

Modular Combat Vehicle (MCV) Program Overview

Program Designation: MCV

Common Name: Modular Combat Vehicle

Lead Commands: Armor Division, Republic Ground Forces

Status: Active Development

Projected Initial Operational Capability: Late 2056 – Early 2057

1. Program Overview

The **Modular Combat Vehicle (MCV)** program represents the Republic's transition away from fragmented, role-specific armored platforms toward a **unified, modular ground combat system**.

The MCV is designed around a **common armored hull architecture**, capable of accepting both **wheeled (8×8)** and **tracked** lower drivetrain assemblies. Mission modules, weapon systems, and internal layouts can be rapidly exchanged to meet operational requirements, reducing logistical strain and improving battlefield adaptability.

A single hull adaptable to any situation, bringing familiarity to crews and logistical supply.

The program is intended to replace multiple legacy vehicles currently in Republic service, consolidating maintenance, training, and supply chains into a single adaptable platform.

2. Strategic Rationale

The Republic's existing armored fleet consists of several incompatible vehicle families, each optimized for a single role. This has resulted in:

- Increased logistical complexity
- Slower force reconstitution
- Limited adaptability during extended operations
- Lack of specific operational support

The MCV addresses these issues by allowing **Strategic Logistics Command (SLC)** to reconfigure vehicles **in-theater** using a **Utility Repair Station (URS)**. Hulls can be converted between variants without factory-level refits, enabling rapid force role changes based on evolving mission needs. Additionally, the driver seat remains identical across all platforms-making additional training and crew service minimal and less straining on troops.

3. Replacement Scope

Vehicles to be Replaced

Wheeled Platforms:

- MARSHAL ACV
- TIGER MGS

Tracked Platforms:

- CHEETAH SPAA
 - GRIZZLY SPG
 - SANDSTORM MLRS
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4. Core Vehicle Architecture

Common Features (All Variants)

- Modular armored hull with interchangeable mission modules
- Commander's weapon station (variant dependent)
- Integrated battlefield networking and sensor fusion
- Reduced logistical footprint through shared components
- Designed for post-modern combined arms warfare

Drivetrain Options

- **Wheeled Hull:** 8×8 configuration
 - Amphibious capability (wheeled variants only)
 - Optimized for rapid deployment and expeditionary forces
 - **Tracked Hull:**
 - Optimized for heavy combat, fire support, and air defense
 - Improved off-road mobility and recoil management
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4. Core Vehicle Architecture (cont)

SPEC	WHEELED DRIVETRAIN [8x8]	TRACKED DRIVETRAIN
Length	8.2 METERS	8.5 METERS
Width	3.1 METERS	3.5 METERS
Height	2.7 METERS [TOP HULL]	2.5 METERS [TOP HULL]
Mass	32–38 t	38–46 t
Top Speed	65 / 40 MPH (ROAD/OFF)	45 / 45 MPH (ROAD/OFF)
Engine Displacement	16L Turbocharged Diesel	16L Turbocharged Diesel
Max Partition Mass	10 t	18 t
Airlift Capability	YES	NO
Amphibious Capability	YES	NO

Hull Envelope:

Both variants share a near-identical armored hull geometry to allow common tooling, armor packages, and mission modules. Differences in length and width are driven by suspension, drivetrain, and weight distribution requirements.

Maritime Compatibility:

The wheeled 8×8 configuration is dimensioned to **fit within standard decks**, enabling direct roll-on/roll-off deployment and over-the-beach operations without dedicated landing craft.

Tracked Variant Expansion:

The tracked drivetrain removes amphibious systems and flotation volume, allowing increased internal space, higher recoil tolerance, and greater payload capacity for artillery, air defense, and recovery variants.

Engine Philosophy:

Both drivetrains use closely related powerplants to simplify logistics. Differences are primarily in cooling, torque tuning, and transmission pairing rather than entirely separate engines.

Payload Definition:

Max Payload / Mission Module Mass refers to the allowable weight of weapon systems, mission equipment, and internal fit beyond the base armored hull.

5. Wheeled Hull Variants (8×8)

ACV – Armored Combat Vehicle

Republic Designation: MARSHAL

- 30 mm main gun
- TITAN ATGM launcher
- Coaxial 7.62 mm machine gun
- Commander-mounted .50 caliber machine gun
- Passenger capacity: 8

Role: Infantry support, mechanized assault

MGS – Mobile Gun System

Republic Designation: TIGER

- 120 mm main gun
- Coaxial 7.62 mm machine gun
- Commander-mounted .50 caliber machine gun

Role: Direct fire support, armored engagement

CCV – Command and Control Vehicle

Republic Designation: WARHOUND

- Advanced communications array
- Mobile headquarters and battlefield coordination suite
- Commander-mounted 7.62 mm machine gun

Role: Command, coordination, and battlefield management

5. Wheeled Hull Variants (8×8) (cont)

CMS – Combat Medical System

Republic Designation: KODIAK

- Medical evacuation capability
- Emergency field hospital configuration
- Enhanced internal medical workspace

Role: Casualty evacuation and frontline medical support

MCV – Cargo / Transport Variant

Republic Designation: COUGAR

- Configurable cargo bay or troop transport
- Capacity:
 - Cargo and large crates **or**
 - Up to 20 passengers
- Commander-mounted 7.62 mm machine gun

Role: Logistics, transport, general support

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6. Tracked Hull Variants

FDL – Forward Defense Launcher

Republic Designation: KOMODO

- 8 × Prelancer AIM-210 missiles
- Medium-to-far range surface-to-air capability
- Commander-mounted 7.62 mm machine gun

Role: Area air defense

SPAA – Self-Propelled Anti-Aircraft

Republic Designation: CHEETAH

- Dual 35 mm side-mounted autocannons
- Advanced air-search radar
- Commander-mounted 7.62 mm machine gun

Role: Short-to-medium range air defense

MLRS – Multiple Launch Rocket System

Republic Designation: BOAR

- Elevating launcher with 12 artillery rockets
- Commander-mounted 7.62 mm machine gun

Role: Saturation fire and indirect support

SPG – Self-Propelled Gun

Republic Designation: GRIZZLY

- 155 mm long-range howitzer
- Commander-mounted 7.62 mm machine gun

Role: Long-range artillery fire support

RRV – Recovery and Repair Vehicle

Republic Designation: ARMADILLO

- Heavy-duty plow
- Crane and towing equipment
- Full combat repair capability
- **No armament**

Role: Vehicle recovery and battlefield repair

APC – Armored Personnel Carrier

Republic Designation: BISON

- Remote-controlled 7.62 mm machine gun
Integrated drone launching platform
Passenger capacity: up to 16

Role: Protected troop transport and reconnaissance support

7. Logistics and Field Reconfiguration

Strategic Logistics Command units equipped with **Utility Repair Stations (URS)** can:

- Swap mission modules
- Convert wheeled hulls between variants
- Replace wheeled drivetrains with tracked assemblies (and vice versa)
- Reconfigure vehicles **on the fly**, without returning to rear depots

This capability allows Republic forces to adapt to new operational requirements within hours rather than weeks.

8. Program Outlook

The Modular Combat Vehicle is expected to become the **backbone of Republic ground forces** by the late 2050s. By unifying multiple roles under a single adaptable platform, the MCV enhances operational flexibility, reduces long-term costs, and ensures the Republic remains capable of responding to diverse and evolving threats.

Projected Full Rollout:

- Initial deployments: Late 2056
- Widespread service adoption: Early 2057

This document is intended for informational and planning purposes within authorized Republic Armed Forces and Strategic Logistics Command channels. Specifications, configurations, and timelines outlined herein reflect current program baselines and are subject to modification as development and operational testing progress.

Distribution beyond approved recipients is prohibited. Further technical details, variant-specific performance data, and integration guidance are available through Strategic Logistics Command upon request.

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