

V-22 Program Overview



Col Taylor

30 April 2024

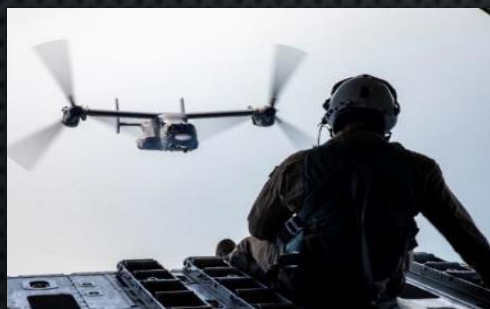
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PMA-275 V-22 Joint Program Office: Relentlessly Ready, Reliable and Relevant



OPPORTUNITIES TO EXPAND THE CURRENT MISSION

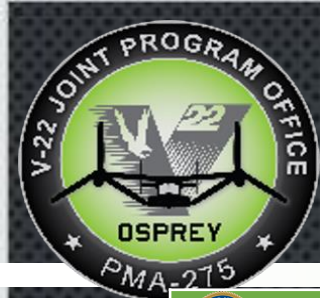


MV-22: Provides day/night all weather assault support by transporting combat troops and equipment during expeditionary, joint or combined operations

CMV-22B: Provides time-critical logistics support by transport of personnel and cargo to, from and inside the Sea Base

CV-22: Provides long-range infiltration, exfiltration and resupply missions for special operations forces





PMA-275: Portfolio Overview



USMC: MV-22B

Mission:

- Provides day/night all weather assault support by transporting combat troops and equipment during expeditionary, joint or combined operations

Aircraft Delivered: 348

Squadrons: 18

Achievements

- Quantity 19 MV-22 Inventory Management Aircraft inductions as of 1 Apr.



JGSDF: MV-22B

Mission:

- Defense of the southern Japanese Islands and will be employed along with the newly created JGSDF Amphibious Readiness Group (ARG)

Aircraft Delivered: 17

Aircraft In Country: 14

Achievements

- Three of 17 remain in US completing modification with delivery expected by July 2024.



**Approximately 47,750 Cumulative Flight Hours
Flown by V-22 Fleet in 2023**



USAF: CV-22B

Mission:

- Provides long-range infiltration, exfiltration and resupply missions for special operations forces

Aircraft Delivered: 54

Squadrons: 5

Achievements

- Sep 2021 1st CV-22 Nacelle Improvements (NI) A/C inducted at Bell Amarillo
- 22 NI a/c completed to date – 2,300+ flight hours achieved with no NI associated maintenance actions



USN: CMV-22B

Mission:

- Provides time-critical logistics support by transport of priority personnel and cargo to, from and inside the Sea Base

Aircraft Delivered: 29

Squadrons: 3

Achievements

- Delivered 29th CMV Jun23



V-22 Ready – Reliable – Relevant



Capability	Now - 2032	2032 - VeCToR	2042 - ReVAMP
Program Focus:	<ul style="list-style-type: none"> Block Modifications <ul style="list-style-type: none"> MV: CCCCR CV: Block20MCOI CMV: Comm UpGd Transition of Software Development Cycle 	<ul style="list-style-type: none"> COTS – Cockpit Off the Shelf Cockpit/Avionics Upgrade <ul style="list-style-type: none"> Open Source/Commercial Standards SPEC 42 ARINC 429/664 (AFDX) Obsolescence Mitigation Pilot Workload Reduction 	Renewed V-22 Aircraft Modernization Program <ul style="list-style-type: none"> Modernization Continued Readiness Improvement <ul style="list-style-type: none"> Improved Drive System and Nacelle Improved Ice Protection New/Re-cored Engines
Ready/Reliable:	<ul style="list-style-type: none"> Nacelle Improvements: <ul style="list-style-type: none"> CV – Full MV – TNI CMV – Full* Flight Control System 	<ul style="list-style-type: none"> Full Implementation of CBM onto V-22 Platform Federated/Integrated Systems in Aircraft separating flight and mission systems 	<ul style="list-style-type: none"> Leverage lessons learned <ul style="list-style-type: none"> Previous Nacelle Improvements V-280 Development
Relevant:	<ul style="list-style-type: none"> Integrated ASE MAGTF Agile Network Gateway Link (MANGL) Digital Integration 	<ul style="list-style-type: none"> Capability delivered by software, leveraging existing hardware on platform Compile to Combat in 24 Hrs (CtoC24) 	<ul style="list-style-type: none"> Pilot Optional / Loyal Wingman Survivability Upgrades

Future System Desired Attributes

Obsolescence Tolerant - Open Architecture - Agile Communications & Networking - Common Data Standards



V-22 Availability



Availability		Now - 2026	2026-2030	2030-2035+
Reliability		<ul style="list-style-type: none">• Leverage Data to assess and evaluate current repair vs replace construct• Increase/Incentivize Vendor ability to improve component reliability via ECP (Class-1/2)	<ul style="list-style-type: none">• Conditions Based Maintenance:<ul style="list-style-type: none">○ Leverage Osprey Drive System Safety and Health Instrumentation (ODSSHI) to extend components on wing• Performance Based Logistics:<ul style="list-style-type: none">○ “Service by the hour” construct – not transactional	
Maintainability		<ul style="list-style-type: none">• Nacelle Improvements:<ul style="list-style-type: none">○ CV – Full○ MV – TNI○ CMV- Full• Electronic Publications:<ul style="list-style-type: none">○ Improve maintenance actions○ Collect data on time spent on particular steps or procedure○ Tablet-based (MAGTAB) environment	<ul style="list-style-type: none">• Training:<ul style="list-style-type: none">○ Revamp/Modernize Entire V-22 maintenance training pipeline• Publications:<ul style="list-style-type: none">○ Leverage AI/ML to better guide flight line maintenance activities○ Outcome focused, optimized to supply support and time available• Data Environment:<ul style="list-style-type: none">○ Develop/Implement Application-Program Interfaces with existing legacy maintenance data systems to improve outcomes	<ul style="list-style-type: none">• Aircraft Maintenance Modernization• Improved Drive System and Nacelle<ul style="list-style-type: none">○ Improved Ice Protection○ New/Re-cored Engines• Obsolescence management<ul style="list-style-type: none">○ “Future Proof” Infrastructure<ul style="list-style-type: none">❖ Modular❖ Blended Federated/Integrated❖ Greater Industry Standards
Affordability		<ul style="list-style-type: none">• Mute Flight line Demand• Reliability/Affordability Control Board Efforts• Transparency on repair cost drivers• Quantities of procurement where higher consumable quantities would be cheaper than lower repaired quantities• Interdict Intermediate Level “Beyond Capability of Maintenance” (BCM)	<ul style="list-style-type: none">• Performance Based Logistics:<ul style="list-style-type: none">○ “Service by the hour”○ Availability rate metrics – only pay for what we need• Lease vs. Own	<ul style="list-style-type: none">• Investment Centric Efforts<ul style="list-style-type: none">○ Long Term ROI Strategy○ Total Cost of Ownership Reduction• PMI 2.0

Future System Attributes

Data Centric // Maintainer Focused // Modular // AI-MLAssisted

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V-22 Major Future Upgrades



V-22 Cockpit Technology Replacement (VeCToR)

- RDT&E – 2026
- Developmental Test: 2030-2031
- Recurring Installs: 2032-2042
- Key Systems replaced:
 - Cockpit Displays
 - Keyboards
 - Weather Radar
 - Flight Director Panel / Radio Frequency Indicator Selector
 - FCC – In Work
 - JARVIS Mission Computer – In Work
 - Antenna Relocation - *Apertures*

Renewed V-22 Aircraft Modernization Program (ReVAMP)

- RDT&E: 2036
- Developmental Test: 2040-2041
- Recurring Installs: 2042-2050
- Key Systems Replaced: In Review
 - Aircraft Maintenance Modernization
 - Improved Drive System
 - Improved Ice Protection
 - Long Term Value Investments

Key Acquisitions Tenants:

- NOT V-22 Specific – Leverage Commercial components/standards/specifications whenever possible
- When Specialized Components are required:
 - Use existing components from other platforms wherever possible
 - Leverage Small Business development and innovation to TRL 5/6, then compete end product
 - Define SMART Requirement Gaps – plan to Iterate to a final solution
 - Federate where possible
 - Define Data Rights up front with Industry – no surprises
 - LINUX/ C++ coding required