Improving Light Force Firepower With HMMWV-Mounted Recoilless Rifles

WE'VE ALREADY BOUGHT THEM...WHY NOT USE THEM?

by Mike Sparks

Light U.S. Army Contingency Forces (CFs) — numbered Special Forces groups, Rangers, airborne units, Air Assault, and light infantry divisions — do not have tanks, except for the 56 M551 Sheridans of 3/73d Armor attached to the 82d Airborne Division. As 1LT John Williamson's article in the November-December 1994 *ARMOR* points out, the light wheeled vehicles (HMMWVs) of these units will play an increasingly important role on the modern, early-entry battlefield because these vehicles will be the only way heavy weapons can be positioned rapidly where needed. The HMMWVs of A Troop, 3-17 Cavalry, 10th Mountain Division were adequately equipped to perform road block/checkpoint missions, but did not have a superior, organic, direct-fire, shock weapon to defeat enemies encountered later in close, urban combat.

HMMWVs with machine guns and TOW Antitank Guided Missiles (ATGMs) are tragically inadequate against large numbers of enemy infantry hiding behind urban structures. Current Army programs to increase contingency force lethality, like the Enhanced Fiber-Optic Guided Missile (EFOG), remote fired howitzer, mines, and sensors are oriented toward open, rural combat against tanks, not the eyeball-to-eyeball fighting of urban combat, where the enemy resistance is usually centered. Building masking and target visibility factors make these new weapons impractical to use and not responsive enough to meet the on-the-spot firepower needs of CFs maneuvering through cities to destroy the enemy's center of cohesion. As the former Army general in charge of attack aviation said, "We don't want to fight the enemy **equal**....We want to win hands down." Currently, we are often fighting with severe handicaps; for example, let's survey recent land combat operations.

Recent combat in the former Yugoslavia, Grenada, Southeast Asia, Panama, and Somalia demonstrate the necessity for **organic,** on-the-ground, direct-fire support. In Grenada, when U.S. Navy SEALs were inserted to rescue Sir Paul

Scoon, they were surrounded by enemy infantry and BTR armored cars, but lacked the firepower to break out. In Panama, the 82d Airborne had M551 Sheridan 152mm main guns for shock effect, but when the SEALs got caught in the open at Punta Paitilla airport, it took a long firefight with heavy casualties to finish blocking the runway and disabling Noriega's escape jet. SEAL small arms fires were ineffective against concrete-filled metal drums and steel hangar doors. It took precious seconds to get M203 grenade launchers into firing position to reach the enemy shielded behind these fortifications, and even then, indirect fire trajectories had to be used. One courageous SEAL was killed while maneuvering to get his M203 into firing range. In Somalia, when our helicopters began to get shot down, our soft-skin unarmored vehicle column got blocked, and our Rangers (who had previously fast-roped in from helicopters to capture key enemy leadership by surprise) had no shock weapon to regain fire superiority over an enemy with more men, unlimited ammunition, cover, concealment, and terrain familiarity. Combining forces and weapons is a desirable goal, but there has to be an in-hand fire support capability **at ground level** if distantly located fire support — AC-130 gunships, CAS fighters, helicopters, artillery, armored vehicles, battleship naval guns — cannot bring their weapons to bear due to poor communications, enemy action, weather, inadequate airlift, closed terrain, cities, political constraints on civilian casualties, or a situation where the asset is no longer available due to budget cuts. Contingency forces can force their way **in**, but it's unwise to expect surprise to last long enough to get out without a fight. We must be able to blast our way out with **organic shock weapons** to quickly disengage and/or proceed with follow-on missions.

The world is rapidly urbanizing. The enemy's key leadership will often be hiding behind the population and inside buildings like "the Commandancia" in Panama. The current M203 grenade launcher attached underneath M4/M16 carbines/assault rifles lacks the range to be fired from a safe stand-off, and only designated men carry M203s, so in a fluid battlefield situation, a grenade launcher may not be within range or in position to hit the threat. M203-equipped men may have to move themselves into a close firing position, exposing themselves to a wall of enemy small arms fire, like what befell the SEALs at Punta Paitilla. The palm-sized M203 40mm round lacks explosive power, and has to be lobbed behind and into windows/doorways to achieve effect. Its explosive charge is too minuscule to blast through masonry walls. The ongoing SEAL debate over whether raids should be "multi-platoon" or less in the aftermath of Paitilla misses a major battlefield reality: adding more shooters (quantity) doesn't always translate into more effective firepower or the creation of shock action if their weapons are the same and just as ineffective as the original small force's small arms.

On today's battlefield, if you want to destroy something, you need shock action to do it. Proof that the world is urbanizing at a rapid rate can be seen in DESERT STORM. It was one of the reasons an amphibious assault was called off in Kuwait — SEAL reconnaissance showed dense, built-up areas close to the planned beach landing sites. Fortunately, plenty of maneuver room existed to the west for an Army envelopment as the Navy/Marines demonstrated to deceive the Iraqis into staying massed at the beaches of Kuwait. In DESERT STORM, an Iowa-class battleship was available for naval gunfire support; today, all four U.S. battleships are in mothballs, leaving the only naval gunfire available coming from a few 5-inch guns on a rapidly declining number of ships, whose positioning in order to fire must be in range. This opens them to destruction by coastal defenses such as truck-mounted mobile antiship missiles. In future conflicts, we might not be so lucky as to have room to maneuver around enemy defenses; we might have to land near buildings. Rangers and/or SEALs acting as the spearhead for the main body will have to neutralize difficult enemy positions. Rather than destroy them with bloody close-in assault, contingency forces need a decisively larger and more powerful stand-off weapon than the enemy has.

Current hand-held infantry antitank assault weapons, like the M136 AT4 84mm, M72A3 66mm LAWs, M67 90mm recoilless rifles, M3 84mm RAAW Carl Gustavs, MK 153 SMAWs, etc., are not always effective for pinned-down forces because overloaded soldiers must expose themselves to get into close-range firing position and their High Explosive Antitank (HEAT) rounds are not designed to penetrate walls and level bunkers as a high ex-

Recoilless Rifles: Forgotten Weapons?

Recoilless rifles solve the problem of weapon weight, but at a price.

We know that for every action, there's an equal and opposite reaction, and that is crucially important when designing a weapon. The force propelling the projectile through the muzzle and on to the target creates an equal force rearward when the weapon fires. In recoil, the weight of the gun tube and breech assembly absorb some of that energy, as does the recuperator, but in a high-pressure tank cannon or a self-propelled artillery piece, the remaining rearward force is absorbed through the gun trunnions by the vehicle's weight. More force requires a heavier vehicle.

In a recoilless rifle, the pressure of the burning powder charge is not confined to the bore by the breechblock assembly. The case of the round is perforated so that some of the propellant gases can be vented rearward through a constricting orifice, enough to lower the recoil force so that the weapon can be mounted on very light vehicles, like jeeps and HMMWVs.

The down side, of course, is that these gases, venting to the rear at very high velocity, create a horrendous signature - bushes and trees move; a cloud of dust marks the firing point; and the gun crew is vulnerable to counterfire. In addition, soldiers can't be behind the weapon because of the rearward venting gases, nor can the weapon be fired from inside an enclosure. At the ballistic level, another disadvantage is that some of the propellant's energy is lost in providing the energy that vents to the rear. So recoilless rifle ammunition has to be bulkier and heavier for the same payload, compared to a closed-breech system.

Recoilless rifles are still in the inventory of many armies, and the U.S. Army used them widely in Korea and Vietnam, but lightweight portable missile systems and rocket-propelled launchers have stolen their thunder in modern "bunker-busting."

-**ARMOR** Staff

plosive round (HEP) can. At best, soldiers under the combat stress of enemy fire, struggling to get hand-held shock weapons into effective range (300 meters maximum, 150 meters probable), with a clear back-blast area, are likely to miss their targets. The Carl Gustav's extended range can't be exploited if it doesn't have a clear shot for its gunner to the target. Due to small warhead size, soldiers using these weapons will have to repeatedly expose themselves to withering close range enemy fire (less than 300 meters) in order to hit enemy targets several times before destroying them. It is Army SOP to "volley fire" LAWs to attempt to get destructive effect. At worst, enemy fire will suppress or kill our soldiers with hand-held shock weapons as they try to get multiple firings at the enemy's most dominant gun positions. In contrast, a vehicle-mounted shock weapon is always in a more stable, accurate, ready-to-fire mode than a hand-held weapon, and can hit and obliterate the target the first time it is encountered, reducing friendly exposure time and quickly ending the threat. A vehicle has the cargo capacity to easily carry a number of powerful, large-warhead special purpose rounds, to include HEP, which can be used decisively against the first building firing at us, regaining our fire dominance. In combat against well constructed urban buildings, the bigger the warhead, the better.

A large shock weapon can be used to put on a "show of force" to convince the enemy to surrender, thus saving lives and collateral damage, as was done in Panama. Ensuring that the enemy has a way to flee encourages a "backdoor reaction" to our shock attack, instead of trapping the enemy and forcing him to fight as a cornered animal. Currently, our light wheeled vehicles are armed only with heavy machine guns that lack simultaneous shock effect; they must be fired continuously over time to saturate a target. A HMG will not convince an enemy similarly equipped to surrender. To have the psychological edge over an enemy, our weapons must be visibly more powerful than his. If we are using small arms against his small arms, we will be, at best, even. We need a shock weapon that is drastically superior to what a Third World enemy can muster. The M220A2 TOW antitank guided missile will not work at close ranges (it needs at least 65 meters to arm) and even more distance for the gunner to track, and it isn't economical to reduce buildings, bunkers, or enemy infantry because the tracking time exposes the crew to counterfire. We need a weapon that is less than a missile but more than a heavy machine gun.

Can we wait until 1997 for the Armored Gun System (AGS) to replace our aging M551s? AGS will only help the airborne. Special Forces operating deep behind enemy lines do not have TOW HMMWVs or M551 Sheridans in their TO&E. Army SFs do not regularly integrate conventional armor units into their operations. Even light tanks organic to airborne forces are limited; in Panama, M551s were free to provide direct shock fire support to the airborne infantry because there were few PDF armor threats. In a pinch, Line-of-Sight Antitank (LOSAT) kinetic energy missiles and the M8's 105mm gun could provide shock acion for infantry, but this is unlikely. In future contingency operations, the M8 AGS will be needed to counter enemy armor and thus be unable to support the infantry. What if the enemy doesn't play fair" and attacks CF units with armored vehicles? The battlefield is no respecter of service branch. The enemy will use whatever is at his disposal to defeat us — women and children with bombs strapped to their bodies, Molotov cocktails, rocks and bottles. These kinds of things could happen if we don't establish fire dominance on the battlefield. Just because contingency forces don't have armored vehicles doesn't mean the enemy has to play by the same rules. Can we wait 10 years for a "High-tech" SOF hand-emplaced stand-off shock weapon system to be developed, a weapon that's not even off the drawing board? What happens if the funding runs out in Year 6? What do we do until then? Good men are going to die needlessly if we do not field an interim solution now.

"A number of our allies already use the 106mm recoilless rifle — Australia, Israel, Taiwan, Japan, Egypt, and Honduras, for example."

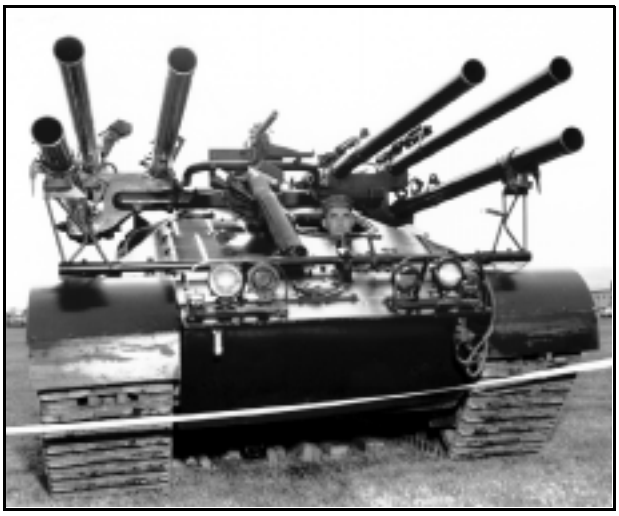
Nor can we afford to wait for massive air/sealift to deliver heavy M1A1/M2 armored fighting vehicles. Our C-141B fleet is suffering severe structural cracks, and the C-17 is being procured in handfuls, leaving only a few C-5Bs and a large fleet of C-130s as the most available airlift asset. Even if heavy fighting vehicles could be airlanded, waiting to mass them would ruin the possibility for surgical surprise since these vehicles are large, noisy and have massive dust and infared signatures. Heavy shock firepower without the negatives of heavy vehicles is what we need to retain the initiative on the early-entry battlefield.

The Secretary of Defense, William Perry, recently said that all major programs were subject to cancellation and that alternative weapons programs need to be ready. The defense of freedom and the lives of our men are too important to be without an alternative in hand, an off-the-shelf, vehicle-sized shock weapon system.

At the small unit level, we need a "fire-and-forget" shock weapon that will be there on organic vehicles when we need it. As the freedom fighters of the former Yugoslavia have discovered, it's the large-caliber recoilless rifle (RCLR). The currently in-stock, bought-and-paid-for M40A2 106mm Recoilless Rifle has been devastatingly effective in the past, mounted on U.S. Army MULEs, M151 jeeps, and on the USMC's M50 Ontos, which mounted six of them. Unfortunately, when we got rid of these obsolete vehicles, the superb M40A2 was lost. When the recoilless rifles on U.S. Navy SEAL *Nasty*-class fast patrol boats were fired at North Vietnamese shore positions, the enemy thought they were being bombarded by 5-inch naval guns from a destroyer! Heli-lifted elite Israeli Defense Force paratroops using 106mm jeeps have mauled large enemy forces on numerous special operations. The IDF also used 106mm RCLRs to blast enemy MIG fighters on the runway at Entebbe; world SF units don't have a stigma over what weapons they use to get the job done; if it works, they use it, regardless if it seems too "heavy" to fit into a pre-conceived notion like, "Special Forces is 'light,' and only uses weapons it can hand-carry, etc."

The "Special" in special forces implies the open-mindedness to acquire whatever it takes to win, and not worrying about how "fashionable" it may look. For example, the Dutch Royal Marines will plow through a wall with an M113 APC to rescue hostages. IDF paratroops will airland or airdrop M113s and ride into an Entebbe-type situation without any fear that their im-

The 106-mm RCLR in Action



In 1967 photo above, a 1st Cavalry Division trooper protects his ears as a 106-mm recoilless rifle engages an enemy position near An Khe, Vietnam. Note the flying debris caused by the backblast. At left, a Marine ONTOS vehicle, which mounted six 106-mm RCLRs. The weapon's huge, perforated round is on the front slope.

At left, the 106-mm recoilless rifle mounted on the right rear deck of an M113 APC in Vietnam. Pedestal mounts for jeeps and a wheeled tripod ground mount were other options.

age as elite fighters will be threatened. A tool is a tool.

A number of our allies already use the 106mm recoilless rifle — Australia, Israel, Taiwan, Japan, Egypt, and Honduras, for example. Fortunately, 106mm RCLRs are still in use by U.S. Army Special Forces for foreign weapons training. All we need to do is to buy the gun mounts, like some of our allies have done. Taiwan and Honduras both use 106mm HMMWVs! The Moroccan Army recently bought 56 HMMWV 106mm RCLR systems; they appear to be applying the lessons of modern war. The desert is also the mission area for the U.S. Army 5th Special Forces Group (Airborne), U.S. Navy SEAL Team 3, and could be for Army Rangers or any other contingency force. Man-made obstacles and strongpoints are linchpins of a defense in the desert. How are we going to destroy bunkers, ancient fortifications, belts of wire, etc., if we have no stand-off ground vehicle shock weapon? Are we going to expose our men to both long- and close-range enemy fire as they cross open areas on foot in order to get their hand-held shock weapon into range and a suitable line-of-sight firing position?

Are we going to be outgunned on the ground by a Third World country in the next conflict? A vehicle-mounted shock weapon has a more stable firing platform than cumbersome hand-held shock weapons, so it is more likely to hit and destroy its target with the first round, reducing exposure time and getting the job done efficiently. It's easier to see and avoid a HMMWV's 106mm RR backblast than a foot-soldier in front of you with a hand-held recoilless weapon that you don't see. Soldiers usually do not walk directly behind motor vehicles. The 106mm RCLR has a 1,100-meter range, beyond the effective small arms range of most former Communist block weapons. HMMWVs with heavy machine guns would suppress enemy HMG/RPG fires as 106mm HMMWVs methodically destroy enemy gun positions, shooting and moving to evade counterfire on their firing signatures. Our men on foot do not have to be pinned down trying to maneuver under intense enemy fire, but would be free to move at will across the battlefield to accomplish their missions.

Originally, the 106mm recoilless rifle was equipped with a spotting rifle using a special .50 caliber spotting round that matched the ballistics of the main round. We don't need to do this anymore. The new U.S. Army SACMFCS (Small Arms Common Module Fire Control System) or "SACUMS" laser day/night sighting system is adaptable to the 106mm RR for aiming without the spotting rifle. SACUMs is an integrated day/night sighting system with a full ballistic solution for first-round accuracy. The ambient temperature, barometric pressure, and even weapons cant are factored into the 386 microproces-

sor for a corrected aimpoint, resulting in accuracy rivaling a tank. All that is needed is for the 106mm RCLR's gunnery tables to be downloaded into the microprocessor, and M40A2-specific mounting hardware that would offset the SACUMs when the weapon is super-elevated to ensure continuous field-of-view. What's amazing is that, by day, it's an optical sight, but with the flip of a switch, it's a third-generation image intensifier for night target acquisition and aiming. With one integrated sight system, there is no time-consuming need to change sights from day to night, which might result in loss of weapon sight alignment zero; the SACUMS stays firmly mounted to the gun at all times. Unlike the traverse and elevating mechanisms on the .50 cal M2 and Mk-19 heavy machine guns, the M40A2 has large traversing wheels so moving targets can be smoothly and easily tracked with SACUMs, then hit and demolished with the first round. The principal engineer of SACUMs, Mr. Phil Downen, a civilian, was able to hit six out of six targets at a range of 1200 meters with a 106mm RCLR using MUGS, the laser-aiming-only forerunner of SACUMS. The system runs on 24 volt DC power from the HMMWV, or separate batteries. The spotting rifle can be replaced entirely by SACUMS, be used in conjunction with SACUMs, or used only when we want to signal to an enemy that "we know where they are and can hit them at our discretion" for a firepower demonstration. The gun crew can use hand-held thermal sights (AN/TAS-5 Dragon night trackers, the new AN/PAS-13, etc.) and night vision goggles for night driving (thermals have the advantage that they can spot ground disturbances where mines are placed), making the 106mm-HMMWV "state-of-the-art."

Unlike Abrams and Bradley AFVs, 106mm HMMWVs can be easily air-delivered by our most available airlift means, the C-130 aircraft. Three 106mm HMMWVs can be airlanded from a MC-130 Combat Talon, or two can be airdropped on a pair of 16-foot platforms using low-velocity air-drop (LVAD) and G-11B cargo parachutes, followed by two Special Forces A-teams (or paratrooper squads) to man them. If North Korea overruns the South's ports and airfields, airborne and other contingency forces will be vital to stopping their advance and decapitating their logistics and command and control. Slow-to-deploy ship-mobile Marine forces loaded with unarmored, unarmed soft-skin vehicles could also use the 106mm HMMWV to provide shock action. There is even a lightweight vehicle countermine armor system that can be fitted to 106mm HMMWVs. Two 106mm HMMWVs can be driven on and off MH-47 Chinook helicopters without having to dismantle the weapon mounts...it is combat ready when it leaves the rear ramp. Ship-based 106mm HMMWVs can be flown to shore in MH-47s or sling-loaded beneath UH-60 Blackhawks or CH-53E Super Stallions.

Certainly, we must have some generic soft-top cargo variant M998 HMMWVs available for mounting 106mm RCLRs. They could also possibly mount onto Army/Navy Fast Attack or Desert Patrol Vehicles (FAVs/DPVs) or the new Ranger Special Operations Vehicle (RSOV). The RSOV is a Land Rover; half the world's 106mm RCLRs are mounted on them. Once the mounting modifications are made, the HMMWVs can continue to be used for daily transport; the M40A2 need only be mounted when it is desired as a weapons platform. When qualification firings take place, firings from the HMMWV would be included, in addition to tripod ground-mount firing. Army/Navy contingency forces would have a vehicle-mounted shock-firepower capability in readiness for direct action missions requiring heavy firepower without the weight penalty of an armored vehicle.

Finally, Special Forces advisors need to be fluent in 106mm vehicular firing skills for Foreign Internal Defense/Coalition Warfare missions because the allied forces they are advising have HMMWV-mounted 106mm RCLRs. How can you advise someone on something you have not done yourself?

The 106mm HMMWVs could be quickly introduced into contingency forces in any of the following ways:

- Army Special Forces groups could mount their own M40A2s to designated M998 HMMWVs using local funds to buy the gun mount kits. Their personnel are already skilled in 106mm gunnery.

- Army light, airborne, and air assault divisions could obtain M40A2s from Anniston Army Depot, mount them onto designated M998 HMMWVs using local funds for the gun mount kits. Army Special Forces personnel would initially train the gun cadre, but this isn't a problem; their mission is to train others and Special Forces groups are co-located at Forts Bragg and Campbell to qualify airborne/air assault units. Part of the 10th Mountain Division and 75th Ranger Regiment is located at Fort Lewis, alongside the 1st SFG.

Organization options

- Two M998 HMMWVs operated by the platoon leader and platoon sergeant of one of the five HMMWV antiarmor platoons would be equipped to fire the 106mm RCLR. This platoon would be the antiarmor/assault platoon and the actual two-vehicle element the platoon headquarters/assault section. The entire antiarmor company would be redesignated as the antiarmor/assault company. The two extra soldiers needed to act as ammo bearers would be the armorer and NBC NCO. Light infantry battalions have only one antiarmor platoon, which would be redesignated as the antiarmor/assault platoon, with the sole headquarters element receiving the 106mm RCLRs, as above.

- Another option would be to put two 106mm RCLRs onto the M998 HMMWVs of the antiarmor company commander and executive officer, renaming their element the company headquarters/assault section. As before, the entire unit would be redesignated the antiarmor/assault company to reflect the new capabilities. In this case, the NBC NCO and communications chief would act as the ammo bearers. The advantages of having the designated platoon headquarters and/or company headquarters fire the recoilless rifles is that leaders will know best how to employ them and will be leading by example. Furthermore, leader vehicles will now be significantly armed, yet will not appear obvious as command vehicles.

- A third option would be to take two 106mm-armed M998 HMMWVs of the battalion transportation section and let the battalion commander use them as he sees fit. He could assign one or a pair to a designated rifle company with assault/spearhead missions, and let that unit assign a driver, gunner, and ammo bearer for each vehicle. In this option, it's vital that the battalion commander take an active interest to ensure 106mm gunnery skills do not deteriorate.

- Army USSOCOM Rangers (75th Ranger Regiment) and special mission units (SFOD-Delta) assigned to Joint

Special Operations Command (JSOC) could attach M40A2s to designated HMMWVs or RSOVs. They would have to get their M40A2s from Anniston Army Depot, and if RSOVs are used, obtain the Land Rover gun mounts used by our NATO/SEATO allies.

The 106mm recoilless rifle HMMWVs can be organic down to the small unit level. They can tow a trailer to carry 1,638 pounds of ammunition, MREs, and water cans, in addition to extra 106mm rounds, and thus will still be able to act as the unit resupply vehicle. Organic direct shock fire support could be organic to the airborne/contingency force community — it will be there when it is needed. The 106mm recoilless rifle's ability to put on a convincing show of force to compel an enemy to surrender is awe-inspiring. Its HEP round will demolish a small building, and in large buildings, open a gaping hole for infantry to pass through.

In the inventory, there is a large quantity of 106mm rounds (250,000+, according to TRADOC), and M40A2s, but we must claim them immediately, before they are destroyed as obsolete. We wouldn't be selling so many 106mm RRs through Foreign Military Sales (FMS) if there was not a large supply of ammo for the taking. Bofors of Sweden (originators of our M136 AT4 antitank rockets) makes improved-lethality 106mm rounds. Antipersonnel flechette (beehive) rounds are in stock in U.S. ammo depots. Beehive rounds would be vital to stop waves of infiltrating North Korean infantry or fanatical Iranian Revolutionary Guards. High explosive rounds (HEP) can reduce/blast through wire, mines, and obstacles economically. The 106mm RR can even be fired in an indirect fire mode, bombarding enemy positions under defilade cover, suppressing so that troops can maneuver to perform their assault missions. The weapons would also be useful in mobile raids behind enemy lines, in hostage rescue, and in missions to "snatch" enemy leaders.

SF personnel already know how to fire M40A2s, so the weapon is proven, already paid-for, and could be operational in a matter of days with receipt of the gun mount kits. This doesn't need to be a line item on the budget to Congress; for about the price of a pair of night vision goggles, the $6,900 gun mount kit can be bought with local unit funds, donations, or end-of-the-year funds. Do-it-yourself instructions are available for local units to attach the gun mount kits to their HMMWVs. All we need is for an airborne or contingency force unit commander to state an interest for this to take place. The 220-pound kit drops into the aft cargo bed of the HMMWV and is bolted down. A new, reinforced hood, windshield holder, and tailgate step for reloading the gun from the vehicle can be added in about two days of work.

Points of Contact

- LTC Brad Washabaugh, of the USSOCOM CINC's Initiatives Group (AC (813) 828-2646) is helping to coordinate concept briefings to field users.
- MSG Walter Minton, a weapons expert at the JFK Special Warfare Center, Directorate of Combat Developments, is fully briefed on the 106mm HMMWV concept (AC (910) 432-8326).
- The U.S. Army Light Wheeled Vehicle program manager, Mr. John Weaver (AC (810) 574-6710) is willing to work with an interested unit on the concept.
- The AM General's engineer who designed the gun mount kit is Mr. John Ritter (AC (313) 523-8067, FAX: 8077). The company can supply photos, specifications, and mounting instructions.
- Anniston Army Depot has a large number of 106mm RCLRs they are in the process of destroying that need to be saved. Contact is Mr. Glen Freeman (AC (203) 235-6479).
- Contraves makes SACUMs for M2 and Mk 19 heavy machine guns that are easily adaptable to the 106mm. Contact is Mr. Philip Pryor (AC (412) 967-7700).

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