

ATVs IN THE LIGHT INFANTRY FIGHT

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Since the beginning of modern warfare, military forces have looked for ways to get soldiers and supplies to the fight faster. In order to reach this realm of fighting efficiency, modern armies have had to develop a vehicle platform that is reliable and able to handle any terrain it may encounter. The class of vehicle developed is the all-terrain vehicle (ATV). Recent military history shows the replacement of the service Jeep with the high mobility, multipurpose wheeled vehicle (HMMWV) and the development of fast attack vehicles (desert patrol vehicles), which were tested by the 9th Infantry Division (Motorized) in 1980.

In the 1980s and early 1990s, select light Infantry scout platoons were equipped with motorcycles (or dirt bikes) due to their speed, light weight, and durability. They have the ability to be transported by rotary-wing aircraft and be air dropped by airborne forces. These motorcycles provided an advantage in reconnaissance and rapid reporting, especially in airborne units. The tactical risk was considerable due to noise signature, and accidental risk to operators eventually led to the quiet retirement of these platforms from Army conventional units. Although today they can still be found

in special operations units, this is the exception rather than the norm.

The Polaris or John Deere ATV variants are readily available to conventional forces and have been used with varying degrees of success. The 101st Airborne Division (Air Assault) has been particularly resourceful and creative in the tactical employment of these platforms in combat operations in Afghanistan.

The focus of this article is the employment of ATVs during a Joint Readiness Training Center (JRTC) rotation and the lessons learned. The 2nd Battalion, 4th Infantry Regiment deployed to JRTC with three light Infantry companies, a forward support company, and headquarters company. The battalion's heavy weapons company was not part of the requested force package for this rotation. This severely restricted the battalion's ability to move forces and supplies due to limited armed escorts to secure forward support company assets. As a result, the battalion had a heavy reliance on aerial resupply to sustain its Infantry companies. This took much longer, was weather and aircraft dependent, and forced the battalion to rely on aircraft more than if the organic heavy weapons company had been available to



Photos courtesy of author

Soldiers from the 2nd Battalion, 4th Infantry Regiment maneuver after a raid during the JRTC 15-02 Hybrid Rotation at Fort Polk, La., in November 2014. The integration of ATVs assisted in quickly moving Soldiers, weapons, and equipment off of the objective.

secure critical lines of communication and support. To enable light Infantry companies to carry sustainment for several days, each Infantry company was issued one ATV to be used during the JRTC rotation.

ATVs fit into two distinct categories: light and quick on one side, slow and heavier on the other. Both types of ATVs bring a considerable range of capabilities to the fight. Leaders must determine if the ATV is feasible or practical for combat operations during the planning

process. This process should take into consideration the capabilities and limitations of each variant. A light ATV, the Polaris Sportsman MV 850 for example, can deliver messages, deliver mortar rounds, and aid in resupply, but load capability is sacrificed for speed. Conversely, the trusty John Deere Military-Gator (M-Gator) A1 or Polaris Ranger 6x6 are more than capable of resupplying an entire company with Class I or fulfill the role of non-standard casualty evacuation (CASEVAC). The M-Gator is an adaptation of the civilian model John Deere Gator. It has an 18 horsepower, overhead valve, 3 cylinder, liquid cooled, 4-cycle diesel engine that can operate off of standard diesel fuel or JP8. It has an automatic transmission and can travel up to 18 miles per hour and can carry up to 1,250 pounds.

The battalion's forward support company mechanics enhanced the garrison A1 M-Gators to incorporate both infrared and white flood lights, brush guard, weapon-carrying clamp for driver and passenger (TC), GPS mount, and a flat rack with straps for use as a litter mount. However, the addition of a hard-wired, modular battery trickle-charger was by far the most useful modification during this unit's JRTC rotation. The charger effectively replaced the need for the rifle companies to request replacement radio batteries during sustained operations.

The advantages an ATV offers — agility and flexibility — must be balanced with a healthy dose of risk mitigation. The commander's knowledge of the enemy, terrain, weather, and mission as well as strengths and weaknesses of the ATV and what it brings to the fight is essential for full exploitation of the platform.

Maintenance, Preparation, Recovery

With a wide range of engine output starting at 300cc and climbing to over 900cc, tasks such as hauling route obstructions and recovering downed equipment are much



Soldiers use an ATV to drag fallen debris onto an avenue of approach to reinforce a concertina wire obstacle effectively deterring mounted enemy forces. The ATV's ability to negotiate the micro terrain and saturated ground of Fort Polk's training areas during the JRTC rotation was invaluable and a testament to its versatility.

simpler to expedite. But a healthy maintenance program is key to success. Without this, unprepared units may find themselves with an ATV that is a tactical liability due to mechanical breakdown or operator error. An ATV is a slow and soft target that also has a noise signature that must be considered in any tactical employment. Proper preventive maintenance checks and services (PMCS), a trained operator, and simple repair parts as a small battle damage assessment repair (BDAR) kit, like with all vehicles, is the key to success. Fuel (most likely diesel), oil, coolant, and camouflage will take up a small corner of the ATV's cargo space whether the operation is on the training ground or battlefield. Without these simple items and proper pre-combat checks/pre-combat inspections (PCC/PCIs), the ATV may not be an enhancement but a burden.

ATVs, like all other military vehicles, must be secured when they break down. This will be a drain on combat power that is needed for mission accomplishment. When/if ATVs break down, field-repair/recovery is the first and most tactically sound option, but planned and designated "cache or recovery points" are key to preserving the capability if it is deemed necessary to abandon it. Recovery of a stuck ATV is not difficult, nor is recovery of a broken down vehicle if there is a contingency plan. The plan must include how the supplies the ATV is carrying will be redistributed and how this will affect the mission now that this asset is not available. CASEVAC, resupply, landing zone (LZ) operations, etc., may take longer, need to be changed, or need more manpower than originally planned with an ATV.

Maneuverability

The rifle companies' typical movements were often up to 10 kilometers through restricted to severely restrictive terrain. The commanders initially were skeptical of the ATVs' ability to negotiate the terrain at JRTC, especially since they

were loaded down with additional CL I, V, and VIII. The ATVs, however, were able to traverse steep declines and inclines, high grass, dead fall, and small but deep ravines and ditches with no issues. Maneuver success and safe operation in these conditions can be attributed to having trained NCOs as operators. ATV training includes driving with night vision devices and it paid off. Having NCOs that understand ATV capabilities and limitations, accidental and tactical risk, and the mission contributed greatly to the safe operation of these platforms throughout the rotation. Additionally, the use of a ground guide in rough terrain ensured safe operation and preserved this valuable asset from becoming disabled or stuck.

Training

The selection of mature operators and proper ATV initial driver's training are key to success in tactical use. Initial driver's training should address not only the mandatory periods of instruction required by Army Regulation 600-55, *The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing)*, but also familiarize the operator with the unique characteristics of the ATV to include grade maximum limit, secondary load limitations and securing, how to properly secure the ATV to load on a CH-47, how to properly sling load with a UH-60, night driving, tactical recovery, moving in/on other wheeled vehicles (such as a light medium tactical vehicle [LMTV]), noise signature risks, fuel consumption tables, field repair, camouflage, and tactical integration.

Probably the biggest advantage the ATV brought to the fight was the increased sustainment capability it gave to a light Infantry company on its own. The companies were able to carry additional CL I, IV, V, and VIII.

Air Assault Operations

The 101st Combat Aviation Battalion (CAB), an experienced battalion with multiple tours of Afghanistan, made every effort to take care of our battalion. When we approached them with the idea of ramp-loading an ATV, it was nothing new to them and was not considered a "unique load." After consulting with 101st CAB during the planning phase, the "cage" or roll bar on the M-Gator was removed in order to accommodate being loaded on the back ramp of a CH-47.

Air assault operations were unhindered by the addition of the ATV, but planning factors must incorporate the weight of the vehicle, the troops that will be bumped to account for the weight of the ATV, and the time required to secure and release it from the ramp. A fully loaded ATV with sustainment for four days cut 12 troops from the CH-47 load. The ATV was loaded and secured on the back ramp and took approximately three minutes to disengage from the ramp of the aircraft.

Defense

Without the ability to secure much with wheeled vehicle assets and preserving the few precious gun trucks to meet

the commander's intent, there were limited wheeled assets available to the companies in the defense. Class IV assets were delivered by combat patrol at night and by air to each company. The company LMTVs and HMMWVs were also delivered for use in the defense. The battalion had a follow-on mission to delay as the transition of the defense was passed on to host-nation security forces. The companies found that the M-Gator was invaluable in defense preparation. As CL IV was centrally delivered to each company in one location by battalion support company assets, the ATV became useful in quickly delivering CL IV to positions. Most commanders found that they had to place a "gator-priority" and time limits to platoon use, much like we do with dig assets in the defense. Everyone needed it and wanted it. Priority went to a company's main effort and then allocated out from there in accordance with individual priorities. The ATV was then placed in a covered and concealed survivability position near the company command post to take advantage of the add-on battery charging capability the battalion maintenance platoon had installed.

CASEVAC

Casualty evacuation is physically grueling and requires significant manpower in any light Infantry unit. Often, one casualty will take at least a squad out of the fight to assist with evacuation, or more Soldiers may be needed if a pick-up zone has to be secured for aerial evacuation. During JRTC in a movement to contact, it is not uncommon to take casualties. For example, a company sustained four casualties in its first engagement. It took a platoon some time to move the casualties to the company casualty collection point (CCP) due to the manpower needed to move all of them. This prompted the company commander to designate the ATV as the primary CASEVAC method. Once the threat was eliminated (or the area was deemed secure and no enemy in the area), the ATV would be called up from a pre-postured position in the movement formation. The first sergeant with a security element moved from the company CCP, picked up casualties from a covered and concealed position, and then moved them back to the company CCP. The ATV could safely move up to three casualties at a time (a combination of litter and walking wounded). Simultaneously, the companies became proficient at multitasking the ATV to deliver CL V whenever it went up to retrieve a casualty. This is a good tactic for efficiency and balancing risk with necessity, more "juice for the squeeze" when exposing this critical asset and getting the most out of every run.

In resupply operations the ATV is invaluable. One company that was isolated from the battalion due to mission requirements and weighted risk was initially reliant on aerial resupply. They secured an LZ during limited visibility around 0200 and received a sling-loaded resupply of CL 1, water, and CL V. The ATV enabled a rapid recovery of the supplies and clearing of the LZ — time that would have exposed Soldiers and supplies if it had to be hauled by hand.

One planning consideration that was overlooked by staff planners was what to do with the ATV when the unit

is picked up by LMTVs. There was no lift capability on the combat logistics patrol that could have lifted the ATV onto a truck nor was there room available. In hindsight, units must plan for an additional LMTV or load handling system (LHS).

Security

As stated earlier, the ATV is a soft-skin vehicle that is highly vulnerable to direct and indirect fires as well as any type of improvised explosive device. Consideration and appreciation of terrain when planning its employment in tactical operations and mitigation of that risk by time and distance is critical. The ATV is not an armored vehicle, and the driver and vehicle commander (VC) will require security. A fire team worked best as the company moved from objective to objective, and phase lines were called in to creep it forward to more secure areas that had been cleared and contact was less likely.

There is a lot to take into consideration when integrating the ATV into tactical combat operations — what type of ATV, how it's inserted into the fight, where to put it in the fight, and how to keep it fully mission capable and protected at all times? All these questions need to be answered during the military decision-making process (MDMP), and standard operating procedures (SOPs) should be developed. Just like any other enabler, ATVs come with advantages and disadvantages. The advantages of ATVs often outweigh the disadvantages with proper planning and risk mitigation. When implementing ATVs into the tactical environment, ensure security and route planning are accounted for at all times to ensure they stay in the fight.

The Department of Defense (DoD) defines mobility as: “a quality or capacity of military forces which permits them to move from place to place while retaining the ability to fulfill

their primary mission.” The M-Gator and other ATV variants definitively fulfill this definition. They are reliable and versatile work horses that contribute efficiency in many ways. With proper training, preparation, planning, and synchronization, they can also contribute to the light Infantry in the tactical fight.

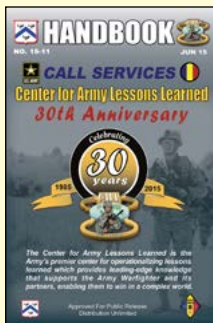
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Additional munitions, extra rations, and injured Soldiers' equipment are easily tethered down and quickly accessible while on the move. The dynamic of an operation changes when factoring in both the payoffs and limitations of an ATV.



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