



EUROSATORY 2024

M-113HEL - Upgrade package by EODH

The EODH company in collaboration with the Belgian-Spanish DUMA and the Slovenian VALHALLA presented to the Greek Army a complete package of gradual upgrading of the M-113 APC to the M-113HEL level, based on new technologies and tested parts. The package is offered for the modernization of the M-113 of the Greek Army, which is one of the largest users of the type worldwide, having about 2900 units of various types and versions.

At the NATO level, few countries now use non-upgraded M-113A1/A2 versions such as those used by the Greek Army, but even the newer A3 version introduced in 1987 is being phased out of support and modernization or replacement programs are underway in countries where it is still in use.

The EODH approach includes a modular upgrade of the powerpack, the protection provided, the internal configuration of the driver's position and the compartment area of the infantry team as well as the possibility of adding various remotely controlled turrets with multiple armament options. Serious consideration has been given to the age of the platform, the material of construction which naturally poses limitations, the need for full support capability for the next 20 years, while a special effort was made to keep the overall cost at a low level commensurate with the value of the M-113 platform.

Finally, the EODH approach was designed so that a relevant program could be implemented entirely in Greece and within a military factory, if deemed appropriate by the Ministry of Defense. The possibility of involvement of the Domestic Defense Industry in the production of critical quorums and the assembly of the remotely controlled armament turrets has also been ensured.

BASIC CONFIGURATION

The base level of the proposed upgrade is designed to resolve long-term support issues and restore availability and performance that have been degraded due to long-term use and hardware age. It is suitable for all versions of Hellenic Army M-113A1/A2, M-106, M-125, M-901 ITV, M-577

Includes:

- New Powerpack and cooling system
- New Electrical System of Digital architecture
- New Driving Position with enhanced all-weather driving capability
- Enhanced final drives
- Reinforced suspension,
- New torsion bars
- External fuel tanks
- New independent seats

- C5I* system
- Personnel compartment cooling - (A/C) *
- Fire Suppression System*
- NBC protection system*
- Rubber tracks*

(*optionally)

COMPLETE CONFIGURATION

To increase operational capabilities and projected combat power to the basic package can be added:

A) Integrated protection and survivability enhancement package which includes:

New generation additional external armor up to STANAG 4569 Level 4+ in specific areas

Mine protection STANAG 4569 Level 2a/2b

Spall Liners

Seats suspended from the ceiling

B) Remote Weapon Stations (RWS)

MIDGARD 127: Equipped with a 12.7mm M2 heavy machine gun

or alternatively 40mm GMG Grenade Machine Gun

MIDGARD 200: Equipped with 20mm x 139mm Rheinmetall RH-20 Gun

GUARDIAN 250: Equipped with M242 Bushmaster 25×137mm Cannon

The above RWS stations

It is affordable,

They do not require interventions on board

They do not take up internal space

They do not cause strain due to limited recoil forces

This configuration is suitable for all M-113A1/A2/A3 combat versions

Chassis Upgrade

The new powertrain consists of a 375-horsepower engine mated to a Continuously Variable Transmission (CVT). To fit it requires minimal modifications to the Chassis and no bulkhead extension is needed. Driving is now car-style while the vehicle gains the ability to turn on the spot.

The engine and transmission have an Electronic Control Unit (ECU) which is connected via a data bus to the chassis electrical system and the driving position thus enabling optional remote/autonomous use as a UGV platform.

In addition, the powertrain has an integrated hydraulic system (no additional tank required for the cooling fan and rear ramp) as well as other subsystems for easier maintenance, removal and installation.

The driving position has been optimized to provide the best ergonomics, comfort and survivability while the human-machine interfaces use multi-function LCD touch screens and wired control panels.

The new battery system features an on-board charger unit that ensures advanced charge/discharge cycles and a charge equalization system that keeps all batteries at the same charge level.

Remote Control Armament Options

In the base version of the advanced TOMP the vehicle is fitted with a 250kg MIDGARD 127 remote weapon station (RWS) equipped with a 12.7mm M2 heavy machine gun and 400 rounds ready for use or alternatively a 40mm GMG Grenade Machine Gun with a stock of 200 rounds. The customization of the grenade launcher is done with the help of a special kit.

In the case of the hybrid TOMA, the vehicle is fitted with a 350kg MIDGARD 200 remotely operated weapon station equipped with a 20mmx139mm Rheinmetall RH-20 gun which can be sourced from existing stocks to significantly reduce final costs. Optionally, the MIDGARD 200 tower can also incorporate an A/T missile launch system (EUROSPIKE or AKERON).

Finally, there is the option of installing (subject to conditions) the heavier GUARDIAN 250 remote-controlled weapon station weighing 650kg equipped with an M242 Bushmaster 25x137mm automatic cannon and a stock of 200 rounds.

Across all armament options the Gunner's position is common and features multi-function LCD touch screens and wired control panels. Fire Control is ensured by a 3rd generation SEP (FCS) that has automatic target tracking and enables precision shooting on the move. The system provides full stabilization on two axes and features Day, Night (thermal) and Laser rangefinder sights. A peripheral vision system based on 8x cameras can be installed as an option and provides full tactical situational awareness to the crew.

COOPERATIVE COMBAT CAPABILITIES

The upgraded M-113HEL is designed to be able to respond to a new complex role embedded in Units and Formations that must effectively interoperate in the complex battlefield.

It can be transformed into a fully digitized Network-Centric Combat Platform with widespread use/fusion of sensors and actuators.

This requires multi-level connectivity involving echelons of Command, ground and air force departments, using secure high-speed data communications links.

Finally, through a C5I system, real-time tactical situational imaging data can be shared and exchanged to conduct combined operations from the individual soldier to the Tactical Combat Group and Brigade level.

IMPROVED RELIABILITY & MAINTAINABILITY

New systems of high reliability, low consumption, with limited maintenance requirements and a long time between failures.

Technology supported for the next 25 years.

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