



INTRODUCTION OF ALL TERRAIN VEHICLES (ATV) - HEAVY TO THE COE MANUAL

Secretariate Issue Paper # 38

Issue Paper Theme: **Major Equipment**

BACKGROUND

United Nations field missions are often conducted in environments that lack paved roads or in regions where no serviced roads exist. Additionally, these operating areas often experience significant rainfall that prevents the operation of traditional four-wheel drive vehicles and trucks. As such, there remains a need for a capability that can operate in these environments to meet critical mission tasks despite the austere terrain. All-Terrain Vehicles (ATV) can provide greater a capability to operate in austere environments, specifically those found in many of the environments that United Nations field missions operate in. Currently, the COE Manual has only one All Terrain Vehicle listed in Annex A of Chapter 8 with a Generic fair Market Value (GFMV) of \$6,903. This ATV is a small vehicle designed to remain in the general vicinity of the T/PCC main camp and would not have the capability to conduct wider tasks in more remote or isolated areas within an area of operations. The purpose of this paper is to propose a more capable All Terrain Vehicle that can operate independently across mutiple terrain types and adress mobility challenges.

PROPOSAL

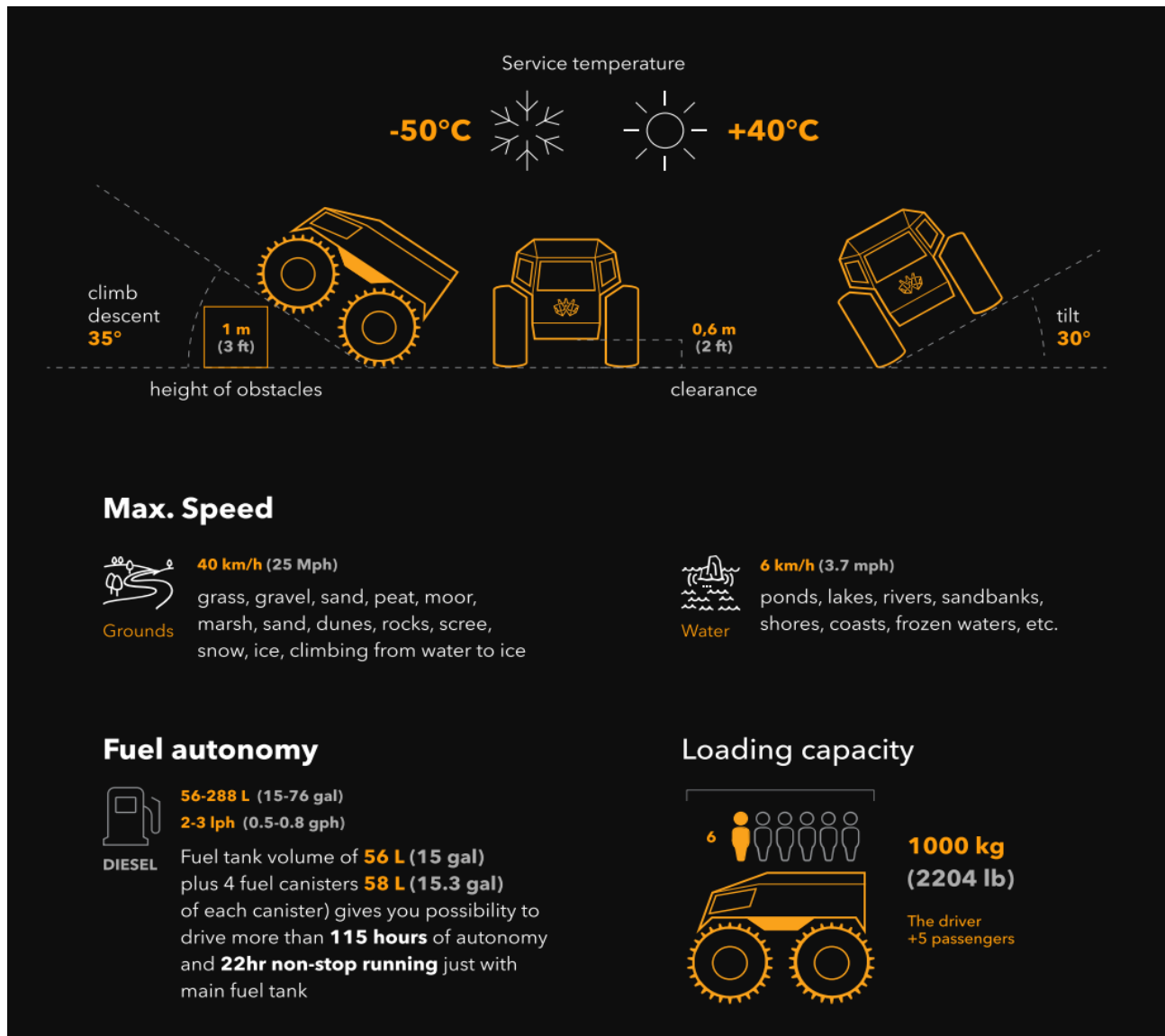
It is proposed to amend the current All-Terrain Vehicle (ATV) listed within Annex A to Chapter 8, page 187, to **All Terrain-Vehicle – Light** and introduce a new capability, **All-Terrain Vehicle – Heavy**. The All-Terrain Vehicle – Heavy should have the following characteristics:

- Capable of both road and amphibious mobility allowing operability over terrain that hasn't benefited from any human clearing
- Ability to maneuver through thick brush, fields, swamps, into and out of water, and over deadfall strewn forest floors, boulders and talus fields.
- Capable of transitioning from ground to water environments seamlessly.
- Minimum ground speed of 40 km/h
- Minimum water speed of 6 km/h
- Climb ability of 35 degrees and tilt capability of 1 to 3 gradients
- Minimum load capacity of 1000 kgs or 6 personnel
- Operating range of 22 hours on integral fuel tank.



- Minimum of 2 additional fuel canisters extending autonomous operating range to 72 hours.

As an example of an 'off the shelf' ATV – Heavy specifications are as follows:



UNMISS is currently trialing the use ATV – Heavy in South Sudan which have been leased from the World Food Program. The induction of ATV – Heavy to UNMISS helped move troops and supplies in areas that are hard to reach with vehicles currently operated in mission. These ATVs have been critical for successful Short and Long Distance Patrols during South Sudan’s rain season in areas typically impossible to reach with current COE.

The WFP reported the following results from the trails conducted in DRC and South Sudan:

- 25 airdrops replaced using trail ATVs – Heavy,
- 90% savings in transport costs compared to airdrops,
- 800 MT delivered in 5-week period, and



- USD 1.7M saved by replacing airfreight with cost-efficient overland transport.

An example of the ATV – Heavy currently being employed by UNMISS under a trial arrangement is as follows



ALL-TERRAIN VEHICLE - HEAVY

It is proposed that an ATV – Heavy would have a GFMV of \$126,000 with an estimated useful life of 8 years due to the harsh terrain this equipment is designed to operate in, including amphibious environments. A maintenance rate of \$1000 would apply which is consistent with similar all terrain vehicles of similar value currently listed within the COE Manual. The No Fault Incident Factor (Percentage) would be 0.8 percent, consistent with similar Support Vehicles (Commercial Pattern). Accordingly, the Dry and Wet lease rates would be as follows:

$$\begin{aligned}
 \text{Dry Lease} &= \frac{\text{GFMV} / \text{Life}}{12} + \frac{\text{GFMV} / \text{No Fault Incident Factor}}{12} \\
 &= \frac{126,000 / 8}{12} + \frac{126,000 / 0.8\%}{12} \\
 &= 1,313 + 84 \\
 &= \$1397
 \end{aligned}$$

$$\begin{aligned}
 \text{Wet Lease} &= \text{Dry Lease Rate} + \text{Maintenance Rate} \\
 &= \$1397 + \$1000 \\
 &= \$2397
 \end{aligned}$$

PROPOSED MANUAL TEXT

Amend Annex A, Chapter 8, Support Vehicle (Commercial Pattern), page 187 as follows:



Type of equipment	Generic Fair Market Value	Estimated Useful Life	Maintenance Rate	Monthly Dry Lease Rate	Monthly Wet Lease Rate	No-fault Incident factor (percentage)
All-terrain Vehicle - Light	6,903	5	5	120	125	0.8
All-terrain Vehicle - Heavy	126,000	8	1,000	1,397	2,397	0.8

FINANCIAL IMPLICATIONS

The financial implications of this proposal will depend on the number of ATV deployed. The example of GFMV is indicated above.

PREVIOUS HISTORY

This issue has not been previously considered by the COE Working Group.