

Boeing Defense, Space & Security  
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## V-22 Osprey

### Description & Purpose:

The V-22 Osprey is a joint service multi-role combat aircraft utilizing tiltrotor technology to combine the vertical performance of a helicopter with the speed and range of a fixed wing aircraft. With its engine nacelles and rotors in vertical position, it can take off, land and hover like a helicopter. Once airborne, its engine nacelles can be rotated to convert the aircraft to a turboprop airplane capable of high-speed, high-altitude flight. This combination allows the V-22 to fill an operational niche no other aircraft can approach.



The Osprey can carry 24 combat troops, or up to 20,000 pounds of internal cargo or 15,000 pounds of external cargo, at twice the speed of a helicopter. It features a cross-coupled drive system so either engine can power the rotors if one engine fails. For shipboard compatibility, the rotors fold and the wing rotates to minimize the aircraft's footprint for storage. The V-22 is the only vertical lift platform capable of rapid self-deployment to any theater of operation, worldwide.

### Customers:

The U.S. Marine Corps has a current requirement for 360 MV-22s to perform combat assault and assault support missions. The U.S. Air Force Special Operations Command has a requirement for 50 CV-22s configured for terrain-following, low-level, high-speed flight for long range special operations. The U.S. Navy intends to procure 48 MV-22s for additional naval missions.

The U.S. Marine Corps has stood up five MV-22 combat squadrons. The first fleet squadron, VMM-263, made the Osprey's maiden combat debut by deploying to Iraq in Oct. 2007. Marine Medium Tiltrotor Squadron VMM-266, the last of three U.S. Marine Corps Osprey squadrons to successfully deploy in Operation Iraqi Freedom, wrapped up its deployment and returned to the U.S. in May 2009.

In May 2009, several MV-22's set sail with the 22nd Marine Expeditionary Unit, marking the inaugural ship-based deployment of the aircraft. The U.S. Marine Corps deployed Ospreys to Afghanistan for the first time in Nov. 2009.

The U.S. Air Force Special Operations Command received the first operational CV-22 in March 2006. The first Air Force operational unit, the 8<sup>th</sup> Special Operations Squadron, was activated at Hurlburt Field in 2007, and deployed to Mali, Africa in support of Exercise Flintlock in November 2008. The CV-22 was declared fully operational in March



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2009. In late 2009, the Air Force confirmed that CV-22 Ospreys are now conducting the special operations tiltrotor's first ever operational deployments around the globe.

## General Characteristics:

Propulsion:	Two Rolls-Royce AE1107C, 6,150 shp (4,586 kW) each
Length:	Fuselage: 57.3 ft. (17.48.20 m); Stowed: 63.0 ft. (19.20 m)
Width	Rotors turning: 84.6 ft. (25.78 m); Stowed: 18.4 ft. (5.61 m)
Height:	Nacelles vertical: 22.1 ft. (6.73 m); Stabilizer: 17.9 ft. (5.46 m)
Rotor Diameter:	38.1 ft (11.6 m)
Vertical Takeoff Max	52,600 lbs. (23,859 kg)
Gross Weight:	
Max Cruise Speed:	250 kts (443 km/h) SL
Mission Radius:	430 nm (796 km) - MV-22 Blk B with 24 troops, ramp mounted weapon system, SL STD, 15 min loiter time
Cockpit - crew seats:	2 MV / 3 CV

## Production:

Boeing Rotorcraft Systems is responsible for the fuselage, empennage, and all subsystems, digital avionics, and fly-by-wire flight-control systems. Boeing partner Bell Helicopter Textron, Inc., is responsible for the wing, transmissions, rotor systems, engine installation, and final assembly at its completion facility in Amarillo, Texas. Current production plans call for 19 aircraft deliveries, including 15 newly manufactured (13 MV and two CV) and four updated pre-Block A aircraft, in 2009.

## Background:

The Department of Defense approved the V-22 Osprey for full-rate production on Sept. 28, 2005 after an extensive series of operational tests which found the aircraft met or exceeded key performance parameters. Bell Boeing was awarded a multi-year production contract for 167 aircraft in March 2008.

## Miscellaneous:

Boeing and its industry partners provide unrivaled expertise in both large-scale systems integration and network centric operations, plus unquestioned leadership in developing and customizing military and commercial products for U.S. and allied armed forces.

Bell Helicopter Textron, Inc., a Textron company, is a leading producer of vertical lift aircraft for commercial and military customers. Headquartered in Fort Worth, Texas, Bell has built some 35,000 helicopters since 1946 when the Bell 47 became the world's first helicopter certificated for commercial use.

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