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TTPs for the 60mm mortar section

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In the first week of April 2003, Task Force Red Devil, comprised of the 1st Battalion, 508th Infantry (Airborne) and Delta Battery, 3rd Battalion, 319th Field Artillery, conducted two artillery/mortar raids outside of the northern Iraqi city of Irbil. These missions were against an Iraqi Republican Guard Battalion supported by armor and artillery.

The mission was to destroy forward Iraqi observation posts, dug-in Iraqi positions, and to neutralize Iraqi armor and artillery pieces. The 60mm mortar primary targets were personnel and light-skinned vehicles near the observation posts. The battalion 120mm mortar section and two 105mm howitzers were tasked to neutralize the enemy armor and artillery. The mounted rifle companies were tasked to provide route security, security of the firing elements at the firing points, quick reaction force (QRF) duties, and to emplace accurate fires onto the enemy using their vehicle-mounted 50-caliber machine guns and Mk-19 grenade launchers.

The 60mm mortars from Alpha Company, 1-508th Infantry, were tasked to provide immediate indirect fire support onto known and suspected targets. Upon reaching their planned mortar firing point, the section immediately dismounted their HMMWV (high-mobility multipurpose wheeled vehicle) and conducted an emergency occupation. The section immediately received a call for fire from their forward observers. Within 60 seconds of occupation, the section was placing accurate high explosive (HE) and white phosphorus (WP) rounds onto and in the vicinity of the Iraqi observation posts.

While conducting the fire mission, the Mk-19 and 50-caliber machine gunners opened fire in order to suppress Iraqis in the trench line and on a ridgeline to their front. The gunner's well-aimed suppressive fire enabled the mortar section to continue their mission.

The Iraqis responded with poorly aimed direct and indirect fires. The 105mm howitzers and 120mm mortars set up and were firing onto the artillery and tank positions. The 105mm howitzers fired more than 50 rounds from their two cannons in support of the operation. The 60mm mortar sections emplaced traversing fire onto the Iraqi trench line and observation posts. The Iraqis in one observation post attempted to flee but were fixed with white phosphorus fires. As they attempted to flee again, white phosphorus rounds impacted the vehicle and set it on fire. The section continued to fire a mix of high explosive and white phosphorus rounds into the objective area. The section fired more than 80 rounds in support of the mission. Upon receiving the order to displace and reorganize for the movement back to the battalion assembly area, the 105s, 120s and 60s quickly broke their systems down and moved out. The rifle companies continued to provide suppressive fire onto the objectives.

Upon reconsolidation of all elements, the task force moved back to the battalion assembly area. The total mission time for each raid was approximately 30 minutes.

The two raids were responsible for the neutralization of a Republican Guard Unit. Follow-on battle damage assessments reported that numerous fighting positions, equipment, and personnel were destroyed.

This raid was imperative because it validated the extensive and difficult training, leader development, standard operating procedures, and complete integration of light mortars in combat operations.

The focus of this article is to discuss the tactics, techniques, and procedures utilized by the 60mm mortar section in Bravo Company, 1-508th (ABN) during combat operations in Iraq, as well as to discuss tactics and techniques that will aid the light infantry company mortars in combat operations. This article will discuss training conducted prior to the deployment, SOP development, and lessons learned from combat operations.

Light mortar sections consist of two squads, each consisting of one mortar system and its three-man crew. In airborne, air assault, and light infantry rifle companies, the senior squad leader is the section leader. I feel this is completely inadequate for the 60mm mortar section. Recent detailed studies of an airborne infantry battalion in Afghanistan showed that the average approach load for a 60mm mortar section was in excess of 115 pounds. The average emergency approach load for the 60mm mortar section was in excess of 140 pounds. Soldiers were carrying over 90 percent of their body weight. A study at the Joint Readiness Training Center (JRTC) in 1995 concluded that the average approach march load should be kept at less than 30 percent of a Soldier's body weight.

The simple solution to this problem would be to increase the amount of Soldiers in the 60mm mortar section. The distribution of equipment and added mobility would greatly aid the section in conducting its combat mission. The battalion and company leadership in my unit was outstanding and extremely supportive of mortars. We were able to man each 60 section in battalion with nine Soldiers. This enabled each mortar team to have three Soldiers and a radio operator in addition to the section sergeant and squad leader. Some sections opted to carry an additional radio in order to monitor both company command and company fires nets. This added manpower enabled the sections to carry more ammo, move faster tactically, and conduct missions more efficiently. Mortar sections can cross train the company armorer, NBC NCO, and any other members of the headquarters platoon to fill the additional three slots. While I do not foresee the Department of the Army increasing our modified table of organization and equipment (MTOE), I highly encourage unit commanders to increase the number of Soldiers in their mortar sections. The added manpower will only increase the lethality of your mortars.

My unit conducted numerous live fires, training missions, and deployments prior to our airborne assault into Northern Iraq. The one common factor to all of our training was realism. The chain of command stressed the integration of light mortars and held Soldiers and leaders accountable for their employment. Tough, realistic, demanding training was the norm, not the exception. Our unit conducted semiannual rigorous 72-96 hour external evaluations of all mortar sections in our battalion. The evaluations focused on the specific tasks for a 60mm mortar section such as fire direct lay, handheld trigger fires, emergency missions while moving (hip shots), and long dismounted movements over tough terrain in all weather conditions. Each section was tested on fire direction procedures by the 81mm mortar platoon. The test consisted of a plotting board and computer exam. All results were forwarded to the battalion commander for review. My after actions review (AAR) comment is that each brigade should implement and execute a tough, demanding external evaluation program for their 60mm mortar sections. Fire direction certification training should be conducted in conjunction with this training.

Unit leaders should be involved with their mortar men to ensure that they are proficient in their duties. Involve yourself with the fire direction center (FDC) certification of your sergeants. Send your Soldiers to the Infantry Mortar Leaders Course. It is a great school that will help to increase the combat effectiveness of your unit. Test your ILC NCOs on FDC procedures. Ensure that they know their duties.

The increased involvement of unit leader's in the mortar section's certification will help to aid the section's complete integration into company operations.

I cannot stress enough the importance of knowing the plotting board for manual computations of firing data. On Day 2 of Operation Iraqi Freedom (OIF), both of my computers malfunctioned. For the rest of OIF, my squad leader and I used plotting boards as our primary method for calculations. The 81mm mortar platoon loaned us one computer, but it was used only as a backup for our plotting boards. Units need to ensure that their Soldiers are proficient in the use of the plotting board by

conducting classes during Sergeants Time and opportunity training.

Expect equipment to break. Do not wait for a catastrophe prior to learning the plotting board. Always keep a plotting board set up with a modified observed firing chart. Use it as a battle-tracking tool for patrols and company operations.

In Iraq, it was often difficult for our section to receive maps. I was able to transfer the map data directly onto my plotting board hence no map was necessary. All mortar men should be trained on fire direction procedures. Each Soldier must know how to compute the firing data for a grid, shift, polar, and registration call for fire. These skills must be tested often to ensure that the Soldiers can compute all of them on the plotting board and M23 Mortar Ballistic Computer. Cross training of all members should be a priority in training. In combat operations, it is realistic that one or more of the section members will become casualties. Train for this reality and take the steps to mitigate the loss of one or more Soldiers by ensuring all Soldiers can do all jobs in the section.

The mortar section's best contribution to combat success is its immediate responsiveness to the company commander's orders, the speed in which it can be brought into action, and the effectiveness and accuracy of its multi-option fuze-equipped round.

Tough and demanding live-fire training is the only way to accomplish this. Live-fire training should be as realistic as possible. Do not allow the mortar section to fire from some distant firing point while the company conducts live fires. Instead conduct long-range movements with all equipment to the mortar firing point so Soldiers can feel the effects of fatigue, sleep loss, and loss of energy. During company live fires, we would conduct all foot movements with our company and co-locate with the support-by-fire position. This allowed us to practice emergency occupations, crew drills, and forward observer coordination's on close targets. Once mortar fires are shifted off of the objective, prepare to displace. Once the company clears the objective, coordinate with the commander to move onto the objective in order to prepare for a counterattack. Conduct fire missions around the objective while the company is reconsolidating and reorganizing. Vary the engagement method during the training iteration. For one iteration use direct lay fires. For the next, use the handheld method. Make the live fire challenging for the mortar section. Integrate the use of rifle platoons transporting ammunition to the new firing point. Test all of the company's systems during the reorganization. One of the critical steps should be the cross loading of ammunition. Use this ammunition for your counterattack missions. It will aid the company in tracking and maintaining ammunition. Train hard and give your Soldiers tough, realistic goals to strive for. This type of training will help the mortar section to develop and control specific rates of fire by planning additional ammunition for future missions.

The mortar section must be able conduct operations at night and in all weather conditions in order to know the true measure of the section. Any 60mm section can have a great live fire on a sunny day. Train to accomplish a great live fire after a 12-mile foot march, in the rain with a 100-pound rucksack on your back. A mortar section that can ruckmarch all night after an airborne assault, and be prepared to deliver close, accurate, timely fires is the goal for training. Physical fitness is the cornerstone of a combat ready Soldier. The mortar section must exert maximum effort during physical training.

A strong road marching plan with loads in excess of eighty pounds should be instituted. Mortarmen must become conditioned to the heavy loads they will be carrying in combat operations. Unit commanders must give specific guidance and training plans for foot marching. This hard training will condition the unit to the rigors of combat loads. Conduct forced marches with loads in excess of 80 pounds. Mortar men must have strong upper bodies in order to handle the extreme loads that come with the duty position. Physically fit Soldiers perform better and are proven to adjust to stress more adequately. Hard physical training will payoff in combat operations. I highly doubt that my section would have been successful on our mission on the drop zone in Iraq if they were not fit. The mud, heavy loads, and environmental factors were handled well due to the fact my Soldiers were all in top condition.

The 60mm mortar section can quickly fire large amounts of ammunition. The M224 can fire 120 rounds in four minutes, and a

three-man crew can have 15 to 20 rounds in the air before the first round impacts. Only a highly trained crew can achieve this impressive rate of fire. It also is dependent on the amount of ammunition carried by the company.

In order for a company mortar section to be successful it must have an easily understood SOP for mortar ammunition in the company. Have the company carry dummy mortar rounds in all training and movements.

This enables the rifle platoons to get used to carrying mortar ammunition. It also trains the platoon sergeants to develop detailed load plans for his platoon. Hold platoon sergeants accountable for the mortar ammunition. It is amazing how often ammunition will come up missing. An easy technique for mortar round drop off is as follows. Teach the company on distinguishing the difference between number one and two gun as they are in a mortar firing position. The orientation of the mortar tubes in an assembly area always has number two gun on the left in the direction of fire. As our Soldiers would pass through the company assembly point, the members of 1st and 3rd Platoons would drop their ammunition at number one gun (odd numbered gun), and the members of 2nd Platoon and Headquarters would drop their ammunition at the number two gun. It is a simple technique that is easily understood. Practice the pick up and drop off of mortar ammunition during missions.

Our SOP was for each mortar section member to carry an empty kit bag or A bag at the bottom of his Alice pack. Each rifle platoon fire team identified one Soldier who followed this SOP. These bags came to our aid when the emergency movement of ammunition was required. These bags can also be utilized for consolidation of a casualty's equipment for movement to the rear. Each kit bag or A bag has the ability to carry approximately 13-15 rounds.

Each rifle platoon should designate a mortar ammunition resupply team similar to an aid and litter team. This designated team is responsible for rapidly resupplying the mortar section during operations. The designated team must know the location of the mortar section during all operations.

Most operations and patrols in Iraq by my section were conducted by vehicle. Ammunition must be cross-loaded among all the vehicles in the company. I kept two cases of HE and two cases of illumination rounds on my designated mortar vehicle. Remember that you cannot transport white phosphorus and HE together on the same truck.

Keep a detailed log by bumper number of how and where your mortar ammunition is cross-loaded on the other vehicles. Let's say that the mortar section is in the middle of an engagement and requires the rapid resupply of ammunition at the firing point. At night, all green metal ammunition cans look the same. You can lose valuable time trying to locate the desired ammo. An easy technique is to paint the top lid of your ammunition cases a different color. You can paint the top lid of your HE cases red, the white phosphorus lids white, and the illumination case lids blue. Instead of communicating that you need three cases of HE and two cases of WP, you can ease confusion by calling forward the delivery of three red boxes and two white boxes. This is an easy technique that can be rapidly implemented and executed.

Clearance of fire drills must be practiced during training. In a perfect world, the company commander is the approving authority for company level mortar fires. In the complex atmosphere of Iraq where you have numerous units and operations ongoing, the clearance authority is usually at brigade or higher levels of command. Practice the relaying of clearance of fires with your higher unit. It enables higher command to develop a quick reaction drill and SOP for the timely clearance of fires.

A requirement was imposed by my unit that all illumination fire requests had to be accompanied by the fail point impact grid in case the round did not properly function. This was done in order to project possible collateral damage. This became an established SOP in the clearance of fires of process. Many leaders are under the false assumption that overhead mortar fires are prohibited. Army Regulation 385-63 states, "overhead mortar or artillery fires are prohibited in training."

This restriction is only for training. Since we train how we fight, there are going to be some that think that the overhead fires limitation is the way we will fight. Overhead fires are allowed in combat operations. The nature of company operations and tactical employment of mortars often produces this effect in combat. My section fired overhead numerous times due to limited firing positions while engaged. Leaders must understand that overhead fires are going to occur and not let the training restrictions influence their planning options when employing indirect fire support.

Foster and develop a strong relationship between the mortar section and the forward observers.

Upon receipt of a company warning order or patrol, insure that the company commander gives the mortar section a clear task and purpose for fires. This will aid the mortar section and forward observers to develop a company fires plan based on the commander's guidance and intent. Detailed planning between the commander and mortar section must occur in order to maximize the use of indirect fires. The mortar section sergeant is the main advisor to the commander and fire support team (FIST) chief on the tactical employment of the section.

He recommends employment methods and positions the section to best support the scheme of maneuver. During long deployments, complacency is bound to occur. This trend is to not conduct hands on crew drill. Success in battle depends on the ability of Soldiers and units to perform those tasks required in battle to defeat the enemy.

All training must maintain proficiency in individual and collective tasks within a band of excellence. This training must be realistic to ensure that the tasks mastered in training are performed well in battle. As a leader, ensure that the mortar section maintains readiness by conducting and executing crew drills to standard.

By month four in Iraq, our missions and tasks became very tedious and boring. I instituted a strong training program of crew and battle drills in order to maintain proficiency. We would supplement our crew drill with cross training of the platoons in the company. We attempted to train each Soldier on the fundamentals of handheld firing, direct lay firing, loading and firing a mortar, and how to set the charges on ammunition.

Each Soldier in the company should know how to engage targets with a handheld mortar. In wartime, it is very possible for the mortar team to sustain casualties. Cross training the rifle platoons in handheld and direct lay firing methods ensures that the unit will have the ability to engage targets if the mortar section loses multiple Soldiers. Train Soldiers at squad level. Any size larger and the focus of the target audience is lost.

Train mortar men daily on their duties and responsibilities. Teach them all the skills they need in order to survive and succeed on the battlefield. There will be a day when junior Soldiers are going to have to step up and perform the duties of squad leader and section sergeant.

There is no excuse for poor leadership. The section and the commander must develop a positive tactical and technical relationship for employment of indirect fire support.

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