

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

### Description and 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.

More than 160 Osprey tiltrotors are currently in operation across 10 Marine Corps and two Air Force Special Operations Command Osprey squadrons. The two services have together logged 16 successful combat, humanitarian, ship-based or Special Operations deployments since 2007. The worldwide Osprey fleet has amassed more than 130,000 flight hours, with nearly half of those hours logged in the past two years.

Safety, survivability and mission efficiency have become hallmarks of the operational fleet. According to Naval Safety Center records, the MV-22 has had the lowest Class A mishap rate of any tactical rotorcraft in the Marine Corps during the past decade. Navy flight-hour cost data also show that the Osprey has the lowest cost per seat-mile (cost to transport one person over a distance of one mile) of any U.S. naval transport rotorcraft in each of the last two years.

Marine Corps MV-22s are currently deployed in Afghanistan supporting Operation Enduring Freedom and with the 22nd Marine Expeditionary Unit supporting contingency



# Backgrounder

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operations, while AFSOC CV-22s are deployed in support of ongoing Special Operations missions.

## General Characteristics:

<b>Propulsion:</b>	Two Rolls-Royce AE1107C, 6,150 shp (4,586 kW) each
<b>Length:</b>	Fuselage: 57.3 ft. (17.48.20 m); Stowed: 63.0 ft. (19.20 m)
<b>Width</b>	Rotors turning: 84.6 ft. (25.78 m); Stowed: 18.4 ft. (5.61 m)
<b>Height:</b>	Nacelles vertical: 22.1 ft. (6.73 m); Stabilizer: 17.9 ft. (5.46 m)
<b>Rotor Diameter:</b>	38.1 ft (11.6 m)
<b>Vertical Takeoff Max</b>	52,600 lbs. (23,859 kg)
<b>Gross Weight:</b>	
<b>Max Cruise Speed:</b>	275 kts (443 km/h) SL
<b>Mission Radius:</b>	600 nm - MV-22 Blk B with 24 troops, ramp mounted weapon system, SL STD, 15 min loiter time
<b>Cockpit - crew seats:</b>	2 MV / 3 CV

## Production:

Boeing Military Aircraft's Mobility division 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. 34 V-22 Ospreys were delivered in 2011 and current production plans call for 39 aircraft deliveries in 2012.

## Multiyear Contract Details:

Bell Boeing was awarded a five-year production contract for 167 aircraft in March 2008. Contract modifications have since increased the multiyear contract total to 174 aircraft. Bell Boeing submitted its proposal to the U.S. Navy for a second multiyear procurement contract for the production and delivery of 122 V-22 Osprey tiltrotor aircraft on July 29, 2011. Contract award is anticipated by December 2012.

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