopter Flight Test facility in Arlington, Texas. It has the radar and wing fuel systems in it. Two contractor pilots, Marty Shubert and Bill Leonard, began putting the modified MV-22 through its paces.

"This is the first step in delivering a revolutionary capability to the Air Force Special Operations Command (AFSOC)," said Maj. Tom Currie, the Government Flight Test Director and V-22 test pilot. "We are looking forward to testing this technology at Edwards Air Force Base," Currie added.

The first CV-22 Osprey will be aircraft number 9, after it is remanufactured. It is a U.S. Special Operations Command variant to be used by the Air Force, begins flight testing at Edwards in August. The aircraft combines the flexibility of a helicopter with the range and speed of a fixed wing aircraft. "The V-22 matches the latest in aviation

technology with military utility," said Shubert, V-22 Chief test pilot.

A team of personnel from Bell Helicopter Textron, Boeing Helicopters, the USAF, USN and USMC will perform the CV-22 testing. The team will perform initial flight test at the contractor facility near Dallas, Texas before taking the aircraft to Edwards. The test team will be working with the

418th Flight Test Squadron while at Edwards. The ranges, airspace and facilities available at Edwards along with the Integrated Test Team will help reduce the time and cost of the flight test program.

The CV-22 benefits greatly from the testing performed on the MV-22. The two aircraft have 90 percent commonality on the airframe and equipment, and 60 percent commonality with mission software. The CV-22 program will only have to test the differences between the two aircraft, which include such items as the addition of inter-



Number 7 at Bell's Arlington Plant 6. The terrain-following radar and flight test boom are visible off the nose. Photo by Jim Jagodzinski, Bell Helicopter.

nal wing fuel tanks, a terrain avoidance /terrain-following radar (derived from the LANTIRN system), and an enhanced electronic warfare suite including an active jammer; a third seat in the cockpit for a flight engineer; an installed aerial refueling probe; an internally mounted rescue hoist; more sensors, more than twice as much flare and chaff, and better integration of defensive countermeasures. The Edwards AFB portion of the test program is planned to last two years.

Op Eval airplane welcomed in New Mexico

By Tech Sgt. Darlene Foote
58th Special Operations Wing Public Affairs

KIRTLAND AIR FORCE BASE, N.M. (AFPN) — The aircraft that's being touted as the "Future of Air Force Special Operations," the V-22 Osprey, recently arrived here to begin operational testing.

The V-22 Multi-service Operation Test Team tested the U.S. Marine Corps' version of the tiltrotor aircraft through March 18.

The Air Force version of the tiltrotor aircraft, the CV-22, is tentatively scheduled to undergo operational testing here in 2002. The major difference between the Air Force and Marine version of the aircraft will be the avionics package.

According to Maj. Joe Maguire, 58th Spe-

cial Operations Wing CV-22 project officer, there are many advantages to this new aircraft. "The design of this aircraft gives users the speed of an airplane with the ability to hover like a helicopter," said Maguire. Other CV-22 capabilities include air refueling, terrain following, formation flying, fast rope capabilities and water operations. The CV-22 will have a four-person crew, consisting of two pilots and two flight engineers.

"The benefits to having an aircraft like this in the Air Force inventory are numerous," added Maguire. "The CV-22 will be able to fly into a location, hover until the special team or load has been released and get out of the area quickly."

The aircraft will also have the ability to fly at speeds in excess of 250 knots, and has the capability to convert from rotary-wing to fixed-wing flight rapidly, according to Maguire. This unique

capability increases survivability and gives the V-22 greater range and speed than conventional helicopters, he added.

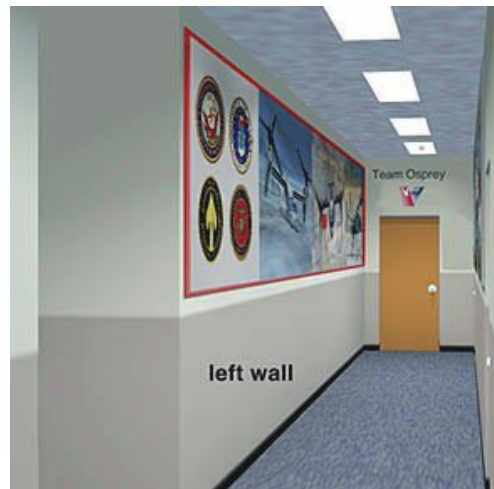
The CV-22 is being proposed to eventually replace the MH-53s and some MC-130s in the Air Force inventory, and the 58th SOW is scheduled to be the home of the first squadron of CV-22s. Construction of the simulator facilities is tentatively scheduled to begin in 2001 and be complete in 2002. The first aircraft and students could arrive as early as 2003.

Aircrew members as well as maintenance personnel will receive their initial training at New River Marine Corps Air Station, N.C. Then, they will come to Kirtland to receive Air Force-specific training. (Courtesy Air Education and Training Command News Service.)

V-22 mural planned for PMA-275 at NAS Patuxent River, Md.



Boeing Audio Visual created displays like these for Naval Air Systems Command V-22 office in Maryland



SOCOM moves ahead on block upgrade program for CV-22

The U.S. Navy, on behalf of the U.S. Special Operations Command (SOCOM), awarded Bell-Boeing a modification to the existing EMD contract initiating the first phase of a pre-planned product improvement program for the CV-22.

The Block 10 program, as it's known, will add eight new features to the Special Operations Forces CV-22s, of which five aircraft will be delivered to Air Force Special Operations Command (AFSOC) in 2003.

"This represents the next step in providing our AFSOC customer with the full capability they need to execute the special ops mission," according to Steve Blewitt, CV-22 Program Manager at Boeing.

The upgrade includes an advanced directed infrared countermeasures system (DIRCM) as well as upgrades to the cockpit and cabin to provide improvements to crew and passenger convenience and provide better situational awareness. Block 10 will also double the capacity of the forward firing flare and chaff dispenser and add laser detection. The DIRCM system will utilize advanced infrared sensor and two turreted lasers to confuse infrared missiles – drawing them off their target.

In the cockpit, Block 10 will relocate and add two control panels and provide a specialized information display so the flight engineer can more easily control the non-piloting functions of the aircraft. In addition, the digital map will be upgraded to allow each pilot to view different locations on the map, so that one pilot can be performing route planning further along in the mission and the other can be monitoring local threats and terrain while flying the aircraft.

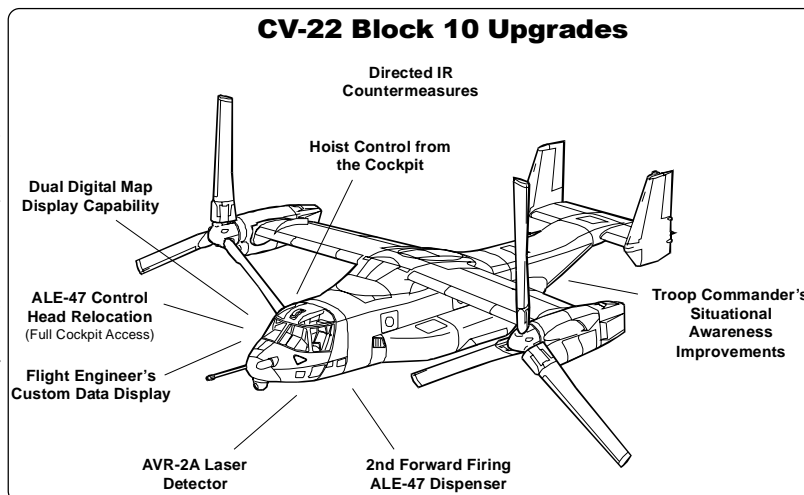
In the cabin, Block 10 adds additional electrical outlets for carry-on equipment and adds connections to the onboard mission computers and onboard multimission advanced tactical terminal.

"These new data connections will make the

CV-22 a very capable aircraft for SOF customers – the troops in the cabin," said Jim Butt, program lead. "The ability to receive digital updates to ground plans, download information from satellite connections, and maintain awareness of how the aircraft is progressing on its mission, means that troops won't lose valuable time figuring out where they are and where they need to go when they reach their destination."

Interestingly, the Block 10 upgrade comes before the aircraft are even fielded. "Some of these upgrades were being sought as part of the initial CV-22 Engineering and Manufacturing Development program, but were deferred for various reasons," said Butt.

"SOCOM is fully committed to the CV-22 and we are investing in it by continuing to add the very latest technologies we have to make



it the best platform for our pilots, crew, and customers," said Maj. Scott LeMay, US Air Force Deputy Program Manager for CV-22.

Under the current CV-22 EMD program, V-22 Aircraft 7 and 9 will demonstrate many new features, including increased fuel capacity, more and newer radios, a new suite of integrated RF countermeasures, and the multimission advanced tactical terminal among other improvements. Immediately following the EMD flight test program scheduled to complete in 2002, the Block 10 program will take over and upgrade Aircraft 9 with the additional features for subsequent testing in 2003.

V-22 EMD Flight Test Status
as of March 23, 2000

A/C #	Total EMD Hours	Total EMD Flights
7	385	190
8	473	265
9	318	140
10	401	177
Totals	1,577	772

Total V-22 Flight Time	2,762 hrs
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

"The first CV-22 aircraft to be delivered in Lot 5 [2003] will only have provisions for the Block 10 upgrades, but subsequent lots will be delivered with everything needed for Block 10, although the DIRCM lasers won't be installed until Lot 7," said Butt.

Block 10 represents only the first phase of what is already expected to be a three phase upgrade program for the CV-22. "We have a great relationship with SOCOM and AFSOC and we look forward to a long relationship of giving them the best of the best for Special Operations," said Butt.

The president's fiscal year 2001 budget request includes \$10.2 million in research and development funding for the Common Avionics Architecture for Penetration (CAAP) program, a \$348 million effort managed by the U.S. Special Operations Command to make its aircraft safer and easier to fly...

Because CAAP is intended to create commonality among several different platforms such as the C-130, various helicopters and the CV-22 tiltrotor, it is a complex undertaking. CAAP funding has been set aside in and beyond the FYDP to install the enhancements on the 50 CV-22s the command plans to buy. Those enhancements mainly include the upgraded radar, but USSOCOM officials are still refining the requirements for the system. Likewise, officials may tweak the helicopter requirements as well.