

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 perform operational missions 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 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 has a requirement for up to 48 aircraft for the logistical resupply of carrier battle groups. More than 290 Osprey tiltrotors are currently in operation across more than 14 Marine Corps and three Air Force Special Operations Command Osprey squadrons.

Safety, survivability and mission efficiency have become hallmarks of the operational fleet. With more than 260,000 flight hours, the V-22 has established itself as one of the safest, most survivable tactical vertical lift aircraft in the U.S. Marine inventory, effective across the full spectrum of military operations. 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.

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 (19.08 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 Gross Weight:	52,600 lbs. (23,859 kg)
Rolling Takeoff Max Gross Weight:	60,500 lbs. (27,442 kg)
Max Cruise Speed:	270 kts (500 km/h) SL
Mission Radius:	428 nm – MV-22 Blk C with 24 troops, ramp mounted weapon system, SL STD, 20 min loiter time
Cockpit – crew seats:	2 MV / 3 CV

Background:

Boeing Military Aircraft's Vertical Lift 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. 37 V-22 Ospreys were delivered in 2014.

Multiyear Contract Details:

In June of 2013, Bell Boeing was awarded a second 5-year production contract for 101 aircraft manufactured over five years (93 MV-22s for the United States Marine Corps and 8 CV-22s for the United States Air Force Special Operations Command). The contract is valued at nearly \$6.5 billion US and creates a substantial savings to the Department of Defense and the American taxpayers of nearly one billion dollars compared to single-year contract procurements. Planning is underway for a third 5-year production contract to be awarded in 2017 for most of the remaining 22 MV-22s in the program of record, 40 of the 48 Navy V-22s and potential international sales.

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