



# A bird with bite

Senegalese soldiers exit a U.S. Air Force Special Operations Command CV-22 Osprey during mission rehearsals in late 2008 as part of Exercise Flintlock in Bamako, Mali. This marks the CV-22's first deployment abroad. U.S. AIR FORCE PHOTO

## Osprey transforming how U.S. Air Force performs Special Ops missions

By Jeff Barnett

**T**he ability to rapidly change between helicopter and fixed-wing modes of flight makes the Bell Boeing V-22 Osprey aircraft one of the most unique in the air today. More importantly, these capabilities place it at the forefront of transforming how the U.S. Air Force completes Special Operations missions.

The V-22 Osprey is a multimission, military tiltrotor aircraft with both a vertical takeoff and landing and a short takeoff and landing capability. It's designed to perform missions like a conventional helicopter but provides the long-range, high-speed cruise performance of a turboprop aircraft. By combining the best options into a single platform, the Osprey will change the way the Air Force accomplishes these missions, program executives said. "Working to support the warfighter, to help our special operators carry out their work and come home safely, is a great effort to be a part of," said Gene Cunningham, vice president, Bell Boeing V-22 program.

The Air Force has tapped the CV-22 version of the V-22 as a prime transformational resource in its Special Operations efforts. The CV-22 offers a unique solution to getting Special Ops forces quickly to the right locations so they can accomplish their mission and return safely. That's a big job, since inserting and extracting special operators into sensitive areas or opponent-controlled zones remains one of the most dangerous aviation missions.

Fixed-wing aircraft offer the range and speed to penetrate deep into adversarial areas, getting larger numbers of troops into action faster. However, to get troops and equipment on the ground, they require either a runway—or parachute drops.

For Special Ops missions, secure, viable runway space is hard to find. And landings take time, which could place crew, aircraft and special operators in the sights of opposing combatants. Fixed-wing aircraft also are easily picked up on radar. Parachute drops are inherently risky and limit the numbers of troops and the types of equipment that can be successfully deployed.

Helicopters are much more adept at pinpoint insertions and landing without prepared landing strips. They are also much stealthier, thanks to their smaller radar cross-section and ability to

fly "nap of the Earth"—flying just above the ground using the surrounding terrain to block radar. But they're also much slower and more vulnerable to ground fire. They also provide less range and carry smaller loads than fixed-wing aircraft.

The CV-22 provides the combination of range, speed and payload to allow Special Operators to penetrate deep into enemy territory, faster and farther than conventional rotorcraft, and still land in rugged, unprepared landing zones like a helicopter. It can also carry a larger load than most helicopters. In addition, the CV-22 also includes technologies that let the aircraft support missions at night, which provides a sizeable advantage in covert operations. And when flying at night and at low altitudes, the Osprey will rely on terrain-following radar and the aircraft's Suite of Integrated Radio Frequency Countermeasures defensive system for effective low-light, low-flight operations. These systems let the CV-22 use the terrain to remain hidden from radar and visual identification.

### AFRICAN TOUR OF DUTY

Last year, the U.S. Air Force Special Operations Command sent the CV-22 on its first deployment abroad. It's participating in exercises to support Special Operations in the Horn of Africa through 2009. Called Flintlock 09, these exercises in the trans-Saharan region of Africa are designed to help train African military personnel in developing the skills vital for patrolling and defending their nations. The trans-Saharan area is known for its lack of infrastructure and rugged terrain—which makes travel, let alone military operations, challenging. With capabilities for flying at night and at low altitudes, the Osprey's tour of duty in Africa will put many of its systems to the test. ■

*jeff.d.barnett@boeing.com*