



V-22 Osprey Fact Sheet



Description	Multi-mission, multi-service twin-turbine, vertical-lift, tiltrotor transport aircraft.
Program Status	MV-22: Low Rate Initial Production (LRIP); CV-22: Continuing Engineering & Manufacturing Development (EMD); Overall Program in Operational pause pending return to flight.
Operators	Designed for use by U.S. Marine Corps, U.S. Special Operations Command (USSOCOM), U.S. Air Force, and U.S. Navy.
Program Requirements	U.S. Marine Corps - 360 MV-22Bs for combat assault and assault support U.S. Air Force - 50 CV-22Bs for US SOCOM for long-range special operations U.S. Navy - 48 HV-22Bs for Combat SAR, special warfare and logistics support
Program Managers	
Military	Col Daniel Schultz, USMC. PMA-275, PEO (A), NAVAIRSYSCOM, NAS Patuxent River
Bell-Boeing	Michael Tkach, Vice President/Program Director, Bell Boeing V-22 Program Office, NAS Patuxent River
Flight-test Accomplishments	Including EMD and Operational Evaluation (OPEVAL), V-22 aircraft have flown more than 5,000 hours, participated in extensive ground-based and shipboard tests, achieved speeds of 342 knots (402 mph; 647 km/hr), altitude of 25,000 ft., gross weight of 60,500 lbs. and a G maneuver load factor of +3.9 at 260 knots. External loads of 10,000 lbs. have been carried at 230 knots.
Milestones	
1st flight, AC No. 1	Mar. 19, 1989 (MV-22A)
1st sea trials	Dec. 4-7, 1990 -- Aircraft Nos. 3 and 4 aboard the USS <i>Wasp</i> (LHD-1)
2nd sea trials	Jan. 15 - Feb. 9, 1999, and Aug. 16-27, 1999 A/C No. 10 aboard USS <i>Saipan</i> (LHA-2), 7-11 Sept. 1999 aboard USS <i>Tortuga</i> (LSD-46).
Lot I/II/III (LRIP)	June 1996 (19 aircraft)
Lot IV (LRIP)	March 1999 (11 aircraft)
Lot V/VI (LRIP)	June 2000 (20 aircraft) (18 MV-22 & 2 CV-22)
1st EMD flight	Feb. 5, 1997 (MV-22B)
1 st LRIP delivery	May 27, 1999
Operational Evaluation	Completed July 2000
Operational Pause	December 2000
Return to Flight	MV-22 EMD flight test to resume Spring 2002 (NAS Patuxent River, MD). CV-22 EMD flight test to begin Summer of 2002 (Edwards Air Force Base, CA).
EMD Program Plans	Aircraft 8, 10, & 21-24 continue high priority development flight testing Aircraft 7 & 9 will continue CV-22 terrain following radar and electronic warfare testing at Edwards Air Force Base, CA.

V-22 Way Ahead Plan

Return to Flight (EMD/LRIP)

Return to Flight Test Configuration

- VMS/JASS Software Upgrades
- Line clearance modifications and increased inspections for flight test use
 - Tape under clamps
 - Additional clamps
 - Remove marriage clamps
 - Improved Nacelle inspection access

Block A

Production Config: **Safe & Operational for the Fleet**

- Improved Integrated Electronic Tech Manuals (IETMs)
- Nacelle Redesign (Safe and Operational)
- Software Upgrades
- Cost Reduction Initiatives/ Weight Reduction / Reliability & Maintainability (R&M) Improvements
- Resolution Matrix Improvements

Block B

Production Config (Blk-A Plus): **Improved Effectiveness & Suitability**

- Software Upgrades
- Reliability & Maintainability Improvements
- Weight Reduction
- Training/Logistics Improvements

Block C

Production Config (Blk-B Plus): **Mission Enhancement**

- Hoist
- Software Upgrades
- Weight Reduction

Major Unfunded Requirements

- Gun – ORD Threshold Requirement
- Cockpit seating adjustment improvement

V-22 Osprey			
ENGINES		ACCOMMODATION	
Model	Rolls-Royce AE1107C	Cockpit – crew seats	2 MV / 3 CV
AEO VTOL Max Cont., shp (kW)	6,150 (4,586)	Cabin – Crew seat/troop seats/litters	1/24/12
AEO VTOL Takeoff, shp (kW)	6,386 (4,762)	DIMENSIONS (EXTERNAL)	
TRANSMISSION		Length, fuselage, ft (m)	57.3 (17.48)
AEO VTOL Max Cont., shp (kW)	4,570 (3,408)	Width, rotors turning, ft (m)	84.6 (25.55)
AEO VTOL Takeoff, shp (kW)	5,183 (3,865)	Length, stowed, ft (m)	63 (19.20)
OEI VTOL, shp (kW)	6,834 (5,096)	Width, stowed, ft (m)	18.4 (5.61)
PROPROTOR SYSTEM		Width, horizontal stabilizer, ft (m)	18.4 (5.61)
Blades per hub	3	Height, nacelles fully vertical, ft (m)	22.1 (6.73)
Construction	Graphite/fiberglass	Height, vertical stabilizer, ft (m)	17.9 (5.46)
		Height, stowed, ft (m)	18.3 (5.56)
Tip speed, fps (mps)	661.90 (201.75)	DIMENSIONS (INTERNAL)	
Diameter, ft (m)	38.00 (11.58)	Length, max, ft (m)	24.17 (7.37)
Blade area, ft ² (m ²)	261.52 (24.30)	Width, max, ft (m)	5.92 (1.80)
Disc area, ft ² (m ²)	2,268.00 (210.70)	Height, max, ft (m)	6.00 (1.83)
Blade folding	Automatic, powered	WEIGHTS	
PERFORMANCE		Empty, lbs (kg)	33,140 (15,032)
Cruise speed, SL, kts (km/h)	242-255 (448-473)	Takeoff, vertical, max, lbs. (kg)	52,600 (23,495)
Vertical rate of climb, SL, fpm (m/m)	2,050 (625)	Takeoff, short running, max, lbs (kg)	57,000 (25,909)
Max R/C, VTOL Mode, SL, fpm (m/m)	2,100 (640)	Takeoff, self-deploy mission, lbs. (kg)	60,500 (27,443)
A/P Mode, SL	3,300 (1,006)	Cargo hook, single, lbs. (kg)	10,000 (4,536)
Service ceiling, ISA, ft (m)	23,800 (7,254)	Cargo hook, dual, lbs. (kg)	15,000 (6,804)
OEI Service ceiling, ISA, ft (m)	9,400 (2,865)	FUEL CAPACITY	
HOGE ceiling, ISA, ft (m)	6,000 (1,829)	MV-22 (including aft sponson tank), gallons (liters)	1,448 (5,481)
RANGE		CV-22, gallons (liters)	2,036 (7,707)
Amphibious assault, nm (km)	638 (1,182)	Cabin aux tank, gallons (liters)	400 (1,514)
Max, self-deployment, nm (km)	2,100 (3,892)		

