

Narratives, Student Papers, etc (cont)

The ACAV - Workhorse of the Cavalry. 1LT John K. Boles, III

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ARMOR IN VIETNAM MONOGRAPH

THE ACAV - WORKHORSE OF THE CAVALRY

JOHN K. BOLES III  
1LT, ARMOR  
231-68-7053  
HHC, 1ST BRIGADE, 1ST AD  
APO 09140

## ARMOR IN VIETNAM MONOGRAPH

### THE ACAV - WORKHORSE OF THE CAVALRY

While many articles and accounts have been written about men's actions during the Vietnam conflict, not too many people have delved upon the fighting vehicles employed during the war. Of all the vehicles concerned, I am specifically interested in the workhorse and the backbone of the mechanized forces of the war, the M113A1 Armored Personnel Carrier.

I am not concerned here with the technical description of the carrier which can be found in the appropriate Technical Manual, but rather with the many configurations that the crews adopted for their vehicles. Having been a line Platoon Leader for eight months in Vietnam with the 2nd Squadron, 11th Armored Cavalry Regiment, I feel that something should be said about the fighting vehicles which we employed.

As found in today's TO&E unit, the APC runs basically stock as found in the TM with no apparent additions made to the basic vehicle. Once the vehicle moved into the Vietnam theater, however, quite a few major changes took place, both officially and unofficially.

The most evident change took place in the early part of the conflict when a gun shield kit was developed, tested and adopted for use primarily in Vietnam. The kit consisted essentially of a commander's cupola with an M3 gun mount and shield for the Browning M2 50 Caliber machine gun and two additional gun mounts and shields for two M60 machine guns. These two shields were located one on either side and slightly forward of the cargo hatch. The resulting vehicle with the described configuration

came to be known as the Armored Cavalry Assault Vehicle or ACAV, and, as gathered from the nomenclature was used primarily by both American and Vietnamese armored cavalry units.

Once the basic vehicle was officially configured as the ACAV, many unofficial and necessary modifications took place. In that the ACAV was it's crew's home and fighting vehicle, many imaginative ideas came to light for modifying both the inner and outer configuration as well as the BII carried.

The RPG threat from the NVA and Viet Cong made one thing quickly apparent; some sort of temporary protection had to be developed to supply a stand off barrier for the vehicle. This was even more crucial at night while the unit was laagered in an NDP. Almost every armored crew soon learned that three or four engineer stakes and a large roll of cyclone fence was easy to erect, quick to disassemble and provided some of the best protection known against an RPG attack. Carried during the day rolled up and tied to the front slope of the ACAV, the RPG screen proved to be easily transportable and very effective when erected. The concept was not unlike that of the Second World War when many German tanks, ie. the Panzer Mark IV carried rigid side mounted armor, specifically for the same purpose. Many lives were saved due to this simple addition to the equipment on the vehicle.

The different tactics employed in Vietnam, specifically the Reconnaissance in Force, or RIF, meant several hours at a time on the move for the crew and their vehicle. In an attempt to make the ACAV more comfortable for the crew and yet at the same time not jeopardise the fighting capability of the vehicle, many crews moved two mini-cans of 7.62 ammunition to the top of the vehicle and tied each of them down to the lifting

eyes on each rear corner of the top deck. They then served the dual purpose of a back rest and a readily available large capacity ammunition box for each of the side mounted M60 machine guns. Cushions or other material were usually put in front of the mini-cans to make a chair of sorts, however in jungle operations on a RIF most experienced personnel stood inside the track and used the chairs only while stationary or while on roads.

Many ACAV's at one time or another had crews of five or six personnel, usually temporary, in that another vehicle had been knocked out and the remaining crew had been portioned out to other vehicles of the platoon while the replacement track was being delivered. Most of our vehicles had an adapter that was mounted on the rear deck to accept an M60 gun mount to be used by the extra crewman in covering the rear of the vehicle. This proved very reliable in several incidents and the added firepower was greatly appreciated. We normally had only two tracks outfitted with the rear mounted weapon at any one time and they were employed at the end of each column or at the rear of the particular formation.

Also found on the rear deck rolled up and stored under the cargo hatch door was the sun and rain shield for the commander's cupola. Normally used only in the NDP, it consisted of two five foot bamboo poles and either a poncho or a poncho liner, depending on the season. This could be quickly erected over the cupola in a lean-to configuration with the poles on the front slope and the rear of the poncho tied to the tie downs in front of the cargo hatch. Our SOP called for the rear hatch and the ramp to be closed at 1800 hours leaving the cupola open.

One man was in the cupola at all times while in the NDP, both during the day and of course while on guard at night. The sun/rain shield configuration protected the crewman in the cupola and the equipment in the track from any rain entering through the open hatch. It was also practical in that it could be quickly removed in the event of a quick move-out of any sort. No fields of fire were hindered by the shield, however we never erected the lean-to while on a mounted ambush or while as the stand-by reaction force for a dismounted operation.

The commander's cupola was its own fighting station. The configuration I preferred was to have smoke grenades and an M16A1 rifle attached to the right side of the cupola and fragmentary grenades and hand flares attached to the left side. I also mounted a PRC-25 radio to the side of the cupola for use in dismounted reconnaissance or in the event that one of my own vehicle mounted radios went out. To the left of the cupola behind the driver's hatch we carried a wooden mortar-round box with six extra boxes of 50 caliber ammunition for the M2 machine gun.

Within the cupola, I carried my .45 caliber pistol, a canteen, spare compass, map case and a can of 30 weight oil. Most track commanders that I knew used the 30 weight oil for their M2 machine guns in lieu of PLS due to the availability of the oil and also due to it's ability to hold up better when the weapon was hot. Many commanders had cushions to sit on, however some of us chose to sit on a plain board resting on the periscope guards.

Due to the constant punishment taken from the jungle surrounding the Tay Ninh province, hardly any of my vehicles had the normal accouterments such as headlights, fenders, trim vanes or track shrouds. I

was constantly amazed at the punishment the ACAV could take and still keep moving. The vehicles were constantly pushing each other off of the infamous ant mounds, towing other vehicles out of mud holes or straining through thick jungle for hours on end. The crew soon learned that constant attention to maintenance had to be paid to the vehicle, not only for the vehicle's sake but because their lives depended on it.

The armor plate kit attached to the bottom of the ACAV for protection against mines saved many lives. Through personal experience, my platoon learned that the belly armor was worth much more than the slight inconvenience it caused at times. We found that if the plates were not properly installed the replacing of broken torsion bars in the field was extremely difficult. The consequence was that almost every platoon had at least one vehicle in this predicament, and since the repositioning of the armor plating once it was removed in the field was nearly impossible, it was not unusual for the vehicle to have five or six broken torsion bars at one time rather than to be without the extra protection of the belly armor. The problem which arose here was that once a torsion bar broke the others soon followed due to the additional strain and in a matter of time the vehicle was inoperable.

The crew compartment of the ACAV was a radical change to the basic configuration as found in the stock vehicle. It was both the living area for the crew and the storage area for all of the equipment and ammunition carried by the ACAV. While varying from track to track, the general concept remained the same.

In the vehicles of my platoon, the floor of the driver's compartment was covered with sandbags and the folding seats on each side of the carrier were removed. A wooden floor was built on two by fours about

two inches off the floor to allow for drainage. On this floor in the front of the compartment next to the engine access panel and under the commander's cupola, three layers of 50 caliber ammunition boxes were placed four deep for a total of approximately 10,000 rounds. Placed on each side of the vehicle were seven or eight mini-cans containing our personal possessions, extra 7.62 ammunition, grenades, claymore mines, explosives, weapons cleaning kits and tools. Each can was clearly marked in one fashion or another as to its contents and the two banks of mini-cans served additionally as our beds at night. Many crews acquired a stretcher at one time or another and hung it from the straps on the top of the compartment for a bunk bed configuration. The stretcher was stowed during the day, and in an actual time of need was on hand for the wounded. The fourth man slept either on the floor between the mini-cans or on the 50 caliber ammunition. The fifth man was on guard and sleeping positions were rotated as a man came off guard.

The remaining equipment carried by the crew such as individual weapons, water cans, C-rations, cots, oil cans, spare parts and, of course, the ever present Mermite can were stowed within the vehicle during a RIF. Each crew had it's own loading plan, however, the primary consideration was that complete and immediate access to all ammunition be maintained. It was not unusual, however, for there to be a foot or so of jungle debris within the vehicle at the completion of the RIF.

The maintenance situation was critical and because of this most vehicles not only had their normal BII but also the next echelon of tools as well, these having been acquired at one time or another. The maintenance sections of most troops did an admirable job in keeping

the vehicles running; however, if a platoon was on a RIF and a vehicle went down, the repair of the vehicle was in the hands of the crew. Many times it was more feasible to take the time to repair the vehicle on the spot with the resources on hand rather than tie up one or two additional vehicles in towing the downed ACAV in to the NDP and slowing down the movement of the platoon. Field expedients such as short tracking an ACAV, making wiring harnesses out of claymore wire, and crossing wires from one electrical component to another to bypass a particular problem were not unusual. With a little knowledge and ingenuity, the crew could keep their ACAV running almost indefinitely. With a little experience, most crews were able to adequately assist the troop maintenance in splitting packs, pulling their own packs and most other organizational levels of maintenance required. This was due in part to the simplicity of the vehicle and it's components as well as not requiring a vast number of special tools to complete the job. Ease of maintenance and operation was one of the greatest assets of the ACAV in the Vietnam theater.

In the eight months with my platoon, I learned to have complete confidence in the ACAV and it's capabilities. Realising that the final outcome of the mounted operations that we were involved with in Vietnam was due to the actions of the men involved, I feel that a large part of the success stems from the tenaciousness, simplicity and ease of maintenance of the M113A1. The combination of this fine vehicle and the crews that manned it added up to one of the best fighting vehicles in the Vietnamese Conflict.

**ARMOR IN VIETNAM MONOGRAPH**

**MINE WARFARE**

**DAVID C. MERRILL  
MSG, ARMOR  
207-28-6740  
HHC, 1ST BRIGADE, 1ST AD  
APO 09140**

**PLATOON SERGEANT  
B TROOP  
1ST SQUADRON,  
1ST CAVALRY,  
AMERICAN DIVISION**

## ARMOR IN VIETNAM MONOGRAPH, MINE WARFARE

Having served in Vietnam as a Platoon Sergeant-Platoon Leader in the Armored Cavalry, and considering my tour as probably the greatest learning experience of my military career, I feel it important to write about that portion of combat that seemed to influence most of my actions and those of my platoon. I feel that my unit learned its lessons well and that these concepts could and should apply to similar type units in any type of combat situation or environment.

Mine warfare in its execution is probably one of the most terrifying because of its suddenness and the almost overpowering psychological feeling of futility after the dust has settled. The American Soldier regardless of rank or position would fight fiercely against any known enemy, but when faced with the unknown and unexpected confusion, the weaker leaders sometimes made rash and irresponsible decisions during the initial phases of mine warfare. I cannot accept the fact that the enemy who observed our actions during the conduct of mine warfare did not report this through their chain of command and that this information is not now being taught to all our possible enemies. This article will deal with what I feel are the three main components of mine warfare. First the mines, second, the protective measures that may be taken, and third, the training needed to prepare all of us for mine warfare.

I feel that the simplicity of the mines and the ingenuity of the mine emplacer were the overwhelming factors in the effect against our forces.

After serving in armor for 13 years and being armor oriented and proud of my branch, to realize that one small man with a bamboo box filled with a homemade explosive could completely neutralize my M-48 tank was a shock, and one that not only I but all my comrades had to immediately adapt to. My first day in combat established the fact that the combat power and maneuverability of my platoon rested upon the sharp eyes, experience, and the sixth sense of every man in my command. The experienced combat veteran could spot the small piece of plastic waterproofing used to keep the explosive dry sticking out of the ground. The experienced veteran could see the crossed stick markings used to mark the mine. The experienced veteran could stand on the bank of a stream and see the mine in the stream by noting nothing but the different color texture of the rocks in the stream bed. The good track commanders and section leaders reacted to the finely tuned ears and noses of their men and reported whistles, noises and in some cases the eerie silence that gave warning that a mine or booby trap was in the area. The moods of the local population in the area activated the sixth sense of some of the soldiers and gave the needed warning that would prevent casualties. It was soon the common knowledge of every soldier that a mine could be a pack of cigarettes, a bamboo hat, a coffee pot, a box, a water buffalo, or even a dead body. Mines were in holes, in streams, in old tracks left by departing units, ruts, houses, and in every other possible location where the non-alert, tired, or careless soldier

would either become a casualty or cause a casualty. Firing devices for mines and booby traps were as devious, and in some cases, as destructive as the devices themselves. They were located under punji stakes, attached to door handles, under piles of buffalo dung, tree branches, bushes and in any other location that the ingenuity of the emplacer could come up with. The tactics were basic, mines were used to reroute, channelize, confuse or delay. The enemy in Chu Lai, Tam Ky, and Da Nang sectors realized that they could effectively delay and keep a cavalry platoon gainfully employed for an indefinite amount of time if the platoon was not properly prepared.

Preparation was the key to success in combating enemy mine warfare. Pre-Combat Checks achieved a new dimension in attention to detail because our troopers had to prepare to combat the unknown. Equipment was stowed in vehicles in such a manner that insured that the concussion of a mine would not make lethal missiles out of ammo cans, BII items, and personal gear. Modifications on seats and crew riding positions were made to insure that crew members were blown off the track instead of blown up in it. Drivers sandbagged their floors and modified their lateral to insure that concussion did not cause them to be impaled upon them. Track commanders rode on boards across the tops of cupolas to insure a safe airborne trip to a convenient rice paddy. Extra equipment to insure that detection and demolition of mines could be made professionally and expeditiously was procured and checked. Vehicles that were designated to be lead vehicles for a particular mission and that were affectionately known as the "big mine detectors" carried the portable mine detector equipment, detonation cord, and C4

necessary to accomplish the mission. When time permitted, pre-combat checks included what would most commonly be known as battle drill but was modified to perfect the technique of tracking to insure that new drivers learned this technique and old drivers continued to perfect it. Tracking, or the principle of the lead track making a path and the others following in his exact track, saved many lives, however, many were lost because of failure to be exact. One inch away from a 750 lb bomb rigged with a pressure type firing device is as good as 500 miles if you miss it. Members of armor units became proud of their accomplishments and were right in doing so because they became professional in their ability through self-training and the exchanging of knowledge to beat the mine syndrome.

Fourteen years of military training and advancement from E1 to E7 did not prepare me for this kind of combat. Being proficient in my MOS and professionally oriented, I was not even close to being psychologically prepared for mines and booby traps. Nothing in my training program had come close to explaining or orientating me or my peers to this effective combat power. I honestly feel that the training our soldiers are now receiving is not oriented toward preparing our Army for future combat of this type. An unknown amount of time and money is spent to prepare Barrier Flans and assemble Barrier equipment but anything other than the very basic subjects of mine warfare is probably pretty far down the list of priorities in the combat effectiveness evaluation of most commanders. The most proficient Rifle Squad, Tank Platoon, Redeye, or TOW Section might lose

its sense of perspective for a short period of time, however, the first time one of its vehicles or members disintegrates with no warning. Mine warfare with effective training aids should be an integrated part of all tactical training. Exercises that test proficiency such as MISPC and TCQC's should have mine warfare integrated to test and train personnel to react to the unknown. Mine and booby trap training should have the same priority as Chemical Test areas and firing ranges. Mine warfare areas are inexpensive to erect, maintain, and utilize. Although in most areas, our military situation dictates that we prepare for and are orientated toward being defensive in nature, it is well within the realm of possibility that some of our future soldiers will be faced with another crisis such as Vietnam and must be prepared for it. Training on mine detectors and demolitions is a subject that is brushed over now and then but should be re-established as a priority and force fed to non-believers as a true lesson learned from Vietnam. Bravo Troop, 1st Squadron, 1st Cavalry learned its lessons the hard way, and had it not been for the expertise of many young PFC's and SP4's, those of us assigned to the leadership positions would have been seriously deficient. The lessons learned are myriad and are probably all recorded in the archives of the 1st Cavalry Squadron but I feel it is of the essence that this knowledge not be kept in safes, vaults, and folders where it is of no use to future armor crewman. The principles of mine warfare are simple, they are emplaced by ingenious professionals and are overcome by ingenious professionals.

The crucial point, however, is that everyone in a unit must be psychologically prepared. The initial fear, the feeling of panic, and the futility over what has happened must be effectively overcome to stop irrational actions and decisions. Vietnam has taught us that only the very well trained and mentally prepared can overcome this very effective combat weapon.