

Article Title: "It's A Helicopter? A Plane? No, It's Both"

Author: Doug Tsuruoka

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The V-22 Osprey rises and swoops like its bird-of-prey namesake. The aircraft's outsize rotors spin awesomely in flight.

It's the result of over half a century of efforts to build a troop carrier that takes off and lands like a helicopter but flies like a fixed-wing plane in flight.

Known in military jargon as a Vertical/Short Takeoff and Landing, or V/Stol, the Osprey's two propeller engines rotate in midair from a vertical to a horizontal position, allowing it to fly at high speeds and altitudes like a turboprop aircraft.

Made jointly by Boeing and Bell Helicopter, it can carry 24 troops and their equipment or 6,000 pounds of cargo. The Osprey can cruise at 246 miles per hour and has a range of more than 1,000 miles.

"The Osprey is the fastest vertical-lift turboprop aircraft in the world. It has enormous speed and range," said Bob Leder, a spokesman for Bell Helicopter, which is owned by Textron.

The planes cost about \$110 million each and took 25 years and more than \$20 billion to develop. The aircraft, in service with the Marines have been deployed to Iraq.

Boeing's role in a \$10.4 billion contract to build 167 Ospreys for the U.S. military helped offset its recent loss of a \$35 billion contract to build Air Force tankers to a group led by Northrop Grumman and Airbus (see related story, this page).

The military says the Osprey's big edge in combat is that it takes off and lands in cramped spaces and flies twice as fast as a helicopter, at much longer ranges. This means troops and supplies move a lot faster.

"The Osprey significantly increases the reach of expeditionary forces and decreases the time and risk involved in the process," said Joseph Callo, a retired rear admiral in the U.S. Naval Reserve.

The V-22 is designed for all branches of the U.S. military and can be used for virtually any mission - including amphibious and commando-style assaults, transport, medical evacuation and refueling operations.

The plane can mount rapid-fire guns and other weapons to suppress resistance before it lands.

Engineers from different nations struggled during the Cold War to design a plane that does what the Osprey does. The challenge of building a plane that could take off like a helicopter and fly like an airplane didn't take serious form until the late '60s, with the advent of fighters such as Britain's Harrier jump jet.

But building a successful vertical-takeoff plane for troop transport duties proved elusive until the 1990s. Some prototypes built by various countries crashed.

The chief technical hurdle was getting the engines powering such planes to shift from vertical takeoff to forward flight and back again without stalling.

The Osprey saw its share of accidents before those problems were worked out. Osprey prototypes have crashed four times since 1990. The worst occurred in 2000, when two crashes killed 19 Marines on training missions.

Engineers redesigned parts of the V-22, and its makers say the problems are solved - though reports have surfaced of more mechanical problems in flight.

The Pentagon OKed full-scale production of the Osprey in September 2005. "The (V-22) has done very well in Iraq. They've been used for a multitude of missions and are flying a lot of hours," Bell's Leder said.