ARMOR

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Features

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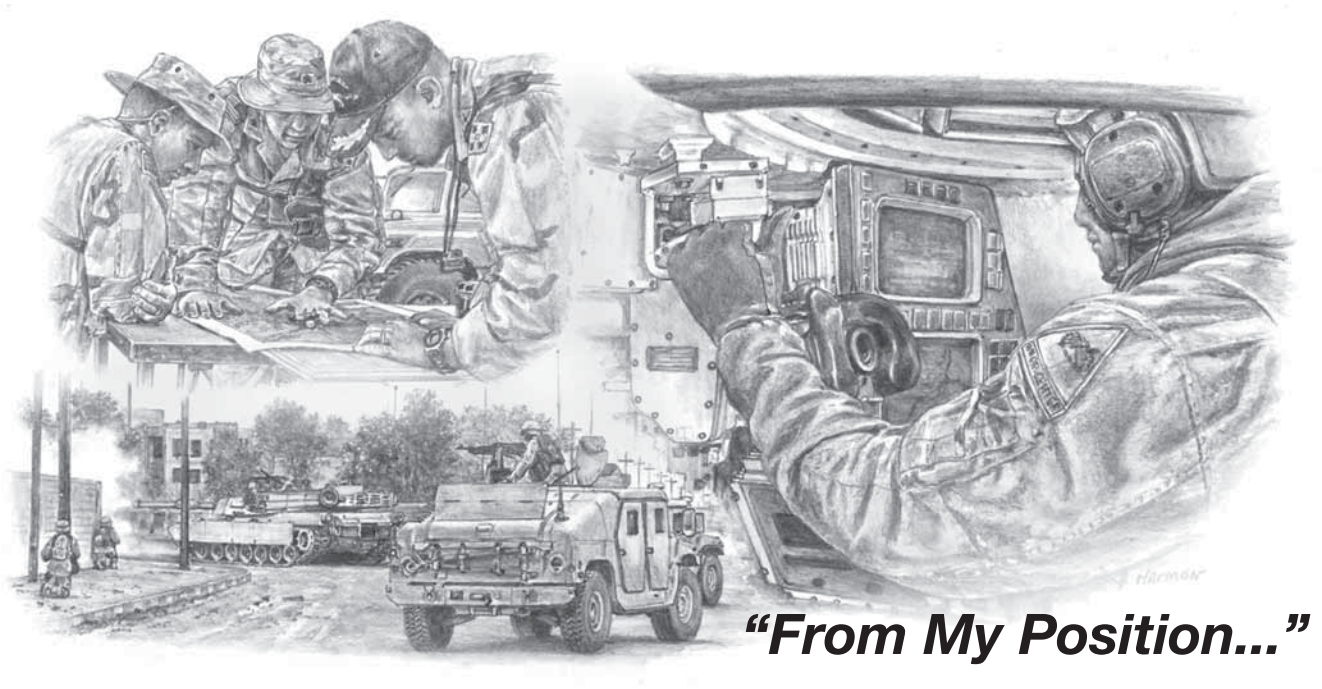

"From My Position..."

"To make war without a thorough knowledge of the history of war is on a par with the casualness of a doctor who prescribes medicine without taking the trouble to study the history of the case he is treating."

Captain Basil Liddell Hart, *Thoughts on War,* 1944

The cover of this edition of *ARMOR* might strike you as a bit odd. The top half of the picture may appear somewhat familiar, but then again, there is something not quite right. The vehicle shown might be American, but the soldiers certainly look foreign. The scene could be somewhere in the Middle East, but at first glance, you may not be able to place the location. In fact, the scene depicted is from the Algerian conflict of the 1950s. In that war, the French army, fresh from its experiences in Vietnam, found itself once again fighting a very determined insurgency. This time, however, it was not fighting in some far-flung colonial outpost. Algeria, to most Frenchmen at the time, was not simply a colony of France — it was France.

For the French army fighting in Algeria, the stakes of this conflict were very high indeed. They could not afford to fail. Many of the key leaders fighting this war had learned valuable lessons about fighting insurgencies in the jungles of Vietnam and they successfully applied those lessons in a completely different environment. Ultimately, however, battlefield success did not lead to political victory.

As with any other worthwhile endeavor, we can learn equally good lessons from both success and failure if we apply those lessons in the proper context. In previous issues of this publication, we discussed the British experience in Malaya and our own experience with irregular warfare on the Great Plains. In this issue, Eric Chevreuil introduces us to yet another historical example of irregular warfare to generate informed discussion on counterinsurgency operations. Today's war in Iraq, as implied by the cover art, shares many striking similarities with the nearly forgotten conflict in Algeria. In none of the examples above, however, will you find a magic template that can be applied to any situation. Some of our readers will be quick to point out that one example or another is invalid for geographical, cultural, political, or military reasons, but to simply dismiss them without a deeper examination of the relevant issues would be a missed opportunity.

The uneven application of historical lessons learned, however, is not limited to counterinsurgency operations. In the current war, the Armor force has once again found itself heavily engaged in hostile urban environments. The U.S. Army, and the Armor force in particular, has extensive experience fighting in built-up areas. Unfortunately, in previous eras, we have demonstrated a tendency to de-emphasize the fundamentals of mounted operations in urbanized terrain (MOUT) as the immediate threat diminished over time. Dr. Robert Cameron, the Armor branch historian, documents this cycle, which is not unique to our Army, and strongly urges us to take this opportunity to ensure that the difficult lessons we are learning today are not forgotten tomorrow.

Besides the articles discussed above, you will also find other articles that are both interesting and useful. Every once in a while, soldiers have asked me why we don't publish more articles written by NCOs and junior soldiers. The main reason is that we rarely receive these kinds of articles. For those of you who have waited patiently for NCO-developed articles, we have two of them in this issue that are either authored or co-authored by NCOs. We have a variety of other authors represented who have written about both operational-level topics and very practical articles written about team-level topics. We even have an article on a subject we haven't discussed much lately: maintenance. Brigadier General Mike Tucker provides us with some very important insights taken from his years of experience maintaining armored vehicles for combat.

In short, this edition of *ARMOR* has something for everyone. Since you will receive this issue during or just after the 2006 Armor Warfighting Symposium, please keep us in mind as you refine your ideas on warfighting and the future of the Armor force.

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LETTERS

Distinction Must Be Made between the Nature and Purpose of ROE and RUF

Dear *ARMOR*,

The article, "21st-Century Rules of Engagement," by Captain Louis V. Netherland, published in the January-February 2006 edition of *ARMOR*, contains a number of observations and criticisms pertaining to the current Army rules of engagement (ROE) drafting and training process that, while provocative in nature, do not appear to be supported by any credible body of demonstrable evidence. Such criticisms are not new. The "law enforcement" approach toward drafting ROE for use in "nontraditional tactical environments" is one that has been championed by a small group of individuals for a number of years. However, while I believe it counterproductive to disparage any effort to enhance ROE development and training, reading this particular article lead me to various observations, which are outlined below.

There is a fundamental operational dichotomy between ROE and rules on the use of force (RUF). ROE are directives that speak to the circumstances and limitations under which U.S. military forces will initiate and/or continue combat engagement with other forces encountered. RUF detail the manner in which force, to include deadly force, might be employed by military forces engaged in primarily domestic, noncombat operations. While ROE development and training might well draw on certain RUF approaches in formulating and implementing ROE for specific types of military missions, a clear distinction between the nature and purpose of ROE and RUF must always be maintained. In brief, it is a misnomer to refer to — and conduct — ROE/RUF tactical training.

The author notes, in essence, that the historical record of the ability of the U.S. Armed Forces to understand and apply threat recognition, rules of self-defense, and the use of appropriate defensive postures in nontraditional tactical environments demonstrates both a clear need for "much" improvement, as well as a requirement to review and revise the manner in which ROE are conceptualized, developed, published, and trained. In this regard, I would submit that the actual "historical record" relevant to this issue does, in fact, demonstrate an acute awareness on the part of the U.S Armed Forces for the need to adapt ROE development and training to changing operational environments. While any form of training can and should be improved, a continuous effort on the part of the Army to do so scarcely represents historical evidence of prior program failure.

The author observes that compounding the challenge of crafting tactically sound ROE dealing with the use of deadly force, "…is the verbiage used at the start point of most ROE," language that reinforces the right to use deadly force when an individual reasonably believes himself, or others, to be in imminent danger. The "law enforcement" school of ROE development advocates an aggressive approach toward the use of deadly force in self-defense situations. Thus, it is somewhat surprising that fault is found with the current regulatory language reinforcing just this right. The problem, it is said, is this language leaves "the man on the ground" posing the question: "What constitutes imminent danger?" Rather than constituting a "problem," however, this is precisely the question that should be asked. The answer comes, of course, in the form of effective and realistic ROE training that prepares that man on the ground to recognize and appropriately respond to imminent danger. The Army has long understood this need and is consistently refining and providing such training.

The author contends that the "difficulties" surrounding ROE development have led commanders to impose certain "control" measures that have contributed to confusion in the ranks and that have "…put Soldiers at risk and security in question." He then cites, as evidence of this claim, a number of policies that, if placed in the context of specific missions, appear to be both reasonable and prudent. Yet, despite this fact, the author cites these examples as a trend toward an "imbalance" between the risk-aversion and risk-inclined, driven by a "… latent fear of using force, paranoia of the 'accidental' discharge, and a dual misunderstanding of both the dynamics of a deadly force encounter and the laws justifying such force." I would submit that none of these charges levied against today's commanders operating in Afghanistan and Iraq are supported by any form of tangible evidence.

The author, in recommending the way ahead on ROE development and training, states that one of the key legal considerations in drafting ROE is to be found in U.S. civilian law regarding the use of force. I disagree. Inherent in the "law enforcement" school's approach toward ROE development is the criticism that ROE use of force provisions are often more restrictive than use of force measures available to U.S. law enforcement agents. I would think, however, that the distinction to be drawn between FBI agents dealing with criminals within the U.S. and soldiers interacting with third country nationals while deployed on often politically sensitive operations overseas is an obvious one. The purpose of these soldiers is to facilitate mission accomplishment in often highly stressful stability and reconstruction environments, not to arrest or take down known criminals. Given this fact, the ROE in place may well contain use of force provisions more restrictive than those sanctioned by U.S. courts for U.S. law enforcement agents. And, yes, these same soldiers may have to assume an element of risk greater than that of law enforcement personnel. The assumption of such risk follows from each policy decision to place soldiers in nontraditional tactical environments.

The author concludes by noting that it is fundamentally important that ROE policymakers understand the intricacies of the tactical situation on the ground "…before drafting regulations that decrease overall security and threaten the safety of both soldiers and civilians." Implicit in this comment is the assertion that this is now very often the case. Again, I have seen no demonstrable evidence that would support this claim. Finally, Captain Netherland submits that the real value of the "law enforcement" approach toward ROE development and training is that it encourages "… a positive change in the cultural mindset of officers and NCOs, leaders who might otherwise be reluctant to break the 20th-century formula for drafting ROE and rethink … all of the factors that embody such policy." This comment, too, implies that commanders and NCOs operating in challenging operational environments overseas have failed to grasp the tactical situations they currently face — and the ROE they have in place reflect this failure.

Again, the available evidence does not support this critical generalization. Of particular note is a quote in an article appearing in a very recent edition of *The Washington Post*, one dealing with the differences in the training provided to soldiers deploying to Iraq in 2003 and now: "Of more than a dozen Soldiers asked to compare their first and second tours of duty, all agreed that the rules of engagement that govern the use of force have grown much tighter, and most said they thought the new restrictions were for the good. 'It's a little bit harder. You're kind of tied down,' said one soldier. Even so, he said, 'we treat locals a lot better and have a lot better relations with them.'"

Army trainers are constantly reviewing the ROE development process and seeking more effective methods of providing ROE training. There may well be certain aspects of the "law enforcement" approach that might be incorporated into such training. It is important to remember, however, that ROE and RUF serve fundamentally different purposes. The fact that ROE do not — and should not — fully embrace the law enforcement aspects of RUF cannot be taken as proof that the current Army ROE development and training process is mired in the 20th century — or that commanders and NCOs are currently systematically promulgating ROE that place both the mission and soldiers at risk.

DAVID GRAHAM
Executive Director, Judge Advocate General's Legal Center and School

"Big 12" Leader Behaviors: A Closer Look

Dear *ARMOR*,

This letter responds to LTC Philip Allum's pertinent comments on my article, "Leader Behavior: How to Identify Good Leaders," in the January-February 2006 issue of *ARMOR,* about the "Big 12" leader behaviors, which were derived from a recent U.S. Army War College study of division commanders in OIF. Had I done a better job of explaining the study, LTC Allum's concerns might not have arisen.

Nobody who has studied and practiced military leadership could disagree with LTC Allum's contention that "tactical competence … intelligence, and courage" are essential characteristics of a combat leader. Then why were these characteristics not on the top list of behaviors selected by the 80 officers who participated in the study? (This question was also asked by some of the senior retired officers who reviewed early data from the study.)

In developing a convenient, concise list of specific behaviors that mattered (as opposed to a general list of attributes, characteristics, or traits)

we derived our 29 behaviors (plus a space for write-in) from studies and interviews. "Tactically and technically competent" was discussed as a potential listed behavior, but was omitted for two reasons: it was less specific than we wanted; and in early trials and discussions with current officers, it was not seen as a key discriminator within our current crop of senior officers. This is an important point, as well as a significant difference from Army studies of the 1970s and early 1980s when there were common complaints about the tactical ineptitude of "my boss." While our sample may or may not reflect the proficiency of division and brigade commanders Armywide, perceptions of tactical competence within the four divisions studied were remarkably high. And expectations for personal and moral courage were also high, but not generally met.

In confidential discussions with the 80 participants, items of courage and tactical competence, while of course highly valued, were not discriminators between the "good" and "not-so-good" officers. However, if I had to do it again (and could convince the other study team members to go along), I would add specific items on tactical competence and courage, just to be sure that our Army knows that we didn't forget them.

One finding of the study revealed that some leaders cannot exploit a high level of tactical and technical proficiency because they do not have the necessary interpersonal skills or self-control to motivate others and build teams. A good example were stories — not just from the immediate OIF organization — of the bad-news messenger getting killed, with the upward flow of essential information eventually drying up. The most important behavior among the 29 in the respondent's list was "keeps cool under pressure," and "can handle bad news," was not far behind.

There are of course items in the "Big 12" list relating directly to tactical and operational command, which include "clearly explains mission, standards, and priorities;" "can make tough, sound decisions on time;" and "sees the big picture, provides context and perspective." The list of 29 also includes other items, such as "employs units in accordance with their capabilities;" and "will share the risks and hardships of his soldiers."

LTC Allum correctly raises the issue of high intelligence being critical for senior leaders. It is critical and is a commonly observed difference between senior executives and others in organizations of all kinds. But assessing "intelligence" is tough. We preferred to look at behaviors that reflect the ability to perceive, analyze, and decide. "Big 12" behaviors, such as context, the big picture, decisionmaking, and adaptability to new situations, addressed part of that issue. Finding number 6 of the study revealed, "Adaptability, mental agility, the capacity to improvise, and related conceptual skills were seen increasingly necessary at senior officer level, and these capacities were greatly prized when exhibited by division commanders in OIF."

Micromanagement remains a hot issue. Sometimes for the boss, it is only taking care of the details and standards of business. For the subordinate that same behavior might be seen as dysfunctional meddling and distrust of either competence or commitment. LTC Allum mentioned Patton's detailed instructions, and at times, detailed instructions are sorely needed. But Patton was also a believer in giving clear guidance and then trusting good subordinates to use their initiative. I believe many of the complaints from officers today about their being micromanaged are legitimate. Perceptions of micromanagement seemed particularly harmful in the complex OIF environment, from where participating officers had just returned.

The division commanders who gave guidance, provided resources, kept channels open, and let subordinates use their initiative were greatly appreciated. Dr. Leonard Wong's study of junior officer innovation in OIF again highlights the positive results from clarity of mission accompanied by a trusting and supportive command climate.

In reading LTC Allum's good letter, I got the impression that he saw too much of McClellan (liked, but soft) and too little of Wellington (disliked, but a battle winner) in our Big 12 list, and being disliked as Wellington doesn't matter much. Given that commanders must build units and develop leaders before the battle, and that during peace or war, good soldiers function best when they are trusted and supported, there is a strong argument that Wellington's contemporary Horatio Nelson represents a more productive command style than Wellington. Nelson exemplified professionalism that rings true today. He was an aggressive warrior of unyielding courage, a skilled tactician, a dedicated teacher, and a demanding leader who built teams and earned respect and trust from his subordinates. At Trafalgar, for example, micromanagement was not needed. In any case, if our study and its list of desirable behaviors continue to stimulate discussion, it will have served a useful purpose.

WALTER F. ULMER
LTG, U.S. Army, Retired

ICCC and ACCC: Similar Courses

Dear *ARMOR*,

I am an armor officer and currently serving at Fort Benning, Georgia, as team chief, Team 2, Infantry Captain's Career Course (ICCC), so I feel it necessary to correct many of the discrepancies present in CPT Ed Kennedy's article, "A Light Infantry Officer Training at the Home of Mounted Warfare" in the January-February 2006 issue of *ARMOR*.

The first and most egregious logical flaw that CPT Kennedy presents is that he compares ICCC with IOBC and Ranger School, in that they focus training "mainly on light infantry units." Nothing is further from the truth. ICCC instruction is nothing like IOBC and Ranger School. ICCC is structured much like the Armor Captain's Career Course (ACCC) and focuses on producing combined arms company commanders and staff officers.

In the company phase of ICCC, students conduct practical exercises for light, mechanized, and Stryker Brigade Combat Team (SBCT) organizations. They plan offensive and defensive operations in desert, woodland, and urban environments. During the battalion phase, the experience is the same and includes a reconnaissance practical exercise. In the final two weeks of the course, officers move into a small group where they learn specific training strategies for the type of organization they are projected to command. All of the organizations in both phases are task organized to train combined arms warfare at all levels. For example, in the mechanized team offense module, the student has to plan an operation as a commander with a task organization of one tank platoon, two infantry platoons, engineers, and air defense assets. This is the rule in ICCC, just as it is in ACCC.

I fully support CPT Kennedy's decision and commitment to become more knowledgeable about mounted warfare. Career courses definitely benefit when students and instructors come from other branches and those officers gain professionally as well. The Infantry School's recognition of this fact is evident on my teaching team. We have one armor officer, one Special Forces officer, one British exchange officer, one Marine officer, and infantry officers with light, airborne, air assault, and mechanized command experience. In addition to those credentials, one infantryman has commanded an LRS detachment and one has served in the 2d Cavalry Regiment as a scout platoon leader. When referring to my small-group instructors, I often joke that I have one of the few coalition combined joint teams in the Army.

As CPT Kennedy closes his article, he implies that ICCC focuses solely on infantry platoons and companies; therefore, ACCC has led him to a greater understanding of maneuver warfare than he could have gained at ICCC. I submit that CPT Kennedy is arguing a point about an area in which he has limited knowledge and should have chosen his position more carefully. Without examining the ICCC program of instruction, he simply should not make such statements and inferences. He should instead recognize that planners at the BCT and task force levels are graduates of both career courses and have comparable skill sets. For BCT and task force commanders, the decision to select a planner is not based on what career course officers attend, but on many other factors.

Since this article has gone to press, the BRAC that CPT Kennedy refers to has been approved and the creation of a Maneuver Captain's Career Course will occur soon. In my dealings with my peers at Fort Knox, I am continually amazed at the similarities between the two career courses. While there are some minor differences in methods, the overall instruction is remarkably similar. Through our coordination, we are making both courses better and in the near future, the ACCC will include a light infantry company attack module and ICCC will improve its reconnaissance and security training in the battalion phase.

I speak several times during the week with the ACCC course manager, as well as with ACCC small-group instructors and we are on the same sheet of music for where the course needs to go. That could only be possible if the courses were very similar to begin with and both courses are providing the Army with well-trained combined arms officers who are prepared to assume their roles as company commanders and staff officers.

DOMINICK EDWARDS
MAJ, U.S. Army

COMMANDER'S HATCH

Major General Robert M. Williams
Commanding General
U.S. Army Armor Center

The Ever-Changing Role of Armor: Finding the Right Solution for the Future

If you looked over this edition's table of contents, you noticed its focus on urban operations. The U.S. Army and its mounted force are currently involved in the full spectrum of operations in urban areas both big and small. Although we once viewed urban operations as the exception, they are now the rule, and will remain so into the future. The world is in a period of massive urbanization. People continue to migrate from rural to urban areas throughout the globe, especially in developing nations. As U.S. Army Field Manual 3-06, *Urban Operations*, states, "Given the global population, Army forces will likely conduct operations in and around urban areas — not as a matter of fate but as a deliberate choice linked to national objectives and strategy…"

As recently as five years ago, many of us could not imagine individual tanks regularly leading infantry squads in attacks down streets of major cities. We were perhaps victims of our own success. We rolled across Saudi Arabia and Iraq during Operation Desert Storm without fighting any large-scale urban battles. The difficult operations in Mogadishu of *Black Hawk Down* fame certainly taught us again the utility of armored vehicles in urban combat operations. Later operations in Bosnia and Kosovo further reinforced the importance of these vehicles in lower intensity operations.

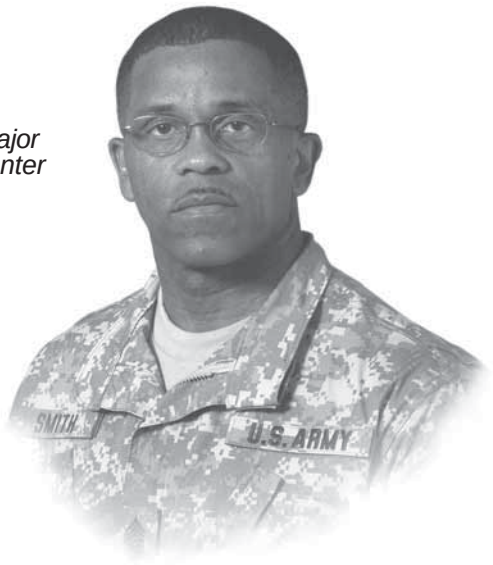
The race to Baghdad in April 2003 also serves as an outstanding example of the effectiveness of armored vehicles in urban operations. Our Abrams and Bradleys provided our Army and Marine Corps a capability unprecedented in the history of warfare. The bold leaders of the 3d Infantry Division's "Spartan" Brigade defied conventional wisdom and conducted the now famous "Thunder Runs" into the heart of Baghdad; thereby, hastening the fall of Saddam's regime. After the end of high-intensity operations, we mistakenly thought that armored vehicles no longer had a role in Iraq. Clearly, the battles in Fallujah and other cities put that argument to rest. We now know there are simply no other vehicles capable of providing the same combination of mobility, lethality, and survivability as M1 tanks and their supporting Bradleys. Whether leading an attack or escorting a relief convoy, these vehicles are without equal. It may be true that no near-term adversary will challenge us on an open field or desert, but that reality does not lessen the value of the mounted force today or in the future.

While we continue to wrestle with the exact role of these armored vehicles in stability and reconstruction operations, they remain a valuable tool for the future force. That said, we should re-examine how we harness our capabilities. Many of you may have read the recent "Twenty-Eight Articles — Fundamentals of Company-level Counterinsurgency" paper by Dr. David Kilcullen. He argues that we cannot properly establish a rapport with locals through the use of fast moving armored convoys. Instead, he recommends the predominant use of foot patrols. Without a doubt, his ideas have much merit, but armored vehicles still have an important role to play in the full-spectrum environment. Many of us who served in the Balkans during the 1990s recall the sudden calming effect the presence of an Abrams tank made on an unruly mob. As leaders of the mounted force, we must determine the proper role for armored vehicles in whatever environment we find ourselves — just as we would for any other asset.

As we approach the 2006 Armor Warfighting Symposium, the topic of the role of armored vehicles should be foremost in our minds. They continue to be a great asset across the full spectrum of operations, albeit with some limitations. As leaders, we clearly must determine how to best harness those capabilities in each particular environment. I am confident that the leaders and Soldiers of the mounted force will find the right solution to these complex problems. Flexibility and adaptiveness have long been hallmarks of the combat arm of decision.

FORGE THE THUNDERBOLT!

CSM Otis Smith
Command Sergeant Major
U.S. Army Armor Center



Leader Responsibility: Proper Use of Protective Equipment

Soldier safety is a key enabler to mission success in Iraq. Our Soldiers are the front-line defense in an environment of lawlessness and daily insurgent attacks, while simultaneously supporting rebuilding efforts.

The U.S. Army uses an abundance of resources to produce and test lifesaving protective equipment to increase Soldier survivability. However, the proper use of any equipment depends on its user. Surveys from Operation Iraqi Freedom reveal that a significant number of Soldiers are not properly wearing the personnel armor system, ground troops (PASGT) helmet (also known as the "Kevlar") or the advanced combat helmet (ACH).

In cases where the PASGT or ACH helmets are fitted or worn improperly, the Soldier is exposed to increased risk of injury due to ballistic threats (fragmentation) or concussion. The majority of improperly sized/fitted helmets have been found to be too small. To ensure Soldier safety, leaders are required to inspect the proper fit and wear of the PASGT and ACH helmets. To properly conduct helmet inspections, leaders should:

- Push down on top of helmet; the helmet should not move.
- Check proper ear canal coverage by ensuring the bottom of the PASGT comes to the bottom of the ear; the bottom of the ACH should come to the top of the ear canal opening.
- Conduct front-look check to ensure helmets are level from side to side.
- Conduct side-look check to ensure the PASGT front-to-back is slightly inclined (look at helmet rim up to where the ear begins); the ACH front-to-back should be level (look at part of helmet by the ear).

A properly fitted PASGT helmet should have a minimum of a one-half inch space between the head and the helmet. The helmet should not be so big that it blocks the wearer's vision, or so small that ventilation, comfort, and safety suffer. A properly sized and fitted helmet will sit level on the Soldier's head (side to side), with the lower edge of the front rim being set at the top of the eyebrow and level to the ground or slightly inclined with respect to the ground. When tightened, the chin strap of the PASGT will be centered with equal distances on each side between the chin cup and mounting location on the helmet. If the PASGT helmet sits too high or low on the head, use the adjustable drawstring tab on the suspension system to correct. A visual inspection can quickly determine if the bottom of the PASGT comes to the bottom of the Soldier's ear. Failure of this inspection justifies further investigation as to the fit and wear of the PASGT.

Soldiers may also find that over time the PASGT will begin to fit more loosely. The headband and suspension system may need to be adjusted to compensate. If any of the components are broken or worn out, they should be replaced.

Soldiers should be advised that the correct size of the ACH might not be the same size as their previously issued PASGT helmet. Design features result in the front rim of the ACH resting about one-half inch higher than the PASGT. The ACH should be fitted by measuring head length, width, and circumference. Improper wear may be caused by incorrect helmet shell size, poor pad placement, improper fit, incorrect crown pad size, or a combination thereof.

The ACH should fit so that the front rim is approximately one-half inch above the eyebrows. A properly sized and fitted ACH will sit level on the Soldier's head (side to side), with the lower edge of the front rim being level to the ground or slightly inclined with respect to the ground. While looking upward, with eye movement only, the wearer can test for proper fit by observing that the edge of

Continued on Page 52

Armored Operations in Urban Environments: Anomaly or Natural Condition?

by Dr. Robert Cameron

For much of the past century, mounted maneuver forces experienced urban combat as an unwelcome deviation from an otherwise comprehensive mission set. Too often, doctrine treated military operations on urbanized terrain (MOUT) as special cases. Thus, when circumstances forced mounted units to operate in cities, they did so without proper preparation, leaving soldiers to improvise tactics, techniques, and procedures (TTP) while in combat. These trial-and-error measures resulted in effective MOUT capabilities, but at the cost of lives and materiel. Moreover, once the need for these skills disappeared, the temporary importance attached to urban combat faded, and later generations of mounted soldiers had to relearn the same lessons under fire.

Today, armor organizations are conducting urban combat and counterterrorism operations daily. After three years of conflict, they have become adept at such actions. This expertise must not be allowed to wither. Global urbanization trends and national interests ensure the future employment of mounted troops in urban areas. The armor community needs to build on the lessons learned to date and integrate these lessons into routine training. Until MOUT becomes a normal function for mounted forces, the historical pattern of neglect and focus will continue.

World War II

The year 1940 found the U.S. Army in the midst of mobilization and modernization. Part of this preparation for war included creating the armored force, charged with forging a mechanized capability equivalent to that demonstrated by the Germans. Early armored force training and doctrine, however, focused on basic skills. Urban combat received scant attention — a condition that remained largely unchanged before the General Headquarters maneuvers of 1941.

These training activities constituted the largest peacetime maneuvers in U.S. history. They provided field experience for all ranks and tested the readiness of America's field forces, particularly its new armored divisions. However, armored units demonstrated a lack of street fighting savvy. Tanks tended to attack enemy forces in towns without waiting for artillery or infantry support. Instead, they simply drove into the streets, where they became disoriented, isolated, and easy targets for defending infantry and antitank weapons.[1]

Criticism of these practices did not trigger the development of effective MOUT doctrine. The armored force's field manuals and training literature discouraged the use of tanks in built-up areas. As late as January 1944, armored division doctrine acknowledged the possibility of combat in urban areas, but it offered little guidance on how MOUT should be conducted, particularly in large cities. Tanks were encouraged to operate outside city confines to minimize the risk of losses.[2] Similarly, armored training included some instruction in urban combat, but it remained limited to individual soldier skills.[3]

The minimal MOUT training and doctrine available to armored formations did not prepare them for fighting through the large

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number of cities, towns, and villages that dotted Western Europe. Therefore, each armored division developed its own standard operating procedures. During the drive across France, and again during the final push into Germany, rapid movement and massed firepower characterized armored MOUT. Tanks seized key positions around small towns from where they fired into the defenders. Tank-infantry teams then moved through the streets firing at known or suspected targets to create terror and confusion.[4]

These tactics worked well against disorganized defenders in small urban enclaves, but not against prepared defenses in larger cities. In October 1944, American forces attacked the fortified city of Aachen with considerable fire support but only a single infantry regiment, reinforced with tanks and tank destroyers. Careful planning and detailed reconnaissance preceded the attack, which progressed systematically through the city. The brunt of the fighting was borne by combined arms teams built around an infantry company, supported by bazooka teams, flamethrowers, and tanks or tank destroyers. These teams advanced with the infantry leading and identified enemy positions. The vehicles then used their firepower to force the defenders into streets or basements, where they were eliminated by massed firepower or flamethrowers and explosives. The city surrendered after nine days.[5]

Aachen became a model for combined arms MOUT operations; however, the quality of tank-infantry cooperation demonstrated there was not universal. Infantry divisions did not routinely train with the separate tank battalions that supported them. In combat, teamwork suffered further from the inability of the tanks and infantry to communicate via radio. Too often, battlefield communication devolved into improvised means that often failed. This problem was largely corrected by mounting field phones on tanks, permitting soldiers to talk directly to the vehicle commander.[6]

From Korea to Vietnam

After the war, armor doctrine incorporated MOUT tactics and lessons learned in all theaters of operations. This emphasis was not paralleled in training. Between 1945 and the onset of the Korean War in 1950, Army readiness declined and the ability to conduct combined arms, urban operations diminished.[7]

The Korean War, however, did not require sustained urban combat. Fighting in built-up areas tended to occur in small villages, with the important exception of Seoul. In September 1950, this city became the target of United Nations' forces, following the successful invasion at Inchon. Responsibility for taking the city fell to a Marine Corps division, which faced a series of fortified strong points throughout the city, each supported by snipers, machine guns, antitank weapons, and often a self-propelled gun or tank. As at Aachen, close cooperation between infantry and tanks systematically destroyed each strong point. Marine riflemen guided tank movements and identified targets. The tanks breached the strong points with firepower, overran them, and relied on supporting Marine infantry to eliminate survivors. In this manner, armor sustained the momentum of the Marine advance and much of the city was cleared in four days.[8]

After the Korean War, the U.S. military focused its attention on Europe. There, the onset of the Cold War increased the danger of conflict with Warsaw Pact forces. However, in the 1950s, reliance on atomic weapons, rather than conventional forces, to deter Soviet aggression did little to encourage the development of combined arms MOUT doctrine.

The following decade, America became immersed in counterinsurgency operations in the Republic of South Vietnam. For much of this conflict, fighting occurred outside population centers. Until 1968, the cities remained safe havens, largely immune from the sometimes bloody engagements fought elsewhere. However, in that year, communist forces launched the Tet offensive, targeting urban areas to discourage American popular support for the war.

Tet opened with a series of simultaneous attacks throughout South Vietnam. American and South Vietnamese forces reacted with counterattacks that generally quickly repulsed the communist forces. However, the imperial city of Hue became the center of protracted street fighting for nearly a month. There, North Vietnamese infantry overran much of the city and established strong points. U.S. Marine Corps quick reaction forces responded shortly after the initial attacks, but they lacked MOUT experience. One battalion commander sought to correct this deficiency by hurriedly reviewing urban combat manuals. Generally, however, company teams arrived piecemeal and simply drove their truck columns into the city until ambushed.[9]

The survivors reorganized and began to attack North Vietnamese strong points ensconced among buildings and walled compounds. Tactics suited to jungle operations did not work in the streets of Hue. The Marines suffered heavy losses, particularly among junior leaders, while improvising new tactics suited to their environment. Finally organized into combined arms teams of riflemen, mortars, machine guns, recoilless rifles, and tanks, Marines began systematic block-clearing operations. Tanks provided direct fire support, moving with their dismounted escorts to engage targets identified by other team members.[10]

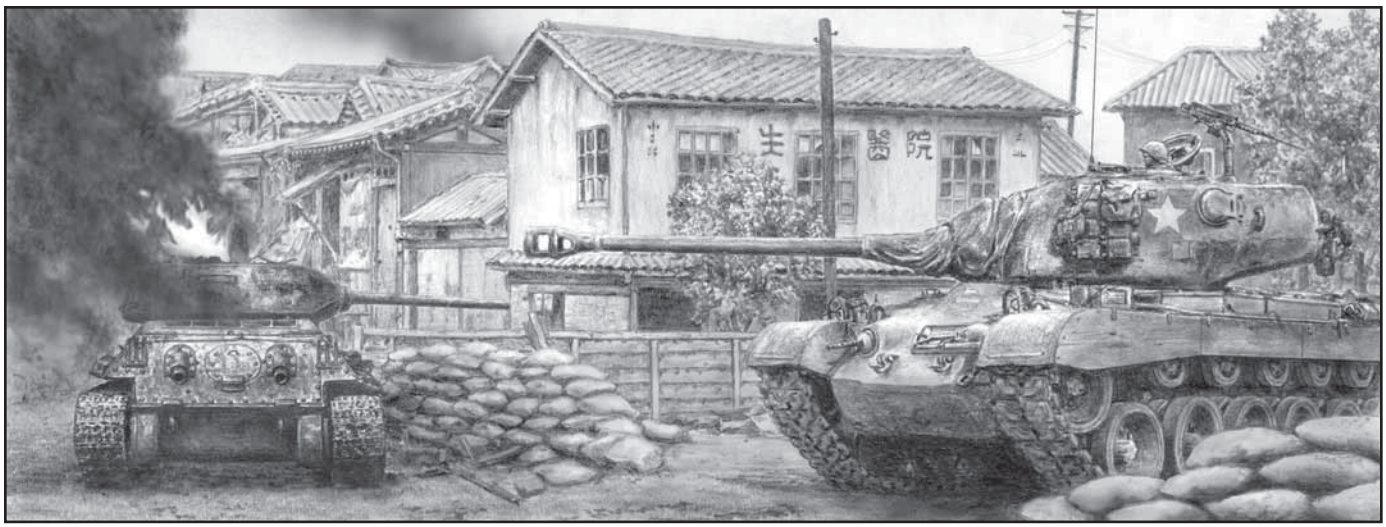
These tactics worked, but the city fell after 25 days of intense combat, which generated heavy casualties among the Marines and the large civilian population that remained. The final victory owed much to the quality of the Marine Corps forces. Their training and unit cohesion permitted them to adapt to an unfamiliar environment under fire, forge appropriate tactics, and refine these tactics at the enemy's expense. Although noteworthy achievements, they exemplified the loss of MOUT expertise similarly obtained during World War II.

Cold War

After Vietnam, America's military focus returned to the defense of Central Europe from a possible Warsaw Pact invasion. Combined arms operations and the application of firepower and maneuver received considerable doctrinal attention, but urban operations remained the infantry's responsibility. Armor's role lay in maneuvering outside built-up areas and providing fire support as necessary. The 1979 publication of U.S. Army Field Manual (FM) 90-10, *Military Operations on Urban Terrain (MOUT)*, reinforced this impression. It provided detailed guidance for infantry to fight in cities, but relegated the role of armor to a short appendix. The latter warned readers of the dangers to armored vehicles in urban areas while simultaneously noting that mounted units should expect to fight in them.[11]

The likelihood of employing armor in built-up areas increased with urbanization in the Federal Republic of Germany. By the 1980s, each American brigade sector, on average, included 25 villages and at least one mid-sized town.[12] Nevertheless, one NATO analyst noted, "It is also questionable whether there is adequate training, whether adequate thought has been given to the adaptation of new weapons, equipment, and munitions to the requirements of MOUT and, perhaps most importantly, whether the career soldier has come to an acceptance of the importance of MOUT."[13]

In the absence of published doctrinal guidance, military personnel sought to generate their own doctrine. The pages of the service journals, including *ARMOR*, were filled with articles outlining concepts for the employment of mounted units in urban areas, ranging from generic principles to detailed tactical guidance at the platoon level.[14] These articles stimulated discussion and raised the visibility of MOUT in the armor community, but analysis of urban operations remained largely an intellectual exercise without parallel developments in training. With the



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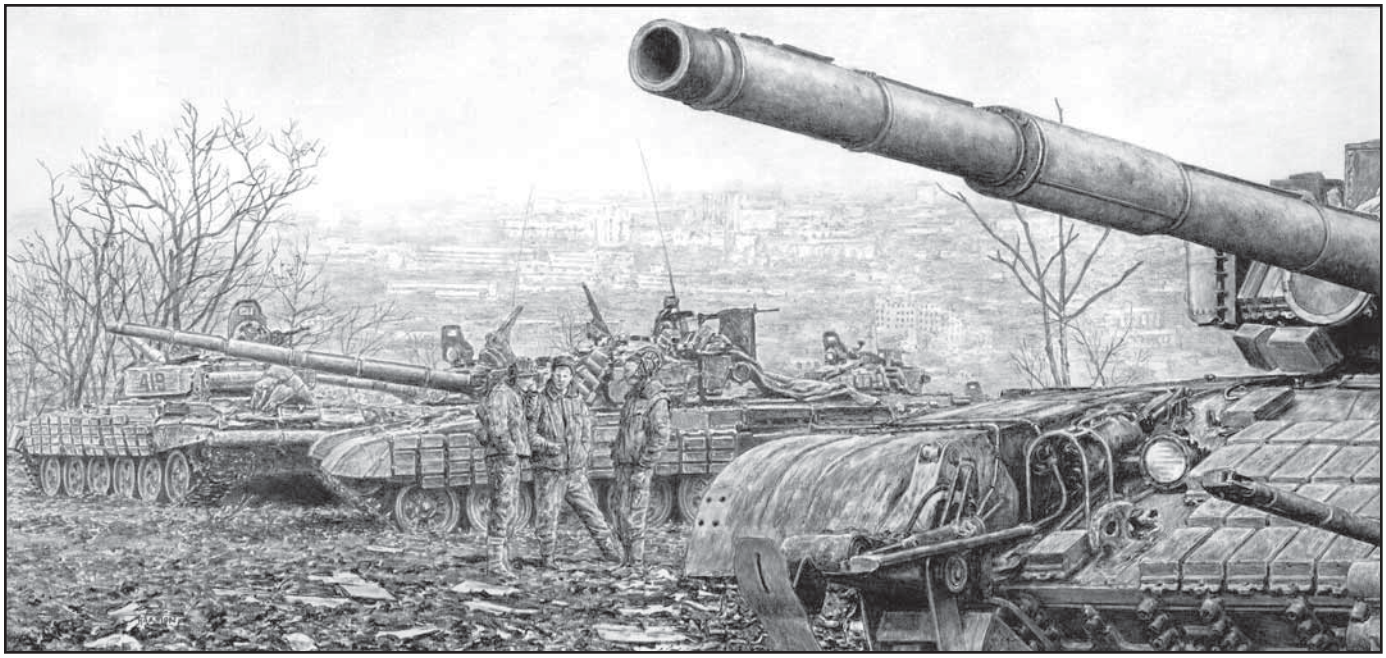

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exception of the Berlin Brigade, mounted units continued to focus training on maneuver and gunnery.

Post-Cold War

The collapse of the Soviet Union opened a new era no longer dominated by superpower rivalry. Instead, regional crises replaced the threat of a third world war, and U.S. military forces found themselves providing humanitarian assistance and stability operations to areas wracked by factional or ethnic violence. The military's posture also changed from forward deployment to force projection, requiring access to ports and airfields abroad for all overseas movements. These developments thrust American soldiers into cities wherever they deployed.

Operations other than war triggered training and doctrine changes intended to support peacekeeping rather than warfighting. Teamwork with psychological operations and civil affairs teams replaced analysis of Soviet tactics and the application of unrestrained firepower. Doctrinal publications included entire sections dedicated to stability and support operations, which were mirrored by related articles in the service journals. This literature tended to focus on two dimensions: command and organizational issues related to peacekeeping; and the techniques associated with security, traffic, and crowd control.

MOUT doctrine, however, remained rooted in World War II. It reflected neither the changing nature of the American military nor the newer weapons available. Therefore, in Haiti, Bosnia, Kosovo, Macedonia, and Somalia, U.S. forces entered volatile urban areas, where the possibility of combat was high, equipped with outmoded tactics. In Somalia, this possibility became reality after American forces undertook military operations to eliminate the threat to United Nations' food deliveries. The climactic street battle in Mogadishu in October 1993 resulted and 91 American soldiers were killed or wounded when an attempt to apprehend a hostile faction's leadership went awry.[15]

The Russian experience in Chechnya further demonstrated the possible consequences of conducting urban operations without appropriate training and doctrine. In December 1994, a hastily assembled force of inexperienced soldiers entered Grozny to end Chechen aspirations of independence. The Russians expected a bloodless operation, relying on a show of force to deter resistance. The Chechens, however, prepared a sophisticated, nonlinear defense designed to exploit Russian vulnerabilities. Employing small teams equipped with rocket propelled grenades (RPGs), snipers, and small arms, the Chechens quickly destroyed a motorized brigade and decimated the combat effectiveness of other Russian units during several weeks of urban combat.[16]

The failure to end Chechen resistance triggered Russia's withdrawal in 1996. Over the next three years, the Russians reinstituted MOUT training and updated their urban combat doctrine. In particular, they analyzed the combined arms street-fighting tactics developed by the Red Army during World War II. In 1999, the Russians applied similar tactics — modified to reflect current weapons and technology — when they again attacked Grozny. They fared much better and took the city without the protracted fighting that characterized earlier operations.[17]

By the late 1990s, the Somalia and Chechnya experiences had encouraged a long overdue update to American urban combat doctrine. However, training programs and guidance did not yet reflect the heightened interest in MOUT. Tank companies participating in Joint Readiness Training Center rotations continued to plunge into the mock city without support or reconnaissance — much like their 1941 forebears had done.[18]

Fort Knox opened a MOUT training site in 1999 optimized for heavy vehicles, but two years later, its principal customers remained infantry and Special Forces. For most armored soldiers, few opportunities existed to train the combined arms tactics that doctrine indicated were vital to success in urban environments. MOUT awareness was high, but related training remained an elusive target.

Operation Iraqi Freedom

The greater doctrinal emphasis given to urban combat ensured a degree of MOUT preparedness among mounted units operat-

ing in Iraq. However, the extent of preparation varied. Some tank units obtained exhaust shields to permit infantry to operate in close proximity to the Abrams tank, while others did not. At least one armor task force altered vehicle load plans, shortened battle sight ranges, and trained to scan for targets among the upper stories of buildings. Some units actually practiced MOUT operations in the months before combat operations began.[19]

Conversely, scout HMMWVs were not hardened for urban combat, despite the negative experience of unarmored, wheeled vehicles in Somalia. Army tanks lacked the field phone that had been characteristic of fighting platforms since World War II. This absence complicated tank-infantry communications.[20] Overall, however, most armor soldiers anticipated their role as one of isolating cities, leaving their reduction to the infantry.

The drive to Baghdad exposed mounted forces to a series of sharp, close-range encounters with Iraqi soldiers, tanks, and paramilitary forces that often fought from urban ambush positions. American tank crews, trained for long-range, precision gunnery engagements, found themselves the targets of RPG showers, while fending off enemy soldiers with side arms.

Battle drills and task organizations optimized for desert conditions simply did not work in urban areas. One of the few tank-versus-tank engagements of the war occurred in the streets of Mahmudiyah at point-blank range. Training did not address such engagements and American gunners wondered in combat if they could safely or effectively fire sabot rounds at distances of less than 50 meters.[21]

Mounted forces soon adapted to their new operational environment. Much like their predecessors in prior wars, they developed under fire combat techniques that leveraged organizational, materiel, and leadership strengths. In 2004, these new MOUT skills were employed successfully in destroying terrorist safe havens. During the final assault on Fallujah in November, Marine Corps tanks advanced through the streets while riflemen cleared the adjacent buildings. Forward observers and snipers helped to guide the tanks forward into positions where their firepower could be applied against enemy strong points.[22]

Army operations paralleled this systematic application of teamwork and firepower. In Sadr City, combined teams of M1A2 SEP tanks and M2A3 Bradley fighting vehicles formed armored boxes that moved at slow speed through the city's grid-like street layout. Crews operated their vehicles buttoned up and used their onboard viewing devices to scan for targets, while mounted infantry secured key buildings. These roving, armored boxes moved steadily through the opposing militia with minimal loss.

At An Najaf, the combination of a large cemetery, narrow streets, and confining terrain mandated different tactics. Here, combined arms sections made up of a tank, Bradley, and up-armored HMMWVs predominated. The tank led to absorb the impact of any ambush with its armor. The Bradley provided flank and high-angle security, and the HMMWV covered the rear. Infantry advanced through buildings and alleyways on each side of the vehicle section. Similar innovations occurred wherever mounted forces were present.[23]

Current operations in Iraq are providing mounted maneuver forces with a broad range of urban combat experiences that reflect tactical, cultural, and technological considerations. Similar situations will be encountered again in the future. Therefore, the lessons learned to date need to be reflected in MOUT doctrine development and in the training given to individual sol-

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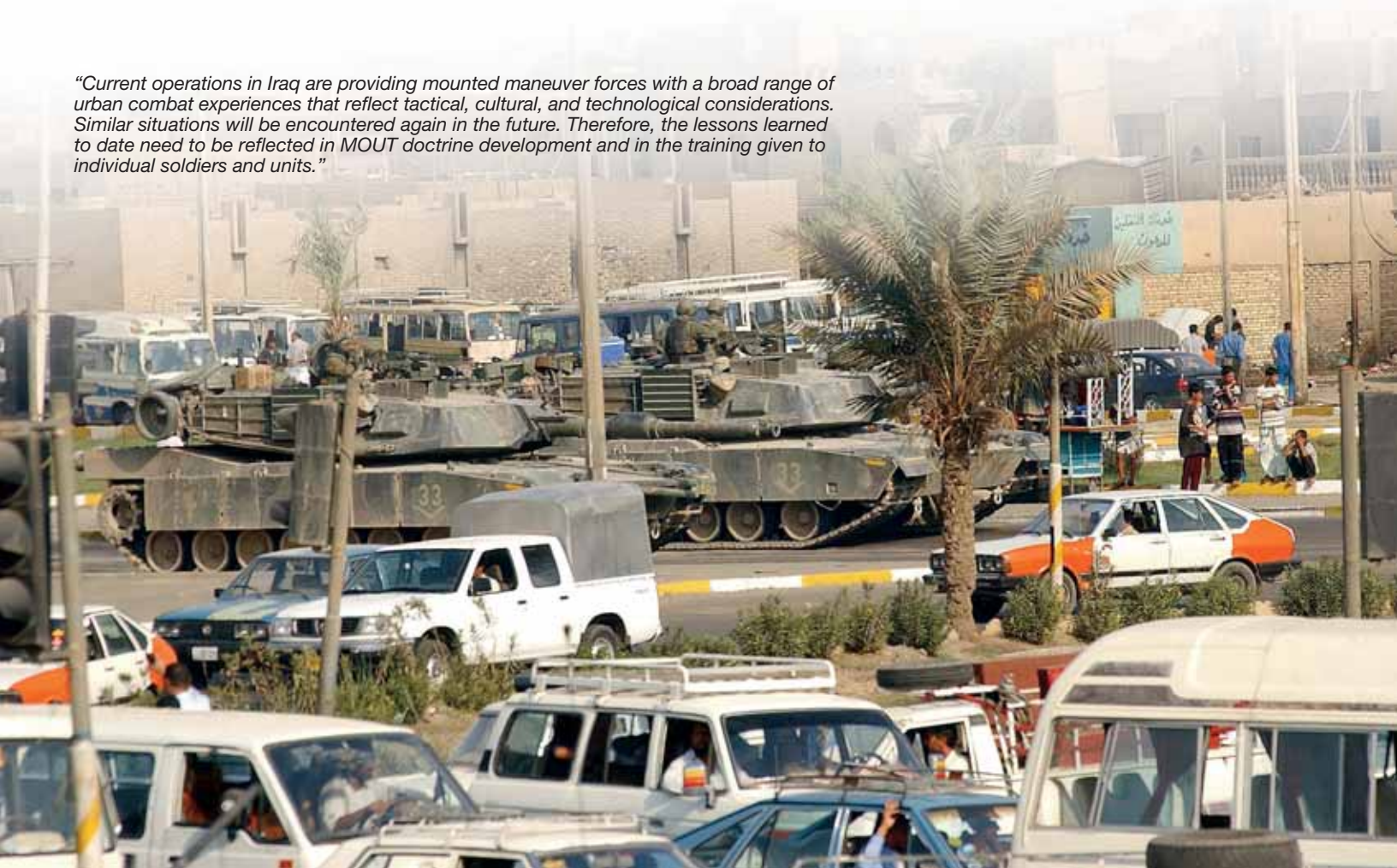

diers and units. The time for relegating MOUT to field manual appendices is over. Global urbanization is a confirmed trend, even in less-developed parts of the world where stability and reconstruction operations are likely. Urban areas will be common battlefield environments and their distinctive nature and characteristics need to be digested and understood at the soldier level to avoid the pitfalls of the past. The simple application of generic doctrinal principles to urban areas does not meet soldier needs.

Organizations fight the way they train — at least during the opening phases of a conflict. Combined arms tactics remain among the most effective means of tackling defended cities, but team members need to train and work together to understand how best to leverage strengths and protect vulnerabilities. As a central member of the combined arms team, armor also needs to view urban operations as standard activities and prepare in peace for what it will be required to execute in war. If MOUT is not integral to unit readiness standards and training schedules, future armor soldiers will find it difficult to dominate the battlefield while relearning the lessons of the past and present at a time, place, and tempo of the threat's choosing.

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Notes

[1]See for example the report of Major F.T. Searcy concerning actions of 13th Armored Regiment during first phase of Carolina maneuver, 21 November 1941, p. 2, NARA, Record Group 337, Entry 57D, Headquarters, Army Ground Forces, General Headquarters General Staff, G3 Section, Subject File 1940-March 9, 1942. For a comprehensive analysis of these maneuvers, see Christopher R. Gabel, *The U.S. Army GHQ Maneuvers of 1941*, Center of Military History, Washington, D.C., 1991.

[2]U.S. War Department, Armored Command Field Manual 17-100: *The Armored Division*, U.S. Government Printing Office, Washington, D.C., 15 January 1944, pp. 91-96.

[3]Historical Section, Army Ground Forces, Study No. 27, "The Armored Force Command and Center," 1946, pp. 53, 66, 76-78.

[4]For example see 4th Armored Division training memorandum dated 23 September 1944 included in U.S. Army Armor School, "Military History: Training/Tactics," CS-1251-M-Army-Knox-Sep 86-2C; "XII Corps Operations Notes No. 2," dated 7 September 1944, included in U.S. Army Armor School, "Military History: Training/Tactics," CS-1251-M-Army-Knox-Sep 86-2C.

[5]Christopher R. Gabel, " 'Knock 'em All Down': The Reduction of Aachen, October 1944," Combat Studies Institute, Fort Leavenworth, pp. 6-7, U.S. Army Armor Branch Archives; Christopher R. Gabel, "Military Operations on Urbanized Terrain: The 2d Battalion, 26th Infantry, at Aachen, October 1944," pp. 1-2, U.S. Army Armor Branch Archives; Charles B. MacDonald, *United States Army in World War II: The European Theater of Operations: The Siegfried Line Campaign*, Department of Army, Office of the Chief of Military History, Washington, D.C., 1963, pp. 251-306; Major William R. Campbell, "Tanks With Infantry," *Armored Cavalry Journal*, September-October 1947, pp. 50-51.

[6]General Board, "Study No. 50: Organization, Equipment and Tactical Employment of Separate Tank Battalions," 1945, pp. 6, 12; Historical Section, "The Armored Force Command and Center," pp. 59-60.

[7]For an understanding of the Army's readiness problem in the Korean War, see T.R. Fehrenbach, *This Kind of War: A Study in Unpreparedness*, Macmillan, New York, 1963.

[8]Matthew H. Fath, "How Armor was Employed in the Urban Battle of Seoul," *ARMOR*, September-October 2001, pp. 25-29.

[9]See Keith William Noe, *Battle for Hue: Tet 1968*, Presidio Press, Novato, CA, 1983; Ron Christmas, "A Company Commander Remembers the Battle for Hue," *Marine Corps Gazette*, February 1977, pp. 19-26; Lieutenant Andrew J. Lawler, "The Battle for Hue City," July 1999, MOUT Homepage website accessed on 31 March 2006: *http://www.geocities.com/pentagon/6453/hue3.html*; LTG Ernest C. Cheatham and LTG George R. Christmas, "The Battle for Hue," 23 January 1998, MOUT Homepage website accessed on 31 March 2006 at *http://www.geocities.com/pentagon/6453/hue1.html*.

[10]Ibid.

[11]U.S. Army Field Manual (FM) 90-10, *Military Operations on Urbanized Terrain (MOUT)*, U.S. Government Printing Office, Washington, D.C., 15 August 1979, Appendix F.

[12]Monograph M-22-83, "Defense of Villages (A German Army "How to Fight" Guide from 1944) Applicable Today?" U.S. Army Armor Branch Archives, Fort Knox, KY, 7 December 1983, p. 1.

[13]John J. Mahan, "MOUT: The Quiet Imperative," *Military Review*, July 1984, p. 43.

[14]See for example MAJ Adolf Carlson, "Tanks in Urban Combat," *ARMOR*, March-April 1981, pp. 30-36; LTC Curtis V. Esposito, "Armor Operations in Built-Up Areas," *ARMOR*, July-August 1982, pp. 26-30; LTC William R. Betson, "Tanks and Urban Combat," *ARMOR*, July-August 1992, pp. 22-25.

[15]See MAJ Timothy Karcher, "Global War on Terrorism Occasional Paper 3: Understanding the "Victory Disease," From the Little Big Horn to Mogadishu and Beyond," Combat Studies Institute Press, Fort Leavenworth, KS, 2004, pp. 23-37; Mark Bowden, *Black Hawk Down: A Story of Modern War*, Atlantic Monthly Press, New York, 1999.

[16]Les Grau, "Russian MOUT Experience in Chechnya and Afghanistan: Lessons for American Armor," briefing delivered to Armor Center, 1999; Timothy L. Thomas, "The Battle of Grozny: Deadly Classroom for Urban Combat," *Parameters*, Summer 1999, pp. 87-102; Anatol Lieven, "The World Turned Upside Down: Military Lessons of the Chechen War," *Armed Forces Journal International*, August 1998, pp. 40-43.

[17]Timothy L. Thomas, "Grozny 2000: Urban Combat Lessons Learned," *Military Review*, July-August 2000, pp. 50-58; Olga Oliker, *Russia's Chechen Wars 1994-2000*, RAND Arroyo Center, Santa Monica, CA, 2001.

[18]JRTC Observer/Controller, MOUT lessons learned briefing presented during "The Tank in the MOUT Environment Symposium," on 18 December 2001, U.S. Army Armor Branch Archives, Fort Knox, KY.

[19]Team C, 3d Battalion, 15th Infantry Regiment, Task Force 1st Battalion, 64th Armor, "Operation Iraqi Freedom After Action Review Comments," 24 April 2003, posted on website *http://www.2ndbn5thmar.com/tisop/tireferences.htm*, accessed 30 March 2006.

[20]Note that Marine Corps tanks mounted field phone proved fragile in combat.

[21]3d Battalion, 4th Marines, "3/4 OIF Lessons Learned," 2003, website article accessed 31 March 2006 at *http://www.2ndbn5thmar.com/tisop/tireferences.htm;* Jason Conroy with Ron Martz, *Heavy Metal: A Tank Company's Battle to Baghdad*, Potomac Books, Inc., Dulles, VA, 2005, pp. 1-15.

[22]CPT R.J. Bodisch, "Charlie Company, 2d Tank Battalion After Action Report, Operation Al Fajr," 8 January 2005, posted on website *http://www.2ndbn5thmar.com/tisop/tireferences.htm*, accessed 30 March 2006.

[23]MG Peter W. Chiarelli, MAJ Patrick R. Michaelis, and MAJ Geoffrey A. Norman, "Armor in Urban Terrain: The Critical Enabler," *ARMOR*, March-April 2005, pp. 7-12; LTC Pat White, "Task Force Iron Dukes Campaign for Najaf," *ARMOR*, November-December 2004, pp. 7-12; CPT John C. Moore, "Sadr City: The Armor Pure Assault in Urban Terrain," *ARMOR*, November-December 2004, pp. 31-37.

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Counterinsurgency Operations in Iraq

by Major Jayson Altieri

Two years ago, Multi-National Corps-Iraq (MNC-I) began conducting counterinsurgency (COIN) operations using both precision strikes and maneuver enabled by human and electronic intelligence sources at the operational level of war to find, fix, strike, and exploit insurgents operating across Iraq.[1] These enablers allow coalition forces (CF) to conduct rapid planning and strike at the enemy's battle rhythm to disrupt their operations. Ultimately, the CF is setting conditions, which allow Iraqi Security Forces (ISF) to build combat power to assume the COIN fight, while simultaneously enabling the Iraqi transitional government to conclude an elections process that will seat a permanent Iraqi government.

The Anti-Iraqi Forces (AIF) Threat

To understand how coalition forces conduct the COIN fight, it is important to examine how the threat, terrain, insurgent tactics, and regional differences influence the Iraqi battlespace. To advance their goals and achieve freedom of action, the Saddamists (SDM) and Iraqi rejectionist groups (IZR), backed by terrorists and foreign fighters, focus on gaining passive supporters from the disaffected segments of the Iraqi population by securing the acquiescence of other segments of the population through the use of terror and intimidation.

The insurgents recruit new members from a smaller, disaffected segment of the Sunni population, primarily poor, illiterate young men. Without the passive and active support of a large segment of the Sunni population, SDM, IZR, terrorists, and foreign fighters would be denied freedom of action. By using an aggressive information operations campaign and enabling economic efforts, coalition forces are demonstrating that Sunni extremist attacks are only hurting the Iraqi population.

The terrorists and foreign fighters are the least likely to participate in the Iraqi political process due to their extremism and unwillingness to negotiate with the government of Iraq; these groups include the Zarqawi network and Ansar al Islam. While the Sunni are the current focus, there is a latent Shi'a constituency that could enable resurgence of a Shi'a insurgency under certain post-election conditions or if Iranian agitation occurs. The Shi'a, in particular, perceive coalition forces not as an "army of liberation," but rather a western occupying force in the center of the Islamic culture. While not part of the insurgency, the Kurds likewise retain the potential to initiate violence to advance their political aims.

The nature of the terrain in Iraq requires coalition forces to adopt a variety of tactics and enablers to disrupt insurgent forces. The most difficult and complex is the urban terrain found in a line of cities running west to east from Al Qaim to Baghdad along the Euphrates River, and a second line running north to south from Mosul through Baghdad to Basra along the Tigris River. This type of terrain requires large amounts of manpower and precision weapons systems and, at the same time, provides insurgents with resources and sanctuary. The terrain also denies coalition forces the advantages offered by advanced technologies and sensors.

Targeting insurgents while minimizing collateral damage is difficult. Using ISF and coalition forces' human intelligence sourc-

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es offset insurgent advantages in urban areas. Open terrain is found outside the cluster of cities and offers coalition forces the ability to use mobility, speed, sensors, and stand-off to their advantage. Open terrain provides few resources to insurgents. Some disadvantages to coalition forces include long lines of communications and moving logistics to remote areas, especially in the western located Al Anbar province.

Insurgents understand the limitations of coalition forces' technology in COIN operations and have adopted asymmetrical tactics that are both simple in execution and complex in planning. Some examples of these tactics include improvised explosive devices/vehicle-borne improvised explosive devices (IED/VBIED), assassinations, and information operations. IED/VBIED are low-tech weapons requiring simple delivery and targeting systems that can be adapted for both mobile (convoys) and stationary (buildings) targets with a high payoff in both casualties and information operations. Both types of attacks use a five-phase process that includes financing and information operations as critical components of the attacks. Delivery systems vary from explosives carried in vests to artillery shells buried along roads and highways.

As one of the oldest terrorist tactics, assassination has proven successful during previous Arab insurgencies in Algeria and Palestine. The 2004 withdrawal of Philippine forces and closure of the United Nations commissioner's office are examples of political effects resulting from assassinations with high information operations payoffs involving coalition members who had weak political support. Assassination can also have repercussions if the wrong state is targeted, such as the 2005 Arab League condemnation of the kidnapping and killing of Algerian diplomats. Additionally, this tactic is particularly useful in targeting local Iraqi nationals who cooperate with coalition forces. By demonstrating the inability of coalition forces and ISF to protect and secure the population, IED/VBIED attacks and kidnappings provide insurgents with immediate information operations success at little cost.

COIN Operations

The diversity of religious and ethic communities requires different COIN approaches. The majority of the Iraqi population consists of three major ethic groups: the Shi'a population located in southern and central Iraq; the Kurdish region located in northern Iraq; and the Sunnis located in a triangle running from northern Al Anbar to Baghdad and north to Mosul. As stated above, COIN operations must include the ability to find, fix, strike, and exploit insurgents.

To accomplish this task, coalition forces use a variety of enablers to channel insurgents in a target area where precision strikes and maneuver are employed to strike and disrupt their operations. This method is applied at both the macro and micro level of operations. The principles of COIN operations include planned operations, intelligence-based execution, and offensive operations.

Planned pattern of operations is a product of leadership, discipline, training, education, and experience. Commanders are required to quickly make necessary judgments — to objectively assess a wide range of situations — and almost intuitively use appropriate kinetic and non-kinetic force as required. Intelligence drives operations using various intelligence, surveillance, and reconnaissance (ISR) platforms and sources, to include human intelligence. The ISF are a vital part of the ISR network by providing lightning-speed, actionable intelligence that allows coalition forces to find, fix, and finish insurgents and their sources of support.

Cross-cueing from a variety of ISR platforms allows coalition forces to conduct precision targeting and defense in depth in an effort to economize forces conducting security operations (special operations forces, border security, and infrastructure). Finally, offensive operations, both kinetic (special operations forces, snap vehicle check points, counter-IED) and non-kinetic (information operations, military transition teams/battalion transition teams) are vital to COIN operations because they disrupt insurgent operations.

MNC-I Mission

MNC-I focused on the security lines of operation, such as seams and gaps, infrastructure, borders, and IED/VBIED, while simultaneously supporting the MNC-I forces, government, economic, communications, and coalition transformation lines of operation.

Developing an ISF capable of the COIN fight is critical to the long-term success of the coalition efforts. To achieve this goal, several essential tasks must be accomplished, which include neu-

tralizing AIF; developing an ISF capable of operations at battalion, brigade, and division levels; developing an ISF capable of controlling regional territories; developing an ISF capable of conducting independent operations; and developing a self-reliant ISF.

To achieve long-term effects over time and space, MNC-I must accomplish six key tasks to ensure successful transition from coalition forces to ISF, which include developing a capable ISF prepared to take the lead in counterinsurgency operations; continuing the support and maintenance of joint coordination centers and provincial joint coordination centers; transitioning the battlespace to Iraqi control; implementing transition team programs; assisting the government of Iraq and provincial governments in developing and securing infrastructure; and coordinating with border security forces and developing their capabilities.

Current COIN Operations

The complexities of COIN operations lie in the nature of their environment. Much like police officers working a city neighborhood beat, COIN operations must be conducted in urban and rural areas to develop sources of intelligence, determine trends and irregularities, and establish relationships with community leaders and local citizens. Once coalition forces and ISF are established in an area, COIN principles are applied in both rural and urban areas at different levels of operations. At the macro level, COIN operations can shape the strategic fight. The use of ISR assets, such as tactical- and national-level platforms, can find insurgent cells and help commanders shape the battlespace. Once this information becomes available, commanders and staffs can begin rapidly planning to shape the battlespace to effectively strike insurgents with precision fires or maneuver forces. Intelligence gathered from these strikes, through human sources or captured materials, allows commanders to exploit information, which will assist in finding the next insurgent target.

Finally, the find, fix, strike and exploit cycle can apply to micro-level operations. Using human and electronic intelligence sources greatly enhances coalition forces and ISF operations in rural and urban areas where insurgent forces are difficult to locate. At the operational level of war, coalition forces and ISF in Iraq use both human and technical intelligence sources to find, fix, strike and exploit insurgents using both precision strikes and maneuver. These enablers allow coalition forces to conduct rapid planning and strike at the enemy's battle rhythm by effectively disrupting their operations. Simultaneously, this sets conditions that will allow ISF to build combat power in the assumption of the COIN fight, and will permit the Iraqi transitional government to conclude an elections process that will seat a permanent Iraqi government.

"Commanders are required to quickly make necessary judgments — to objectively assess a wide range of situations — and almost intuitively use appropriate kinetic and non-kinetic force as required. Intelligence drives operations using various intelligence, surveillance, and reconnaissance (ISR) platforms and sources, to include human intelligence."

Notes

[1]U.S. Army Field Manual (FM) 1-02, *Operational Terms and Graphics*, U.S. Government Printing Office (GPO), Washington, DC., 21 September 2004, defines counterinsurgency as "those military, paramilitary, political, economic, psychological and civic actions taken by a government to defeat insurgency;" and FM 5-0, *Army Planning and Orders Production*, GPO, Washington, DC., 20 January 2005, defines the operational level as "one that involves planning focused on developing plans for campaigns and major operations that cover the broader dimensions of time and space than the tactical level." Planners at the operational level focus on operational art — the use of military forces to achieve strategic goals through the design, or organization, integration, and conduct of theater strategies, campaigns and major operations. Operational-level plans link the tactical employment of forces to strategic objective.

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Disrupting an Insurgent Bedroom Community:
Decentralized Operations in a Terrorist Support Zone

by Captain Gregory R. Mitchell

The asymmetric battlefield of Iraq has forced armor and cavalry units to develop new methods outside the scope of traditional roles on the high-intensity battlefield. What has evolved is a highly decentralized platoon and section fight for intelligence.

Following Operation Restoring Rights in September 2005, a single tank platoon from H Company, 2d Squadron, 3d Armored Cavalry Regiment, conducted security and reconnaissance operations in the vicinity of the Sunni Turkoman enclaves of Muhullabiya and Sheikh Ibraheem, 20 kilometers (km) southeast of Tal Afar. The platoon managed its battlespace from Dixie House, an outpost on the city limits of Muhullabiya, named for the strategic route, Alternate Supply Route (ASR) Dixie, that it overwatched. The site was more than a 50km road march from its company headquarters, sister platoons, and Iraqi army partners at Fort Tal Afar. The company's 1st platoon was given three tasks: conduct route security operations along a 30km stretch of an important coalition and Iraqi supply route; conduct area reconnaissance and security operations in support of the October constitutional referendum and December elections; and disrupt anti-Iraqi forces (AIF) cells operating in the area of operation (AO) to prepare for a future permanent Iraqi army presence in Muhullabiya.

H Company had a strong combined operational relationship with its Iraqi army counterpart 1st Battalion, 1st Brigade, 3d Iraqi Army Division, headquartered at Fort Tal Afar. The Iraqi and American units shared the same battlespace. However, the Iraqi battalion was spread thin, conducting security operations in the city of Tal Afar and east of the city along route Santa Fe, preventing the battalion from dedicating a permanent presence in Muhullabiya. The Iraqi army battalion surged to support election site security in Muhullabiya and Sheikh Ibraheem for a week at a time during October and December. For a four-month period, red platoon was forced to develop a unilateral strategy for reconnaissance and security operations that would successfully shape the AO for establishing a permanent Iraqi army presence in Muhullabiya by January 2006.

The culture environment of Tal Afar and surrounding towns is unique in Iraq, dominated by Sunni Turkoman tribes that are ethnically and linguistically distinct from their Kurdish and Arab neighbors. The Turkoman culture and its language share Arab and Turkish influences, dating back to the former Ottoman Empire's dominance of Iraq.

In recent decades, the Sunni Turkoman benefited from Baathist rule, and like many other Sunni tribal groups, found favoritism in Saddam's military and security forces. Although pro-regime, the Turkoman displayed a high degree of cultural resistance to Saddam's program of Arabization in northern Iraq. Arabs, who the regime encouraged to resettle in Tal Afar, assimilated to the distinct local culture, adopting the Turkoman language and intermarrying with the local clans. The new Iraqi government recently gave a nod to the independent Turkoman identity when the ministry of education sanctioned the use of the Turkoman language in local schools.

Despite new political and cultural freedoms, the economic and political changes resulting from Operation Iraqi Freedom have fueled a Sunni Turkoman-based

"On 15 October, during polling site security operations, H Company's headquarters platoon discovered a large weapons cache, 5km west of Muhullabiya, hidden in one of the area's large wells. The hidden cache included 125 155mm artillery rounds and more than 175 other pieces of ordnance, as well as rockets, fuses, trinitrotoluene (TNT), and several ready-made IED initiating devices, which were subsequently reduced; but the enemy's local cache arrangements had been exposed."

insurgency opposed to Shiah ascendancy in local and national politics, as well as the United States' military presence. The Turkoman people are deeply divided along Shiah and Sunni lines, and as a result of tribal feuds, are a source of much of the violence in Tal Afar.

While the insurgency in Tal Afar is largely homegrown, the city's close proximity to Syria makes it an important transit point for foreign terrorist funding and influence. The nearby towns of Muhullabiya and Sheikh Ibraheem are important waypoints for Sunni Turkoman insurgents operating between Tal Afar and the contentious Turkoman enclaves of Mosul. The ethnically homogenous composition of Muhullabiya and Sheikh Ibraheem provides an important support zone for a distinctly Turkoman front of the Iraqi insurgency that does not easily find support or safe haven among neighboring Arab tribes. The Sunni Turkoman towns of Muhullabiya and Sheikh Ibraheem are key terrain, which Iraqi security and coalition forces must dominate to defeat terrorism in Tal Afar and Mosul. This endstate will allow political development within the greater Turkoman community, which could result in its pacification and enfranchisement in the new Iraqi political and economic landscape.

Combined coalition and Iraqi security operations inside Tal Afar have placed enormous pressure on the enemy to find freedom of maneuver and conduct operations in outlying support zones. In the weeks following Operation Restoring Rights, Muhullabiya and Sheikh Ibraheem remained an enemy safe haven for planning, reconsolidation, weapons storage, and transit. Two important insurgent leaders in the Surai district, brothers who hailed from Muhullabiya, had reportedly withdrawn to their tribal support zone in Muhullabiya and Sheikh Ibraheem to reconsolidate and plan future terrorist operations.

Valuable human intelligence and reconnaissance of enemy weapons caches convinced platoon and company leaders to maintain "Dixie House" after the elections and widen the scope of H Company's operations in the AO. Dixie House overwatched key terrain at the intersection of routes Reno and Dixie. The house provided clear fields of fire and observation along a 2km stretch of ASR Reno, which had previously served as an enemy improvised explosive device (IED) kill zone. Earlier in the year, elements of H Company had engaged and destroyed terrorists emplacing an IED on this stretch of the route and the resulting high-speed chase led them to pass within 50 meters of the future site of Dixie House. This new platoon outpost was less than 1km from the Muhullabiya city limits and its strategic proximity would facilitate coalition support of a future permanent Iraqi army presence within the town.

Red platoon's mission was to develop a highly effective strategy to balance route security of ASR Reno with aggressive reconnaissance for cache sites and human intelligence leads on terrorist activities in the insurgent support zone. Enemy tactics, terrain, available combat power, and isolation from adjacent units drove the platoon's strategy for area security and reconnaissance operations. Command and control and force protection at Dixie House required a full tank section, leaving the remaining eight-man section for offensive operations outside the wire. Troops available for mounted offensive operations presented a serious challenge. Both Muhullabiya and Sheikh Ibraheem are densely populated and their medieval streets are extremely restrictive for both tracked and wheeled vehicles. Regular patrols of the inner reaches of the city were impractical.

Aggressive counter-cache reconnaissance in agricultural areas surrounding Muhullabiya and Sheikh Ibraheem was the mission of choice to focus the platoon's offensive reconnaissance, as well as nightly counter-IED patrols on route Reno. On 15 October, during polling site security operations, H Company's headquarters platoon discovered a large weapons cache, 5km west of Muhullabiya, hidden in one of the area's large wells. The hidden cache included 125 155mm artillery rounds and more than 175 other pieces of ordnance, as well as rockets, fuses, trinitrotoluene (TNT), and several ready-made IED initiating devices, which were subsequently reduced; but the enemy's local cache arrangements had been exposed.

Prior to, or immediately after, the fall of Baghdad, Baath party loyalists and local landowners had conspired to move ordnance from the nearby Badush Ammunition Supply Point and stockpile it in the enormous dirt berms surrounding the local wells. Red platoon's subsequent reconnaissance revealed that six of the area's 36 wells contained weapons, explosives, and other materials of intelligence value. The enemy could not react immediately to the platoon's discoveries — the caches were destroyed.

Despite its tribal ties and close proximity to Tal Afar, Muhullabiya is part of the greater Mosul municipality. Muhullabiya had been without a city manager or police force since the terrorist offensive in November 2004, which toppled Mosul's city government and security forces. On 19 September 2005, within days of the conclusion of Operation Restoring Rights in Tal Afar, the mayor of Mosul appointed a new city manager for the town of Muhullabiya. Red platoon's senior noncommissioned officer (NCO) cautiously proceeded to develop a working relationship with this new city man-

"The December national election was greeted with enthusiasm in Muhullabiya and Sheikh Ibraheem. Nearly 4,000 citizens voted at two polling sites. The city manager and his newly reconstituted 47-man police force fully cooperated with H Company and the Iraqi army to secure the polling sites and patrol the town."

ager, who was a prominent figure in the local Sunni Turkoman Hamdany clan. Refined, articulate, and politically savvy, the new city manager made an excellent partner for the local election site security mission.

The city manager's personal story was similar to that of many local political figures in new Iraq: he carried a card that identified him as a former prisoner of conscience; his father had been executed by the former regime; and he claimed to have worked with a human-rights organization in Baghdad with close ties to the Americans and the former coalition provisional authority. Despite his relatively young age and sharp western dress, he was widely recognized as the local senior sheikh of the Hamdany tribe, a clan known to widely support the insurgency. Through multiple meetings and endless cups of sweet tea, red platoon's senior NCO learned that all politics in Muhullabiya were family politics. The new city manager and the tribal elder, or mokhtar, of Sheikh Ibraheem were cousins and competitors for local authority. It also became apparent in coming weeks that both men were close relatives of the area's most notorious insurgent brothers.

Red platoon approached its area reconnaissance with tactics comparable to community-based policing. They regularly patrolled the local farms, stopping to speak with locals, learning their names, occupations, and family ties in the area. The citizens grew more comfortable with the platoon's reconnaissance and security patrols. The city manager claimed that locals derived a sense of security from the unobtrusive American presence.

On 26 November, red platoon's patrol approached five men at a farmhouse who greeted them with tea and conversation. A search of the small farmhouse revealed nothing unusual; however, the experienced NCO noted that the men wore short-length dish dasha-style clothing, typically worn by men from the contentious Surai district of Tal Afar. There were no women or children present and no satellite dish. The senior NCO was suspicious of the house and a second search conducted the following day in the residents' absence, turned up an insurgent explosives manual detailing chemical recipes for manufacturing bombs from agricultural chemicals. They confiscated the manual and quickly exfiltrated the site, hoping their second reconnaissance of the home would go unnoticed. The platoon returned the following day and found the site abandoned.

On 28 November, the platoon continued its reconnaissance 3kms south of the abandoned farm. They approached a similar farmhouse and witnessed two men attempting to flee the site in a pickup truck. The vehicle was intercepted and the senior NCO recognized the man who made him tea two days earlier. The Turkoman nervously and emphatically denied that they had ever met, but the senior NCO recognized the man's unmistakable light-blue eyes. Both suspects were detained and a search of the house revealed an extensive explosives laboratory and weapons cache. The lab contained a library of bound books and notebooks in English and Arabic, detailing the manufacture of improvised explosives and poisons. Several caches were discovered within 200 meters of the lab, containing chemistry reference books, Pyrex-style chemical lab wear, industrial and military chemical protective gear, military explosives, and IED-making materials. Both men were detained and eventually sent to Abu Ghurayb. Local sources would later claim that one of the five men that the senior NCO met on the 26th was one of the infamous local terrorist brothers who graduated from Saddam's Military Officer Academy in Baghdad and served as a first lieutenant in the former army's special forces. The infamous terrorist was not one of the two men detained and locals would later indicate that he fled the area following the discovery of his weapons lab.

A more detailed search of both farmhouses revealed drums containing chemical benzene, ammonium nitrate, natrium-fluoride, arsentrioxide, insecticides, and other unidentified compounds. Combat engineers conducted controlled detonations on both sites, destroying both structures and sending an effective public message that severely disrupted local terrorist operations. Sources in Muhullabiya and Sheikh Ibraheem revealed that landowners were concerned enough to hire guards to deter insurgents from using their properties. The locals now feared losing their livelihood for their involvement with terrorism. The famous brothers were rumored to have left the area to conduct operations elsewhere in Iraq.

The December national election was greeted with enthusiasm in Muhullabiya and Sheikh Ibraheem. Nearly 4,000 citizens voted at two polling sites. The city manager and his newly reconstituted 47-man police force fully cooperated with H Company and the Iraqi army to secure the polling sites and patrol the town. Following the election, H Company implemented a work program to employ local men to clean streets and repair local roads. The platoon secured ground until elements of the 1st Brigade, 3d Iraqi Army Division arrived in January 2006 to establish a permanent security presence. Local intelligence sources consistently delivered complaints about the coalition and Iraqi presence being too small and intermittent to protect citizens from criminals who threatened their families and property.

The desired endstate for operations in Muhullabiya and Sheikh Ibraheem was to put in place a permanent Iraqi army

presence to conduct area reconnaissance and security operations. This endstate was achieved when 2d Battalion, 1st Brigade, 3d Iraqi Army Division descended on Muhullabiya in mid-January 2006. A major cordon and search operation was executed by four Iraqi infantry companies, while H Company's 1st and 3d platoons provided support by fire. Enablers provided by U.S. forces, which included a tactical psychological operations team, rotary wing aerial reconnaissance, and a fixed wing show of force, enhanced the Iraqi battalion's ability to establish its authority in the town during the operation. The plan for dismounted maneuver was entirely Iraqi and H Company's mounted support was tailored to meet the Iraqi army commander's concept.

Coalition units had previously conducted large-scale cordon and search operations but had failed to confiscate AK47 assault rifles that could be found in nearly every home. The Iraqi army battalion commander considered the weapons a serious threat to future operations in the town. The vast majority of weapons were issued to the population by the Baath party prior to the fall of Baghdad as part of Saddam's strategy for resistance to occupation. Each rifle in Muhullabiya bore Saddam-era arms room markings on the buttstock and receiver. H Company and 1st Battalion, Iraqi army, had established an extremely effective policy of confiscation in their combined areas of operations. During Operation Restoring Rights, the mayor of Tal Afar ordered Iraqi security forces to confiscate all weapons and disband the Sunni and Shiah tribal militias. The Iraqi army's 2d Battalion would follow the same strategy in Muhullabiya, confiscating all automatic weapons and licensing them to a select few cooperative residents. This greatly enhanced the Iraqi army's freedom of maneuver and operation in the contentious town.

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Despite the prevalence of AK47s, the Iraq war is presently an asymmetric fight due to the coalition's superior firepower and protection. The enemy in the Tal Afar area of operations is elusive and engages U.S. forces with effective standoff. As the coalition transfers authority to Iraqi security forces, the fight will become increasingly symmetric. Criminal elements' weapons capabilities will approach parity with those of the Iraqi army and the police. Iraqi security forces are lightly armed and most units are not equipped with armored vehicles.

In the absence of U.S. tanks, armored personnel carriers, and aerial reconnaissance, direct fire ambushes will increase, presenting a serious challenge to the security forces' ability to maintain security and stability. The Iraqi army in Muhullabiya is expanding an effective strategy of AK47 confiscation and weapons licensing initiated in Tal Afar during Operation Restoring Rights, which should be emulated throughout Iraq.

The Iraqi army commander was challenged by the questionable reliability and loyalties of the Muhullabiya police. All the force's officers and patrolmen were from the local area and many were reportedly tied to criminal and terrorist activities. The Iraqi army commander met this challenge by effectively and immediately incorporating the police into his daily patrols. He established the army's supremacy by assigning two policemen to each eight-man squad for combined foot patrols. This denied the police the ability to appear impartial or noncomplicit with the new army's presence. The commander's approach to combine police and army patrolling was effective in forging a working partnership, despite the language barrier and traditional ethnic rivalry between the predominately Kurdish soldiers and the Sunni Turkoman police.

Establishing effective Iraqi security forces is the decisive operation of this war. Recent operations in Muhullabiya demonstrate the effectiveness a conventional maneuver unit can achieve when employed in highly decentralized reconnaissance and security operations. These shaping operations have forged a modest level of cooperation between the Iraqi army, police, and local governments that will continue to disrupt terrorist activity, and as it strengthens, defeat the enemy in this important terrorist support zone.

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More than a Campaign of Platitudes:
Effective Information Operations for the Battalion/Task Force and Company/Team

by Captain Greg Tomlin

"The most important concept to remember about information is that it is not a weapon per se; it is a process, a way of thinking about relationships. It is about perception, because information is an enabler."[1]

There is a certain degree of comfort shared by combat arms officers in reading the operations order for conventional combat. It is reassuring to know what the enemy looks like, generally where the threat is located, and how conventional assets, guided by doctrine, can provide desired effects on a target. Unfortunately, armor and infantry commanders, who deploy their units to locations to support the Global War on Terror, find themselves pitted against a far more ambiguous enemy. It is also an enemy that easily morphs into a local populace, which may be ambivalent to, or resentful of, the presence of U.S. forces in its community.

For the U.S. Army, information operations (IO) serves as the primary method for shaping verbal and symbolic messages used to influence the enemy and host-nation populations. This article outlines a methodology for incorporating IO, maneuver and collection efforts, into a well-synchronized operational plan that any task force can use as a starting point for providing company/teams with a realistic approach for engaging a local populace.

Commander's Commitment — the First Critical Component

Despite the earnest efforts of many doctrine writers and thoughtful officers penning articles from the Balkans and Afghanistan, few sources exist that provide coherent instruction on the application of IO for units that carryout the most basic and immediately influential forms of IO. If a battalion does not have an innovative IO officer, the commander may discount using IO, if he is unaware of its value. He may also misuse general support (GS) assets, such as a psychological operations (PSYOPS) team, because of a lack in understanding the element's ability to serve as a combat (or peacekeeping) multipli-

er. Such ignorance in stability and reconstruction operations does not do the mission or the people of a war-torn region justice. The tendency of commanders to rely on combat power is logical, considering that it is a doctrinal tool that they understand far better than the amorphous and immature doctrine of IO. However, discounting the importance of complementing combat power with relevant information will only make the war harder to win decisively.

According to Field Manual 3-0, *Operations*, the Army defines IO as, "actions taken to affect adversaries' and influence others' decisionmaking processes, information, and information systems, while protecting one's own information and information systems."[2] A dozen elements contribute to creating IO, but the most pertinent to battalion-level operations are civil affairs (CA), PSYOPS, public affairs, military deception, operations security, and at times, physical destruction. Other components, such as electronic warfare and computer network attacks, only come into consideration at higher command levels. Most of the elements of IO are not new to the Army, but for combat arms officers working from company to brigade levels, IO elements could easily seem intimidating. Many IO components do not fit within the conventional selection of weaponry used to destroy, neutralize, and suppress enemy forces.

Even more daunting for combat arms officers is how to design an effective IO campaign to persuade a foreign populace to accept certain beliefs. Often armor and infantry task forces turn to their fire support officers (FSO) to create a plan. However, defining a task and purpose for a CA team to placate Kosovar-Albanians opposed to the return of Kosovar-Serb refugees is not as simple as requesting an artillery smoke mission to screen friendly troop movement. To be successful in IO, staff officers have to grasp a new assortment of tasks. Deceive, influence, inform, and preserve are just a few. Only by a task force commander's direct guidance to his staff and subordinate leaders will a task force seriously study IO concepts and adapt those principles most pertinent to their planning and operational endeavors.

One of the first opportunities a task force commander has to shape his unit's collective mindset prior to a deployment is during the unit's mission readiness exercise. On arriving at the training center, the commander should assemble his staff and company commanders to deliver his commander's intent. By establishing IO as a key task for mission success, the commander ensures that IO becomes an *integrated* factor during all steps of the military decisionmaking process and mission execution. To stand alone as a separate annex to every order is insufficient. Further, company commanders understand that face-to-face engagements and talking points cannot be summarily ignored.

Spheres of Influence — a Means to Prevent Information Fratricide

Face-to-face engagements provide the most basic method for influencing people, eliciting information, and negotiating settlements. A fundamental for ensuring the effectiveness of face-to-face engagements is establishing spheres of influence (SOI) within the area of operation (AO). SOIs are individuals within communities who are deemed as leaders by the local populace, such as politicians, clerics, tribal sheiks, businessmen, and members of the press. They have the capability of informing and influencing wider audiences within an AO than a task force could as a lone entity.

SOIs should be tracked on a master sheet by name, title, ethnicity, and the U.S. soldier who will meet with him a specified number of times per month. The task force commander may meet with the police chief daily to discuss the security situation. For example, a company commander or CA officer may meet with a village mayor once a month to discuss funding infrastructure improvements; or a PSYOPS team leader may meet with a radio station owner weekly to deliver a CD of commercials and jingles about the importance of participating in upcoming elections.

In each of these examples, the U.S. soldier builds a positive rapport with his SOI by meeting regularly with him. Failing to meet at an arranged time or sending random alternates to meet with the SOI is inconsiderate and causes the soldier to lose credibility.

During every informal and scheduled encounter, the soldier should take notes. Sharing relevant notes with the S2 and IO officer helps the staff build intelligence. Recorded information can also be used in the future against the SOI if he forgets about previous agreements made or compliments given.

By fostering trust in the relationship and subtly incorporating virtues prized by the host society, you can influence the SOI to make a public statement. For instance, an influential sheik denounces the reliability of Iraqi police in his village during the weekly sheik's council. While the claim is entirely unsubstantiated, the sheik intends to use this council as a forum to improve his social stature by directly confronting the task force commander and local political leaders. As a counteraction, the company commander assigned as the sheik's SOI travels to the village the following day to meet with the sheik privately. The commander mentions that his

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task force recently received $30,000 in funds tabbed for dilapidated waterworks. The commander wants to recommend the sheik's village as a priority location for new pipes. However, the task force commander would not support the recommendation due to the sheik's negative remarks concerning the police force. The company commander reminds the sheik of specific examples of Iraqi police accomplishments by citing the sheik's own words from previous conversations. Perhaps if the sheik makes another public statement at the next sheik's council acknowledging improved police professionalism, then his village would be guaranteed funding. By the end of the meeting, the sheik agrees because he realizes that his prestige will swell considerably more if his tribe enjoys fresh water than if his peerage at the council thinks he is headstrong.

Besides being a basic courtesy to attend all scheduled meetings, acting as the primary counterpart to a local SOI reduces information fratricide, "actions, perceptions, and information from friendly forces that create improper impressions [that] can adversely affect IO in sensitive situations."[3] For example, the PSYOPS team should not independently visit the Iraqi army battalion commander in the task force sector to offer handheld Motorola radios if the primary SOI is the task force S3. Likewise, the task force commander should not normally visit with a village sheik if a company commander is the primary SOI. If the colonel arrives at his home once or twice, the sheik may refuse to talk with the captain in the future because the sheik would feel that he has gained stature in the community by having the task force commander listen to his grievances. Considering that a task force sector often includes dozens of city districts or villages, it is not feasible for the task force commander to meet regularly with every local leader.

Having the U.S. Army deployed to the same locations aides planners in building continuity folders and intelligence databases that expand on the influence, attitude, and threat of each SOI. Take pictures with each SOI and write down full names and addresses. If a unit's relief in place is curtailed for some reason, incoming soldiers may not have the opportunity to be introduced to their SOIs by outgoing personnel. By providing the new unit with as much historical information as possible, local SOIs are less likely to deceive the new task force and soldiers are spared the onerous task of conducting detailed background interviews with their SOIs.

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The Talking Point — a Point from Which to Engage a Target

For the staff to fully incorporate IO into maneuver and intelligence operations requires the IO officer to maintain a constant dialogue with the battalion's planner, intelligence officer, and company-level leaders. Messages, or talking points, need to be scripted for targeting specific audiences. A generic message parroted to everyone — Sunnis and Kurds, farmers and lawyers — will not be as persuasive as separate messages constructed to directly appeal to personal interests. IO becomes a campaign of platitudes when soldiers recite messages verbatim without asking follow-up questions or attempting to qualify the effectiveness of the messages.

As an example, a common theme spoken throughout the Kosovo Force (KFOR) deployment encouraged citizens to respect the rule of law, which many ignored after the Serbian army withdrew and towns were rife with looting, arson, and ethnic intimidation. While on patrol, a squad leader telling a mother of seven to "respect the rule of law" would most likely receive a blank stare. In contrast, the squad leader could encourage the woman to ensure her children do not skip school so they would gain a good education. By correlating academics with the opportunity to enjoy a brighter future, the mother might be more inclined to care about whether her children attend classes and how they spend their time after school.

Task force officers involved in other activities in the AO should receive different talking points about the rule of law to frame

their discussions. For example, between country and pop songs, a company commander attending an Albanian-language radio show explains that international businesses have little desire to invest or build factories in Kosovo until the security situation improves. This will only occur after the youth take responsibility for their actions. The task force commander delivers a prepared statement during his participation in the weekly press conference with the municipal president. His remarks encourage Kosovar-Serbs to understand that there are no Albanian or Serbian problems in the municipality, but only community issues that required the entire citizenry to resolve.

Major themes should not be strictly reserved for specific SOIs or focus groups. The S2 and IO officer can prepare a card every two weeks with messages and questions to aid soldiers on patrol in villages that are devoid of specific nonlethal targets to engage. Over the course of an extended deployment, it is easy for leaders to fall into a malaise and run through the motions of a patrol without accomplishing anything productive. With message/question cards distributed throughout the task force, each platoon and squad leader will be armed with talking points to deliver, and information requirements to resolve prior to departing the base camp. This simple product is important in any situation where leaders are otherwise unsure of what issues to address while providing a security presence with soldiers.

General Support Integration — a Combat Multiplier

Constructing a well-synchronized IO plan requires constant assessments, refining and rewriting messages to provide soldiers with a realistic approach for engaging the local populace on a daily basis. The CA and PSYOPS teams operating within a task force sector have the ability to share a common IO message, but only if they are directly involved in the task force IO and targeting meetings. A task force should not be complacent with allowing these teams to operate freely throughout the task force AO solely on guidance from brigade. GS assets should be invited by the task force to be viable participants in weekly targeting meetings where they can regularly lend input on refining nonlethal targets and assessing effects on the same.

Commanders and staffs must do their homework to understand the capabilities and limitations of GS assets. Technically, these assets work directly for the brigade headquarters. Most GS units are also reservists and possess unique talents and capabilities. Members of a CA team often arrive on active duty from professions in civilian business, teaching, and city planning. Tactical PSYOPS teams have the ability to mass produce handbills and fliers, and one of their HMMWVs normally has a mounted speaker with the ability to amplify voice messages by more than a kilometer.

Through an open dialogue and willingness to understand each other's missions, it is possible for these special teams to act as enablers of the task force's IO campaign. CA officers can knowledgably engage local businessmen and government employees to develop projects. Task force messages can easily be incorporated into their discussions and negotiations. A PSYOPS team that regularly visits the AO's most popular market can disseminate colorful newsletters to shoppers that also relate to the task force's IO focus of the month or week.

Synchronization Process and Linkage to Collection and Maneuver Efforts

An IO campaign will be successful when leaders make a deliberate effort to adapt the Army's doctrine into a fashion that does not seem to intimidate soldiers, from the squad to task force level. By constantly seeking the opinions of company leaders and frequent discussions with CA and PSYOPS soldiers, the IO officer can continuously update and revise products. By tailoring talking points for each sphere of locals, soldiers will use the words written specifically for them to engage the populace.

The foundation for nonlethal targeting is the Army's effects-based operations targeting system and the use of decide, detect, deliver, and assess (D3A). However, there are several striking differences between indirect fire targets and IO targets. An enemy tank observed in open terrain is a clear target and the observer can quickly determine if a 155mm barrage will destroy it. It is much more difficult to ascertain the effects on all 16- to 24-year-old males in a town where the task is to deter, and the purpose is to prevent local youth from intimidating returning refugees.

The delivery process for nonlethal targets incorporates the variety of GS assets, SOIs, and talking points described in this article. Synchronizing these assets with maneuver operations during targeting meetings is just as vital as a fire support rehearsal conducted prior to an operation to mass the effects of multiple forms of contact near-simultaneously on the target. With the help of the S3 or assistant S3, the IO officer verifies that no single company is overburdened with IO targets. Considering the variety of additional tasks that a company must achieve in a week, it is important that the company commander receives a listing of only

"Through an open dialogue and willingness to understand each other's missions, it is possible for these special teams to act as enablers of the task force's IO campaign. CA officers can knowledgably engage local businessmen and government employees to develop projects."

"...one morning in Baqubah, my platoon escorted the PSYOPS team to the education ministry. One of their HMMWVs towed a trailer teeming with soccer balls and jerseys. While my platoon provided perimeter security, the PSYOPS team leader met with the director of athletics to donate the hundreds of shirts and balls that would allow dozens of youth soccer teams to begin playing in a matter of months. As soccer is an extremely popular sport in Iraq, the goodwill gesture was quite appropriate."

the most essential targets to engage with his relatively limited resources.

During the targeting meeting, the S2 identifies IO targets that are identical to his intelligence targets so that talking points and priority intelligence requirements can be paired together in the next published task force order. The last thing a patrol leader wants to do after returning from a mission is to discover that he must return into sector to locate an intelligence target for questioning that happens to be the same target he just engaged to accomplish an IO task.

Often the desired effects on a target may take an entire deployment or longer to fully achieve. During Operation Iraqi Freedom (OIF) II, one of the key endstates was to transition security operations to the Iraqi government. At the time of this writing, units deployed to OIF III continued to strive to meet this endstate.

A task force staff should identify key tasks that will support reaching the desired endstate. Commanders and staff officers must demonstrate the tactical patience to regularly engage a target for months at a time, or even for an entire year-long deployment. To verify that the staff is on the correct path to gain the desired effects, intermediate nonlethal effects should be articulated during targeting meetings. Establishing intermediate effects that can be achieved during the mission rather than focusing exclusively on the final endstate allows units to measure their successes in relation to the final goal more precisely.

Assessing the effects of nonlethal targeting requires a *qualitative* analysis of engagements. The lethal targeting process relies on quantitative battle damage assessments to determine if an enemy is destroyed, neutralized, or suppressed. Often, IO officers want to create measures of effectiveness (MOE) that account for purely statistical data. Such an assessment is inappropriate for the nonlethal targeting process. Perhaps your unit's goal is to reduce ethnic intimidation in a village. Quantitative MOE would include: number of physical assaults against minorities; number of direct fire attacks against minorities; and number of explosives detonated in a minority community.

During Task Force 2d Battalion, 63d Armor's deployment to Kosovo, a fight broke out between two families in one of the towns in our sector. First, a teenager started a fistfight with a man in the other family. The quid-pro-quo restitution escalated with a grenade being lobbed into the home of one family, and finally a drive-by shooting on the tavern owned by the other family. Based on the MOE, we had three alarming indicators that signified a spike in ethnic intimidation in our AO. However, the two families were longtime neighbors, and the dispute had nothing to do with the rights of minorities.

Quantitative MOE are too inflexible, may cause unnecessary alarm, and discount anything that does not fit into the description of their cookie-cutter molds. Numerical assessments fail to wholly assess the effects in the unconventional environment. Investing the time in articulating qualitative assessments as part of the targeting process helps the staff refine intermediate effects on preexisting targets and in selecting new, lucrative targets.

Company/Team Level IO — Considerations for Soldiers on the Ground

If company commanders do not express an interest in incorporating IO in their company operations, then soldiers will not deliver a common message. With the tremendous firepower carried by soldiers on patrol in Iraq, symbolic IO often rivals verbal messages as the most persuasive method for influencing the populace concerning the intentions of multinational forces. IO not only affects the local inhabitants in the task force AO, but potentially people around the world, thanks to modern media. International perceptions about the Global War on Terror could be swayed quickly by anonymous observers whose digital photos become immediately available to millions via the internet. The actions and words of a HMMWV gunner may rival the delicately scripted press statement of a head of state in shaping public opinion about the war.

When a company commander wants to coordinate for indirect fires during an operation, he coordinates with his FSO who, in turn, coordinates with the task force FSO. During stability operations, each company should have an officer responsible for coordinating IO. The obvious choice is the company FSO, but if he is unavailable during a deployment, the company commander should assign secondary duties as the company IO officer to his executive officer or a senior platoon leader.

The availability of company-level IO officers provides the task force IO officer with people he can regularly talk to concerning nonlethal targeting. The senior IO officer can meet with company IO officers prior to every targeting meeting to review changes to existing targets, consider nominations for new targets, and schedule combined missions with GS assets. Following the targeting meeting, the IO officer should review the updated target list worksheet and talking points with each company IO officer to verify that they understand the tasks and purposes.

With greater visibility on activities within his company sector, the company IO

officer offers the task force IO officer a realistic appreciation for progress and frustrations within his assigned sector of the task force AO. This is similar to a company FSO refining the grid locations to lethal targets, or a company commander requesting ground-burst illumination to mark a target reference point.

To enhance IO efforts at the company level, commanders should empower platoon and squad leaders to establish their own SOIs within the company AO. If the company commander is the primary SOI for an Iraqi city mayor and the leading sheiks, then platoon leaders should identify muqtars (informal mayors of smaller villages or city districts) and shop owners who are influential in the areas they patrol. By assuming ownership of the company AO, subordinates will exponentially improve the task force's collection capabilities as they deliver messages to key communicators who are respected by the local populace. A database of photos, names, and addresses can be maintained in the company command post. All of this information should be handed over to the replacement unit just as SOI information is transferred at the task force level.

Company commanders need to prepare platoon leaders to cooperate with the CA and PSYOPS elements working in their AO, and see them as additional enablers sharing the same mission. Understanding the task and purpose for a mission involving a platoon and GS asset will ensure that the platoon does more than provide the team with security. For instance, one morning in Baqubah, my platoon escorted the PSYOPS team to the education ministry. One of their HMMWVs towed a trailer teeming with soccer balls and jerseys. While my platoon provided perimeter security, the PSYOPS team leader met with the director of athletics to donate the hundreds of shirts and balls that would allow dozens of youth soccer teams to begin playing in a matter of months. As soccer is an extremely popular sport in Iraq, the goodwill gesture was quite appropriate.

However, the next step in advancing the IO campaign would be for every platoon leader to tout his excitement about upcoming soccer games while conversing with local parents during patrols. Questions about whether a son plans to play on a school soccer team begs questions regarding whether parents know what their children — to include older children — are doing in the afternoons and at night. Are they practicing soccer, lamenting on the scarceness of employment opportunities, or attending Mujahadeen meetings? Without talking points from the IO officer and linked questions from the S2, few lieutenants will take the initiative to share similar good news stories that make the elicitation of credible information more natural.

"Patrol leaders could also influence the locals with whom they spoke to report all suspicious activity to U.S. and Iraqi security patrols, or make an anonymous call to the police station. If the people want to believe that locals are not shooting at Americans, then the residents need to at least notify multinational forces or local police regarding any stranger who enters their community. Any town or district that refuses to tolerate insurgent and criminal activity deserves infrastructure improvements ahead of those communities that harbor terrorists and pretend their districts are entirely peaceful."

An OIF Vignette — A Coffer of Millions, a Coffer of Ideas

In mid-May 2004, my platoon received the tasking to establish security for a groundbreaking ceremony in a district of Baqubah. Participants in the ceremony included the Diyala governor, the Coalition Provisional Authority (CPA) representative for the province, the brigade commander, and the mayor of Baqubah. Various news agencies and tribes were also represented at the groundbreaking. While I knew that the groundbreaking would begin the resurfacing of a major road network in the lower Baqubah district, I learned nothing else about the activity when I received the tasking a couple days prior to the event.

Following the ceremony, the brigade commander informed me that the CPA recently presented half-a-billion dollars to the Diyala province for infrastructure improvements. This road project marked the first of many endeavors, which the provincial government would autonomously identify, prioritize, and initiate. Prior to returning to his HMMWV, the brigade commander also told me, "If Kosovo was college for you, this [Iraq] is your graduate work."

By delivering these words of encouragement, the commander implied that it was my responsibility as a platoon leader to continue to inform and influence the people of Baqubah. However, there was also a deeper meaning to his words. The situation in Iraq, particularly accentuated in the spring of 2004, often flipped between combat operations and stability operations. An officer could not allow his men to take a myopic view of their mission, seeing patrols as entirely combat patrols or face-to-face engagement patrols. Members of a platoon had to be capable of switching quickly between warfighting and peacemaking, even though most were more comfortable being warriors all the time.

Using the brigade commander's important information, patrol leaders throughout the city could discuss Diyala's available funds while talking to locals during dismounted patrols through Baqubah. Invariably, shopkeepers and homeowners complained about unreliable electricity, impure water, and nonexistent sewage systems. The patrol leader could explain that *their* provincial government maintained a $500 million engineering budget, and encourage people to speak with their muqtars and sheiks about petitioning the provincial council for a portion of the funds for their dilapidated community. After all, a representative government requires a citizenry willing to publicly advocate its convictions.

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Algeria: Total War

by Eric Chevreuil

Retired U.S. Army Colonel Andrew J. Bacevich was quoted in the *Los Angeles Times* as saying: "What is happening in Baghdad is similar to the battle of Algiers. Despite using many innovative tactics in counterinsurgency and getting the upper hand over the FLN, the French ended up alienating the local population and losing the war politically. This is what America has to expect."[1]

From the partisan debate that he initiated, and to avoid the same mistakes and results in Iraq, came the idea for this article, which presents the Algerian conflict through the tactics used by French forces and by insurgents, as well as the positive and negative lessons learned from their applications. The notion of asymmetric warfare will also be developed to underline the similarities between that colonial war and the war in Iraq.

Background of the Conflict

Geography:

Algeria is a 900,000 square-mile arid and hot country (almost twice the size of Iraq), mostly covered by the Sahara, and has a heavy urban concentration on its hilly Mediterranean coastline.

In 1954, the country counted a booming population of 8.4 million Muslims, plagued by 25 percent unemployment, and about 990,000 European colons who accounted for most of the local wealth. Algeria was neither a colony nor a protectorate; it was a grouping of three French departments under the same metropolitan laws as other departments, seen as a full part of the republic. Also bordering Algeria were three Muslim countries that would eventually play an important role in the war by actively supporting the liberation movement.

Lesson — international support. France failed to get any kind of international support for this war. Even America and Russia united to condemn the "Suez adventure." (Egypt threatened the canal but was also a major contributor to the FLN [*Front de Libération Nationale*] cause). Tunisia and Morocco were supporting the "insurgents" and provided bases, weapons, and funds. The United Nations also sided with Algeria.

The Root of the Conflict:

At the end of World War II, Algeria attempted to seize the euphoria of VE Day to make public its first nationalist aspirations. It was 8 May 1945, in Setif, and the repression by the French colonial authorities was brutal, sending the message to the nationalists that an armed revolution was the only possible option. From 1945 onward, France had to deal with its war in Indochina and armed unrest in Tunisia and Morocco.

Eventually, on 1 November 1954, the nationalists "declared war," initiating 70 quasi-simultaneous attacks, murders, or bombings in 30 different locations within three hours. "*La Toussaint Rouge*," as that day was called in France, was considered an insurrection by the French government.

Lesson — "labels." Denial was fashionable in Paris from 1954 to 1962, and what happened in Algeria was always referred as "the events." Furthermore, for France, Algeria was the grouping of three of its many departments, a critical extension of its metropolitan territory in Africa, a full part of France.

Overview of the Conflict

Traditional Guerrilla Warfare:

From 1954 to 1956, traditional mechanized units and tactics were used in the *djebels*, the Algerian rocky countryside. But that warfare, mostly conducted by conscript-based conventional units, was far from being successful against small bands of highly mobile rebels, who used Mao's guerrilla doctrine to terrorize small "*douars*" (towns, villages) located far from cities or military strongholds.

Lesson — conscripts. Groups opposed to the war targeted the "citizen soldiers" and promoted desertion, disobedience, sabotage, or collaboration with the FLN.

Lesson — Cold War doctrine. The use of "heavy" units was fruitless against the high mobility of the insurgents. The forces needed to be tailored to the new enemy and battlefield.

Lesson — static bases. The initial French military deployment of big bases for big traditional units left remote areas under the full and permanent control of the insurgents.

Lesson — unguarded border. Relying on human detection or intelligence to prevent insurgents from crossing the borders of FLN friendly countries was inefficient by itself.

If the 1954 fall of Dien Bien Phu, Indochina, likely triggered the Algerian November insurrection, then the end of the Asian conflict freed seasoned troops and military leaders for the new North African front. Quickly, these counterinsurgency professionals, who were used to fighting political guerrilla fighters, changed the direction France and its armies were taking in Algeria and applied proven counter-guerrilla tactics.

Lesson — experience. Only veteran units led by charismatic leaders achieved critical tactical victories over enemy forces.

Military Victory:

In 1957, 415,000 soldiers, including forces fresh from Indochina, fanned out in Algeria and successfully applied new counterinsurgency tactics against the enemy. The French also had a Maoist goal in mind — cut the fish from the water and isolate the rebels!

In 1958, the war in the *djebels* went from static to mobile. In the meantime, the famed and dirty "Battle of Algiers" started on 7 January 1957 and ended with a total French victory ten months later.

Lesson — military and law enforcement. Civil law enforcement tasks should never be given to the military whose missions are and should remain totally different.

"Quagmire:"

Terrorism, counterterrorism, treason, civil war, sedition, and the rebellious behavior of parts of the army and colons are some of the events that highlighted the end of a conflict that tore apart a country, destroyed the Fourth French Republic, and seriously threatened the Fifth Republic. The 1960s brought back diplomacy and talks of independence. Eventually, a cease-fire took effect in March 1962 and Algeria became independent in July

Algiers, 19 March 1962. Following the Evian agreements, the Bab El Oued district is secured by French military in support of the cease fire.

(All photos courtesy ECPAD FRANCE)

of the same year, after eight years of a war that killed between 500,000 to 1.5 million (depending on sources) people.

Lesson — "for or by the people." The insurgency/counter-insurgency war fed on the people that the opponents claimed to defend. Eventually, the people paid the highest price. The pro-French boarded ships and left Algeria forever, while the remaining lived through years of purges under an FLN dictatorship.

A Dirty War: The Tactics of the Insurgents

The Front de Libération Nationale (FLN):

The editorial of the first issue of *El Moudjahid*, the official newsletter of the FLN, published in June 1956, well summarizes the insurgency's organization, drive, and goals. In the newsletter, the FLN explains the meaning of the word "jihad" (holy war) and defines it as seeking total destruction of the existing system (final victory) through unity, total sacrifice, and martyrdom, but without any religious or racial hatred, as "the climax of an open and liberal patriotism." It also states that the jihad encompasses "the soldier of the National Liberation Army (ALN), the political activist, the liaison agent, the young shepherd boy that provides intelligence, the housewife that comments on the events in the "Kasbah," the young Algerian pupil that goes on strike, the worker and his actions of economic sabotage, the student who joins the underground networks, the "fellah" and his family that suffer and hope."[2]

Lesson — tolerance. The guerrilla leaders seemed to be far more tolerant than today's radicals such as Bin Laden.

The Armee de Libération Nationale (ALN):

Mao and Sun Tzu met communism and Islam with a convenient unifying religious ideology that would fuel the drive of the armed rebellion until the independence of 1962. The Algerian "moujahidins" (combatants of the faith), initially in the hundreds and ill equipped, quickly reached the tens of thousands by 1957, and were directly aided by Tunisia and Morocco, who provided safe havens; Libya and Egypt with mainly international political or financial support; and by anti-war "liberal" movements in France.

The soldiers of the ALN were trained in Maoist guerrilla tactics. Their tactics were both military and psychological, aimed at demoralizing the French troops and deterring any collaboration from locals, and were highly reminiscent of what the Vietminh successfully used in Indochina.

Lesson — pragmatism. The guerrilla leaders were more pragmatic than today's ringleaders.

Lesson — information operations. The fighters of the ALN demonstrated some basic understanding of "information operations."

Total War — the FLN:

In the mountains and the countryside, the FLN would target isolated patrols, small convoys, isolated outposts police stations, communications facilities, and road infrastructure. They would extend the attacks to European colons and destroy farms and production plants. They also resorted to kidnapping and executing their own nationals if they were considered to be friendly toward the French. On many occasions they mutilated the bodies of their victims to reinforce the message that the executions conveyed — you are with us or against us! More than 6,000 Muslims and 1,000 Europeans, of all genders and age, were allegedly slaughtered by the FLN during the two first years of war.

Lesson — terror. The Algerian nationals were the best target; the FLN strongly believed that executing an Algerian low-level civil servant was better than murdering a French colonist because the brutal loss of a local figure effected the whole community. The same tactics are used in Iraq today.

In the cities, the FLN used walk-by/drive-by shooting tactics on individuals (soldiers, colonists, Algerians) or customers at bars or restaurants. They also bombed public places and painted their slogans on walls while terrorizing the population into obedience or "inaction." During the battle of Algiers, the FLN claimed that it successfully conducted hundreds of shootings or bombings a month!

Lesson— roadside bombs. The simple and efficient concepts of suicide and roadside bombings did not seem fashionable for the jihadists of this war! Roadside bombs only appeared during the 1980s in the Middle East against Israeli forces in Lebanon, thanks to the Palestinian Liberation Organization.[3]

Like "a Fish in Water:"

The local people were terrorized by ruthless insurgents into submission or active participation such as providing food, shelter, money, intelligence, and manpower to the rebels. The rebels

were basically living off the same people they were claiming to defend and were getting taxes and food from the peasants. Even in France, undercover FLN agents terrorized the Algerian community into paying war taxes, and also staged antiwar demonstrations.

Lesson — dissent, treason, and free speech. The FLN enlisted in its ranks high-profile French intellectuals and show business personalities who they used as carriers back and forth from Paris to Algiers. These carriers were commonly referred to as, "*les porteurs de valises du FLN*" (the FLN suitcase handlers).

Freedom at Last:

It took eight years for Algeria to "win" its independence. This was partly because the insurgents' ferocity toward their own people prevented the ignition of the "universal" and "spontaneous" popular movement against the powers of France. Mostly, however, since France was in such political and military turmoil in the early 1960s, it had to let go of Algeria for its own sake.

Algiers, 23 March 1962. French paratroopers are deployed around the district of Bab El Oued in support of the implementation of the cease-fire.

On 13 March 1962, a cease-fire went into effect. However, it was not enough for the jihadists who attempted to strengthen the foundations of their future military-socialist dictatorship of the FLN with swift executions of between 50,000 to 100,000 former rallied Algerian soldiers in the months preceding the declaration of independence.

Lesson — total warfare. The cease-fire was not respected by the FLN. From 50 to 100,000 *harkis* (Algerians who fought alongside French) and families, Europeans, French soldiers, and Algerians were massacred, or just vanished, without reaction from Paris or the military.

A Dirty War: Tactics of the French Troops

Tailoring the Forces:

In November 1954, the French contingent in Algeria seemed strong on paper, but, in actuality, only about 10,000 soldiers were operational. Metropolitan police and paratrooper units were sent to assist French troops in "raking" operations of the countryside until more seasoned units from Indochina could take over doctrine and operations.

In 1957, the focus was set on intelligence gathering, exploitation, and new tactics. France had committed more than 400,000 troops the prior year, after realizing that what Paris perceived as a simple "pacification operation," was actually a major colonial war.

Lesson — intelligence gathering. The only high-tech intelligence-gathering equipment was ground radars used along the border fences. The remainder was human intelligence (HUMINT), provided by pro-French supporters, military patrols, air surveillance, informants, spies, interrogation of prisoners, and police-style work. Furthermore, the chain of command was extremely streamlined to respond immediately, and intelligence was usually exploited at the first processing level without usual legal constraints — thanks to the extreme powers provided to the military by Paris.

Tailoring the Tactics:

To enforce the French presence in rural areas and weaken the influence of the insurgents, several changes were implemented, which included the system of *quadrillage* (dividing the country into permanently garrisoned and aggressively patrolled geographical zones); the displacement of vulnerable populations; the formation of Algerian-based auto-defense units; the control of Algerian provincial and local administration through the *Section Administratives Specialisees* (SAS); and the creation of Algerian units (*Harkas*) manned by 150,000 Algerian soldiers (*harkis*) who had volunteered to serve France.

Lesson — SAS. *SAS* took over every single administrative and medical support at local and provincial levels, to include mail delivery, city management, elections, finances, and Muslim women's issues.

Lesson — control of the battlefield. The garrisoned *quadrillage* system, coupled with the SAS, denied the FLN control of the country, even in its most remote areas.

Lesson — native units. Using Algerian nationals in "native units" was an asset to the French military, and the *harkis* were very effective against the insurgents. The one Algerian unit that stayed in 1962 was slaughtered by the FLN; the one that moved to France was relocated across the country.

Active Battlefield Control:

In 1958, two active border "barrages" were set up to prevent the free passage of combatants; however to facilitate weapons and logistics support to and from friendly Tunisia and Morocco (Morice lines), mobile units and task forces were created ("*La reserve generale*") and supported with the extensive use of helicopters to facilitate massive search-and-destroy operations against detected rebel bands. Furthermore, on occasion, the air force even tracked the FLN across the border to bomb its bases within Tunisian villages.

Oran, 1 Nov 1961. Security operations during demonstrations in favor of independence.

Lesson — quick reaction forces. The use of extremely rapid reaction elite forces, such as legionnaires, paratroopers, and commandos, tailored to the detected threat, finally denied the FLN the mobility that allowed its units to freely roam the *djebel*.

Lesson — helicopters. The war in Algeria saw for the first time the extensive successful use of helicopters to quickly transport quick reaction forces. French helicopters were armed with machine guns, rockets, and guns, and carried troops and mortar batteries. The French heliborne tactics were later adopted by most of the armies in the world.

Lesson — ground radars. Ground radars were successfully used in combination with electric sensors to monitor the border "barrages" and detect any penetration by rebel units. In Vietnam, ground radars and intrusion detection systems were also extensively used to detect enemy covert movement.

Lesson — unilateral aggression of foreign countries. Tracking down the FLN in neighboring countries and bombing foreign bases alienated other North African countries, as well as the United Nations.

Total War — the French:

Between 1954 and 1962, French authorities also used questionable counterinsurgency methods to balance the effect of the guerrillas and terrorist activities. They displaced populations from "sensitive border areas" (sometimes quite forcefully), relocated "douars," set up internment camps for FLN militants, burned villages and crops, and quickly executed suspected agents. More that 4,000 officially (arrested with a paper trail) "assigned" prisoners disappeared.

Lesson — legitimacy. Inhumane and illegal actions undercut the legitimacy of counterinsurgency operations when conducted by a democratic state.

Lesson — abuses. Obviously, torture and other abuses brought a short-term military victory but alienated the Algerian and French populations, eventually bringing a political disaster that led to political defeat.

Lesson — terror. The use of terror to "win the hearts and soul" of the population was counterproductive.

Lesson — burned ground policy. Forcibly displacing and relocating certain populations and destroying their villages and crops alienated more locals. A similar tactic called the "Strategic Hamlet Program," was used by U.S. forces in Vietnam, with the same negative results.

Intelligence:

Intelligence gathering, exploitation, and quick dissemination were critical to the efficiency of the *quadrillage* concept and to the success of the quick reaction motorized or heliborne forces. Intelligence was provided by the colons, the pro-French Algerians, the rallied FLN soldiers, prisoners, ground or air patrols, and electronic equipment (radars). Intelligence was quickly exploited at the garrisoned zone level. Prisoners were rapidly dispatched to the interrogation center of the zone for what would be defined as cruel, inhumane, or degrading (CID) treatment.

Lesson — HUMINT. HUMINT accounted for most of the intelligence the rapid reaction forces acted on.

Lesson — intelligence and quick reaction forces. The extensive focus on intelligence gathering, exploitation, and quick dissemination to small and highly mobile units (heliborne, airborne, and motorized) was definitely the main lesson to be drawn from this conflict. French forces quickly responded to information and deployed adapted task forces to the enemy. Whether detected by reconnaissance units, seen by spotting planes, exposed by devices of the Morice lines, or provided by any other intelligence source, rebels ended up running for their lives in the rocky desert.

Lesson — creating a "free hunting zone." Displacing the potentially FLN-friendly population from the borders with Tunisia and Morocco and creating a so-called "free hunting zone" (*zones de chasse libres*: free firing zones) dedicated to the "hunting commandos" (*commandos de chasse*), finally denied the night to the insurgents.

La Bleuite:

The rallied FLN soldiers wore highly visible blue coveralls for psychological reasons. The effect of their direct contribution to intelligence operations was called *la bleuite* (the blue illness) because of the color of the coverall. Some of these rallied FLN also infiltrated their former organizations like efficient moles. In one well-known example of *la bleuite*, disinformation from a French intelligence operative accounted for the "purge" of 2,000 enemies.

Lesson — rallied forces. Only locals dedicated to the cause can infiltrate enemy cells without detection and provide high-value intelligence.

Lesson — disinformation. Intelligence operatives often infiltrated enemy units to exploit the existing paranoia of the many leaders of the many factions that made the FLN.

Leadership:

From 1954 to 1962, a total of 1.7 million officers, noncommissioned officers, and soldiers served with honor and pride in Algeria. Most of these units were elite and seasoned, forged in the jungles of Asia and commanded by charismatic field command-

ers. Paris supported the war and successive governments gave the priority to a military victory while implementing local political reforms. Eventually, out of desperation, Paris wrote "a blank check" for the army to win quickly. The battle of Algiers in 1957 and the riot of the pro-French Algeria colons in May 1958, eventually contributed to the final collapse of a weakened fourth republic and the return of De Gaulle to power in the fifth republic.

Lesson — leadership. Some of the famous field commanders may have chosen to lead, order, and allow indiscipline, lawlessness, and use of excessive force; however, most of them actually ran tight and highly cohesive units that stayed faithful to the republic.

The Battle of Algiers

A Political Goal:

In 1957, Algiers became the focal point of the war when the FLN set up a 1,500-person terrorist network spread out among the 70,000 inhabitants of the city's older Muslim neighborhood, the "Kasbah." Terror was a weapon of choice for both sides and again, faithful to their doctrine, insurgents terrorized other Algerians into obedience or inaction. There was no neutrality possible during this war and when the paratroopers of Massu entered Algiers on 8 January 1957, they had been granted full powers to "re-establish order" at any cost and put an end to the wave of bombings and executions that had shaken the capital for months.

Lesson — psychological warfare. To win over the population, French forces also used meetings, tracts, propaganda, and distribution of food and sweets. The FLN relied mostly on terror as a tool to obtain collaboration.

Victory … and Dishonor:

The military used the tactics that served them well in the *djebels*, which included intelligence gathering, *quadrillage*, raking, combing, and surprise raids, against the Kasbah. Furthermore, because of the government's failure to cope with the size of the rebellion and impose the rule of law, the military used its new powers to conduct searches and seizures, detentions, physical violence, torture, and executions.

The cycle of violence and torture became the routine in Algiers as the two protagonists resorted to terror to win the city. A couple of months later, the FLN was totally defeated in Algiers, while the terror expanded to a metropolitan France that sentenced 58 terrorists to the guillotine and opened four major detention camps.

Lesson — legitimacy. Illegal actions totally destroy the legitimacy of operations when conducted by a democratic state.

Lesson — judicial powers. The exceptional powers granted to the military by Paris allowed the army to avoid many time-consuming legal procedures (checks and balances). Searches without warrants were conducted at any time and suspects were immediately detained and interrogated. Some of the military commanders and units resorted to torture or summarily executed their prisoners.

Lesson — police database. The French police compiled a huge database of suspects, including their relatives and friends. Extensive use of this continuously updated database allowed law enforcement officials to quickly arrest a suspect or track him down through his entourage.

Purging the Algerians

The defeat in Algiers deeply shook the FLN from within, splitting its coalition of various armed and political factions. From August to December 1957, a weak FLN was shaken by internal purges both inside and outside of Algeria. The entire populations of villages were slaughtered for supporting one faction or the other. These gory and merciless scenes resurfaced some three decades later when the Algerian Islamic Salvation Front (FIS) used similar tactics to terrorize *douars* into Islam. The rebels often used axes, shovels, and picks for their execution.

Lesson — "Divide to conquer." History has shown that most insurgency movements were often made of temporary coalitions of rival factions weakly united by convenience.

A Dirty War: Rebellion, Military Coup, and the End

Last Hope:

In 1958, General De Gaulle was recalled to power after the collapse of the government of the fourth republic. By June 1958, he carried the hopes of the military, the colons, and the pro-French Algerian, as he shouted, "*Je vous ai compris*" (I got the message).

In 1959, the "plan Challes" and operation "Courvoie" were the last major pacification offensives launched throughout Algeria. By the end of that year, a pragmatic De Gaulle clarified his official stance on Algeria, disclosing his views of an Algerian self-

Algiers, 19 March 1962. Following the Evian agreements and the implementation of the cease-fire, armed forces are deployed in Algiers to avoid confrontation between FLN and OAS (Secret Army Organization).

determination, which infuriated everyone who had wrongly believed in his commitment to keep Algeria French.

Purging the French:

1960 and 1961 saw the French purges and rebellions. Generals Challes and Massu were recalled to France while desperate colons set up barricades and fought police forces.

In 1961, once again abandoned, after suffering heavy losses for a cause they were made to believe in by their successive government, some military units followed their commanders in an uprising (the putsch of the generals) that would force De Gaulle to constitutionally assume full powers in Paris.

In the meantime, a new player in Algeria, the Secret Army Organization (OAS), launched a terrorist offensive against forces loyal to France. The organization wanted to keep their "word of honor," which was given to all Algerians who sided with the republic. The situation got so serious in Algiers that tanks and soldiers seized the airport around Paris where a military coup was feared. On 8 September 1961, an attempt on De Gaulle's life, organized by the OAS, failed.

A Sour Ending:

The path was being paved to Algeria's independence and 1962 put an end to the drama. The Evian agreements were signed, supported by 90 percent of the French population. General Salan, the leader of the military coup, was arrested and a ceasefire was implemented with the FLN. In June, the OAS made a truce and the colons and *harkis* began a massive exile to France. On 3 July, the Algerian Republic Provisionary Government (GPRA) took control of the country, thus ending the last major colonial conflict of the century.

Iraq: The U.S. Military's Algeria

Asymmetric Warfare:

The war in Algeria inspired the basis of a new "anti-occident" strategy, largely rooted in the writings of Mao and Sun Tzu, and later labeled "asymmetric warfare." As shown in this article, the FLN, in the name of its legitimate revolution, resorted to terror against the enemy and its own population, bloody purges within its ranks, torture, executions, mutilation, kidnapping, terrorist tactics, bombings, extortion, disinformation, and sabotage, both in Algeria and France.

At the same time, the slightest morally reprehensive or illegal act from French forces was fully exploited to its fullest extent by the Parisian FLN disinformation apparatus. Eventually, the media would end up echoing the alleged or documented atrocities committed by the army of the republic, soon followed by the rest of the world and international organizations. Finally, that sort of moral blackmail would end up paralyzing the government and scaring politicians and military leaders into inaction for fear of scandal.

Role of the Media:

In his book, *Asymmetric Warfare or the Defeat of the Victor*, Jacque Baud claims that the media is the major weapon of terrorists.[4] Brazilian author and philosopher, Olavo de Carvalho, echoed this theory when he said that disinformation as a weapon has recently become the most pervasive action of the media.

The war in Algeria is very similar to the current conflict in Iraq, in terms of both the military battlefield and the media battleground. Asymmetric warfare at its best is still applied today. To function, asymmetric warfare needs to influence society so "it won't even detect the inborn immorality of the so-called moral requirements demanded from one of the parties, while granting the other an indifferent and accomplice silence for its violation of the same requirements." (Olavo de Carvalho)

Selective Memory:

The majority of the 1.7 million servicemen who fought and died served admirably and honorably for eight years for a cause the democratically elected government of France ordered them to defend. Innovative and traditional military and psychological tactics were extensively used to counter ferocious insurgents. The only aspects that history remembers from this conflict are the tortures and executions performed by some on the French side; an example of asymmetric warfare at its best; selective memory for those who conveniently forgot the bloody tactics used by the FLN to gain power and to keep it.

The war in Algeria was total war, an early asymmetric conflict that killed hundreds of thousands of people, mostly civilians — the very hearts and minds the French troops and FLN were fighting for. The conflict spilled into neighboring countries all the way to Egypt and as far north as France and Paris.

It was a dirty war by all standards; one closer to a civil war than a colonial war, with absurdities, horror, treasons, cowardice, and extreme self-righteousness from both parties.

For history's sake, always conveniently rewritten by the winners, it was a colonial war won by the oppressed Algerian people, a conflict that almost destroyed the mean French republic; one that brought victory and dishonor to its Nazi-like armies.

For historians, it was a dirty conflict in which one camp was held to higher standards by the international community than was its ruthless and ferocious enemy.

The chapter of these dark times is not yet closed and the debate about confessing the institutionalized use of torture in Algeria rages in France; brought back to the fore by "the carriers of the FLN." Certainly, a joint recognition of guilt and apology would finally put an end to this drama, which continues to cause pain to French and Algerian generations.

As far as the current war in Iraq goes, even in its consequences, it is not likely to become another Vietnam. Iraq is going more in the direction of a U.S. military Algeria — something that will deeply affect the U.S. Army, its leadership, doctrine, training, and the way it will be perceived far beyond the lifetimes of current decisionmakers in Washington, D.C.

Notes

[1]Retired U.S. Army Colonel Andrew J. Bacevich, "We Aren't Fighting to Win Anymore U.S. Troops in Iraq Are Only Trying to Buy Time," *The Los Angeles Times*, 20 February 2005.

[2]*El Moudjahid*, editorial of the first issue, Algeria, June 1956.

[3]Eric Chevreuil, "Peace in Galilee: Long Forgotten lessons," *ARMOR*, July-August 2005.

[4]Jacque Baud, *Asymmetric Warfare or the Defeat of the Victor*, Editions du Rocher, France, 20 March 2003.

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Abrams and the Need for TUSK in the Age of Rapid Urbanization

by Lieutenant Colonel Benjamin M. Harris

Urban operations are difficult and costly in terms of personnel and equipment, and require a full suite of military capabilities. Demographic studies indicate a vast increase in the number and size of urban areas throughout the world. Urban areas may be strategic centers of gravity and will probably contain a number of operational centers of gravity and decisive points.[1]

The operational concept for Abrams, written and approved in 1980, describes the role of the tank as the principal element in the combined arms team that possesses, in a single system, the essential requisites for mounted combat: a high degree of tactical mobility and protected firepower.

The Abrams main battle tank (MBT) has successfully demonstrated tactical mobility during numerous joint combined operations in Iraq. These operations, however, revealed that some improvements should be made to preserve tank combat power. Today, both the U.S. Army and Marine Corps are experimenting and testing technology that will improve Abrams protection, lethality, and mobility in the urban environment.

Some of the new technologies being considered are not that new. In fact, many of the most recent upgrades to the Abrams M1A2 systems enhancement program (SEP) paid the biggest dividends, particularly the commander's independent thermal viewer (CITV) and the second-generation forward-looking infrared (2-GEN FLIR). The modernization path begins with the baseline difference between the M1A1 and the M1A2 SEP. For the Army, the ongoing research in support of this effort is the tank urban survival kit (TUSK), but it is only limited research. The Army has not yet funded the TUSK program for fielding. The Marines have funded the program and are adding enhancements to the M1A1 Abrams as part of their firepower enhancement program (FEP).

At left, the M240 gun mount; above, the common remotely operated weapons station (CROWS); below left, the tank infantry phone (TIP); and below right, the loader's armored gun shield (LAGS) with light weapon thermal sight (LWTS).

The Marines are integrating three technologies for the M1A1, which are universally required to enhance the MBT's mobility and protection in urban operations. The first initiative is to upgrade first-generation FLIR with second-generation technology as part of the FEP. With the introduction of the M1A2 SEP, the Army began adding 2-GEN FLIR to the Abrams in 1999. The capability of 2-GEN FLIR to prevent fratricide, recently recognized by the Joint Anti-Fratricide Task Force, prompted the Army to reprogram money from the combat identification program to fund 2-GEN FLIR integration for the remaining M1A1s in the Active and National Guard heavy brigade combat team (HBCTs), down to platoon sergeant level.[2] For the Army, the U.S. Army Training and Doctrine Command (TRADOC) Systems Manager-Abrams (TSM Abrams) and Program Manager (PM) Abrams agreed that the Army's M1A1 hardware solution should be common with the Army's M1A2 SEP upgrade, rather than the Marine Corps' design. Australia is adding 2-GEN FLIR to all of their new M1A1s, which will be common with the U.S. Army. Egypt is also adding 2-GEN FLIR to their M1A1 production.

As the second initiative of the FEP, the Marines are integrating an un-cooled infrared (IR) sight for the commander's .50-caliber machine gun. This improved sighting system will replace the current telescope with a thermal day TV and an uncooled IR sight. As part of the TUSK, TSM Abrams requested that PM Abrams integrate a thermal sight for the tank commander's machine gun, as well as return the original M1A1 tank commander's capability to fire his machine gun while protected. TSM Abrams requested that PM Abrams maintain M1A1 commonality with the Marine Corps' M1A1 solution for the tank commander's .50-caliber machine gun. However, the M1A2 SEP requires a different solution to improve the tank commander's ability to fight in limited visibility conditions while protected.

To fully meet the original requirement to provide mobile protected firepower to the tank commander when operating the .50-caliber machine gun, TSM Abrams agrees that the M1A2 SEP requires the common remotely operated weapons system (CROWS), which is currently being fielded to military police on M1114s in Iraq. CROWS will provide the M1A2 SEP tank commander the ability to fire the .50-caliber during movement due to its fully stabilized full-fire control system. During operations in Iraq, "movement" in urban operations has greatly added to our mounted systems' survivability. Stationary tanks are easy targets; a moving tank often surprises the enemy, causes less disruption to the friendly population, and is in the spirit of "offensive" operations.

The "Baghdad box" formation requires all systems, including the Abrams, Bradley, and M1114, to move slowly through the urban landscape, resulting in frequent, but short, engagements.[3] The ability to quickly react and accurately return fire while maneuvering will greatly add to the lethality of this formation, while improved accuracy and target acquisition will help reduce collateral damage.

Finally, the Marine Corps' third FEP initiative will add a tank infantry phone (TIP). Every tank in the Army since World War II has had a connection for the dismounted infantry (normally required in urban operations) to connect a phone for communications and integration of tank fires in support of joint urban operations. This changed when the Abrams began fielding in 1982.

As part of TUSK, TSM Abrams has requested that the TIP be integrated into both the M1A1 and M1A2 SEP systems, using the Marine Corps' design. Australia is already integrating the TIP into their new production of M1A1s. The TIP will enable supporting infantry to communicate with the Abrams crew and provide dismounted soldiers access to the Abrams full suite of tactical radios for emergency use. Currently, dismounted infantry-to-tank coordination is conducted by shouting over the noise of the AGT1500 gas turbine engine, and requires the tank commander to be fully exposed to enemy fire. Eventually, this system could host a wireless communications system, which would increase safety and protection for dismounted infantrymen. Even with complete fielding of the multi-band inter/intra team radio (MBITR), this system will provide a good backup during the 'fog of battle.'

To improve the Abrams protection, lethality, and mobility, TSM Abrams has requested the addition of other technologies. These remaining components make up what PM Abrams has coined, "TUSK," which includes a modern driver's vision enhancement. The Bradley, Stryker, and Marine Corps light armored vehicle (LAV) already have a newer driver's thermal viewer than the Abrams.

Other TUSK improvements are being outfitted for user evaluation during 2d quarter fiscal year (FY) 2006. Both TSM Abrams and the Marine Corps realize the loader's machine gun requires improvements to better support urban operations. Many soldiers in Iraq have converted the M240 butt stock and trigger assembly to make it similar to the M240B used by the Abrams loader. The problem is that the tank's mounting system is not designed to hold the M240B. Crewmen have to rest the machine gun on the rear pin to have full access to the trigger assembly.

Using the M240B allows the loader to engage targets with less of his torso exposed to enemy fire, which is considered by many to be a more accurate firing technique. Unfortunately, the Abrams M240 does not have the front iron sight, and the ammunition can often become misfed due to improper alignment, which is based on the added elevation when the weapon is resting on the rear-securing pin. Key to Abrams operations is its ability to provide protected firepower. The loader, however, is fully exposed. Most gunners in Iraq have learned the same lessons learned in Vietnam and other wars — some added protection is better than none.

The Army and Marine Corps combat developers have not yet agreed on a common design for mounting the M240. The Army has already fielded some transparent armored gun shields (TAGS) to many combat vehicles in Iraq. This includes a variant for Abrams, which was developed by United Defense (BAE), in cooperation with TSM Abrams and PM Abrams. Currently TSM Abrams, PM Abrams, and General Dynamics Land Systems (GDLS) are developing an improved protection system, the loader's armored gun shield (LAGS), which will provide added survivability to the loader. Unfortunately, no new design for mounting the M240 has been introduced as of yet.

TSM Abrams manager has also requested that a thermal sight be added to the loader's M240 in support of combat operations during periods of limited visibility. The infantry branch is currently fielding a medium thermal weapons sight for their inventory of M240Bs; the Abrams

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Photo by Doug McDonough

was not included in the basis of issue since the tank gunner already has a thermal sight for the coaxially mounted M240.

The enemy has attempted to conduct simultaneous complex attacks from multiple directions, requiring all three crewmen to conduct simultaneous engagements, which necessitate improvements for the loader. Due to the distance from the loader's head to the recommended loader's thermal weapons sight eyepiece, a heads up or embedded goggle display will be required. These goggles will be the standard Army issue sand, dust, and wind ballistic goggles with an embedded display. The goggle could also be connected to the driver's new thermal sight since it has the same RS170 video output connection.

The Marine Corps is also investigating ways to improve the loader's station by using a different technological solution. They are testing a new fixed/swing mount that is capable of securing the M240B. This mount would be common with the system used on Stryker, but could not support the weight of any added ballistic protection, such as TAGS or LAGS, for the loader. The Marine Corps mount would enable the loader to fire the weapon without exposing any part of his body when engaging enemy at higher elevations commonly found in urban terrain. However, during normal tank-to-ground engagements, this system would fully expose the loader, but is also more responsive since there are no bearings or skate ring, which has recently been reported as an issue for tanks equipped with the TAGS. Army and Marine Corps combat developers will continue to share information gained during testing.

TUSK includes many other technologies, which will greatly enhance and preserve tank combat power. U.S. Central Command (CENTCOM) has submitted a requirement (operational needs statement) for TUSK; however, no funding for production has been received to date. Money is promised in June 2006 as part of the FY06 supplemental for OIF.[4]

Most leaders would agree that loaders and tank commanders should have protection and having night sights for machine guns makes sense; the problem is trying to compete with all the other Army and Department of Defense requirements. Today, TUSK is *not* fielded. If money is made available, limited quantities of LAGS, CROWS, TIP, and driver's vision enhancer (DVE) could be produced and begin fielding in early 2007.

The mission of armor is to close with and destroy the enemy using firepower, maneuver, and shock effect. TUSK will enhance this capability and the mission of armor. Unfortunately, TUSK is not currently funded. Originally identified by TSM Abrams in the late summer of 2003, there is only a glimmer of hope for funds in the summer of 2006.[5] As of February 2006, the Army Requirements Resourcing Board approved 76 TUSK kits for 1st Armored Division, but funding cannot be made available in time to meet their deployment. For units to receive TUSK once it is funded, commanders should submit an operational needs statement today.

Notes

[1]Joint Publication (JP) 3-06, *Doctrine for Joint Urban Operations*, U.S. Government Printing Office, Washington, DC, 18 September 2002, pp. vii and viii.

[2]Reprograming is when the Army changes the purpose of money authorized for use from one item to another.

[3]The "Baghdad box" formation is a small-unit formation with vehicles at all four corners to maintain 360-degree situational awareness; it makes it less likely for a rear attack on any of the vehicles. Each vehicle is responsible for a specific sector.

[4]Supplemental funding is emergency funding requested to support the current war effort and is outside of the normal budget process.

[5]TSM Abrams was scheduled to close in FY04, but has been reinstated. No more changes for Abrams requirements were expected since production was to stop in 2008.

Lieutenant Colonel Benjamin Harris is currently the assistant Training and Doctrine Command System Manager for Abrams, Fort Knox, KY. He received a B.S. from the U.S. Military Academy and an M.S. from Central Michigan University. His military education includes Airborne School, Armor Officer Basic Course, Armor Officer Advanced Course, and U.S. Army Command and General Staff College. He has served in various command and staff positions, to include assistant product manager for large caliber (Abrams) ammunition, Picatinny Arsenal, NJ; administrative contracting officer, Lima Army Tank Plant, Lima, OH; combined arms team armor advisor, 42d Army National Guard, Fort Dix, NJ; commander, Headquarters and Headquarters Company, 1st Battalion, 70th Armor, 194th Separate Infantry Brigade, Fort Knox, KY; and commander, E Company, 2d Battalion, 46th Infantry, 1st Armor Training Brigade, Fort Knox.

"To improve the Abrams protection, lethality, and mobility, TSM Abrams has requested the addition of other technologies. These remaining components make up what PM Abrams has coined, "TUSK," which includes a modern driver's vision enhancement. The Bradley, Stryker, and Marine Corps light armored vehicle (LAV) already have a newer driver's thermal viewer than the Abrams."

Introduction to the Stryker Mobile Gun System

by Major Jonathan B. Slater

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The Stryker mobile gun system's (MGS) mission is to provide direct supporting fires to infantry squads during the assault. Its primary function is to destroy or suppress hardened enemy bunkers and machine gun and sniper positions, and create infantry breach points in urban, restricted, and open rolling terrain. Additionally, in the self-defense mode, the MGS provides limited antiarmor capabilities.

Overview

The MGS is a direct fire supporting weapons system that has a 105mm cannon turret mounted on a Stryker chassis. It has a crew of three, which includes the driver, gunner, and vehicle commander. The MGS provides the infantry commander the rapid-fire precision capability of a high-caliber round — a personal sledgehammer.

Each infantry company has one MGS platoon, which is made up of three MGS vehicles and crews. This equates to nine MGS per Stryker battalion and 27 in the Stryker brigade combat team (SBCT).

The MGS has the capability of firing four different types of service ammunition: the high-explosive, anti-tank (HEAT), high-explosive plastic tracer (HEP-T), sabot, and canister. Each round provides the commander a unique capability. The MGS carries 18 rounds and uses an automatic loader. The mission equipment package has eight rounds in a ready configuration in its carousel and an additional 10 rounds in a replenisher for reloading the carousel. The MGS is controlled through a fire control system computer, which tracks round locations in the carousel and replenisher and has ballistic solutions for each type of round. The MGS also has a coaxial-mounted M240C 7.62mm machine gun and a pedestal-mounted M2 .50-caliber for the vehicle commander. The weapons platform is stabilized and can fire 360 degrees while moving. The MGS platoon consists of three mobile gun systems with crew and can be fought as an organic platoon, such as one MGS in support of an infantry platoon, or some variation thereof.

The MGS meets all the requirements of the Stryker fleet for mobility, survivability, and commonality of chassis repair parts. However, the MGS cannot perform vehicle self-recovery since it carries no internal winch system. It is survivable against 14.5mm armor-piercing rounds and travels at speeds up to 60 mph.

Planning Considerations

The MGS has several unique characteristics, including safety, security, and command and control considerations while integrated with mounted and dismounted elements, which must be considered when employing it tactically.

Safety. MGS safety considerations significantly exceed the general considerations of vehicle movement with troops. Dismounted soldiers working in proximity to the MGS must be aware of its gun barrel blast area, critical hearing damage area, and back-blast area from target impact. Firing the MGS in an urban environment has the implications of overpressure from its firing blast, as well as its back blast, which will effect windows, exposed personnel, and loose debris. The following protective measures must be considered when firing the MGS:

- The immediate areas behind the gun muzzle, for a distance of 25 meters, require hearing protection to avoid eardrum rupture.

- As hearing protective measures, all soldiers within the 25-meter range must be forewarned prior to firing the weapons system.
- Any vehicle within close proximity to MGS during firing must be completely buttoned-up to protect the hearing of its occupants.
- The back blast from point of impact throws incapacitating projectiles out to 100 meters.
- The cartridge from the fired round is ejected in an area of five meters behind the gun tube and causes injury on contact.

Risk factors associated with each of these areas can be reduced through training and education. The most beneficial training method is to mark off the safety distances from the MGS to point of impact. Soldiers should observe and understand what the distances look like on the ground. Leaders should specify identifiable locations on the ground for limits of advance prior to using the main gun.

To further complicate safety considerations, building structures must be carefully considered to avoid overmatching your target, which could completely demolish a building's structure, penetrate buildings behind the target, and damage the structural integrity of a building, thereby denying or limiting friendly soldier access to the target building. Although the effects of each type of round has not been characterized on every type of building, an effort is underway to provide that data to field units in the future.

The MGS also has a significant range safety danger zone associated with its arsenal of rounds. Leaders must take those ranges into account prior to employment. For example, a gunner may chose to engage a sniper location in a building with a sabot round. However, after that round impacts the sniper's location, it has the potential to continue down range for up to 9km. This impact requires leaders to assess the down-range impact, which could be a town or friendly forces in that general direction.

SBCT leaders need to ensure that whenever possible, they integrate full graphic control measures in to their operational plans, to include no-fire areas (NFA), fire coordination lines (FCL), and no-maneuver areas between the MGS' planned firing positions and their targets, keeping all friendly forces well clear of the MGS' muzzle-to-target line.

Security. Local security capabilities for the MGS are limited. Its three-man crew has limited capability to observe areas of immediate proximity to the vehicle while mounted, and the crew cannot operate effectively with a crewmember dismounted. The SBCT infantry company commander must plan for providing security for these valuable assets.

When operating in an urban environment, the deadspace must be observed by dismounted soldiers. These specific points must be considered during the planning phase:

- When mounted, the MGS driver can observe a standing person to the driver's side at 32 inches and beyond, but he cannot see the ground immediately in front of the vehicle.
- On his side of the vehicle, the vehicle commander has a blind spot of several meters.
- Rear security must always be considered for the MGS; as with all vehicles, the rear is its most vulnerable area.

These security issues also apply to the personal safety issues of the infantryman operating in close proximity to the MGS.

Command and Control. The MGS's primary role is to support assaulting infantry; as such, the MGS will frequently be attached in support of an infantry platoon. It operates on the FM frequency of its supported unit and takes fire commands from the maneuver commander, the company commander, and on down to the fire team leader, if the vehicle is assigned to support. The maneuver leader will ensure his forces are prepared prior to ordering the MGS to fire. The maneuver force will also coordinate movement in formations and coordination of fires. A vehicle intercom system handset, located on the rear of the hull, allows dismounted leaders to directly communicate with the crew to enhance coordination between dismounted infantry and the supporting MGS.

Research and Developments

During August 2005, a tactics, techniques, and procedures (TTP) development exercise was conducted at Fort Benning, Georgia. Observations from the exercise resulted in the development of several new operating methods, which are outlined below.

Breach operations sequence of events:

- MGS moves into an overwatch position (200 to 500 meters).
- Assault element moves into position (mounted or dismounted) and provides flank security.
- Assault element provides observation on breach site. If dismounted, no closer than 100 meters.
- MGS notifies assault element "gun ready," when it is oriented on the target and HEP-T round is loaded.
- Prior to assault leader giving fire command, leaders must ensure all soldiers are in covered positions with some level

Figure 1. MGS Back Blast Area Overlay

of hearing protection at time of firing.

• Assault element observes impact and determines if additional rounds are required to form breach. The current requirement for the MGS is to make a breach site in a double reinforced concrete wall within 3 to 5 rounds. The amount of debris and dust caused by the round exploding will take approximately 10 seconds to dissipate.

• Assault leader orders MGS crew to shift fires prior to conducting the assault. If mounted, the infantry carrier vehicle (ICV) quickly reaches the breach site; the crew dismounts and enters breach. The ICV then moves beyond the objective to provide far-side security. If it is a dismounted assault, the ICV provides suppressing fires as needed and, at the assault leader's command, moves to the far side for security.

"The MGS has several unique characteristics, including safety, security, and command and control considerations while integrated with mounted and dismounted elements, which must be considered when employing it tactically."

• The MGS should have an additional sector of fire for the coaxial machine gun because main gun rounds should not be fired when soldiers are in the gun line.

• Prior to the assault, a planning consideration is to conduct breaches sequentially or simultaneously with more than one MGS in support, if a secondary breach site is required for another building.

• Leaders should develop blast-area overlays, as shown in Figure 1, for operations planning to ensure unit safety.

Destroying a bunker:

In this scenario, the plan calls for the MGS to fire two rounds to destroy a standard NATO-constructed bunker. The first round, a high-explosive anti-tank tracer (HEAT-T) round, is aimed at the base of the bunker. It will destroy the major fortifications and its jet stream will incapacitate enemy personnel. The second round, HEP-T, is fired into the hole created by the initial round to destroy the bunker.

Bunker engagements can be deliberately planned or occur hastily. In a deliberate attack, the MGS should maximize the use of its sights and prepare to engage the bunker from 300 to 500 meters. Following the engagement, it will provide overwatch for maneuver elements based on mission requirements. If the engagement is hasty, the leader of the maneuver element will order the MGS forward to destroy the bunker based on initial contact and spot reports. The MGS will destroy the bunker per procedure and provide overwatch while an infantry squad clears what remains of the bunker.

Military operations on urbanized terrain (MOUT) operations:

The MGS can operate in a MOUT environment as a complement to dismounted infantry by providing precision fires with its coax machine gun while the infantry provide local security and clear road intersections to protect the MGS flank. Per doctrine, HEP-T rounds are battle carried in a MOUT environment. A single HEP-T round will subdue any enemy personnel in a building should the infantry come across an overwhelming position.

The MGS also brings the capability to address snipers in multi-story buildings. The coax machine gun has the capability to place precision fires; the main gun can fire a HEP-T round into a window or through an opening below the floor, destroying the enemy position from beneath. This same procedure can be employed to clear a roof top. An MGS can engage third- and fourth-floor windows from an impressive distance.

There are multiple ways to communicate with an MGS crew in a MOUT environment. Although FM communications is primary, the driver can monitor the movement as well as the hand and arm signals of the dismounted elements ahead. There is also a telephone box mounted on the MGS for direct intercom communications with the crew. An experienced leader should stay with the MGS in a trail position to maintain maximum control of the dismounted infantry and MGS team. A rear security element is also necessary.

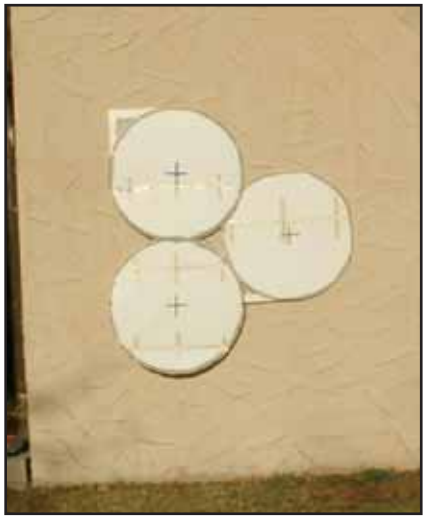
Because coordination between mounted and dismounted forces is difficult, the dismounted infantry, without any means of communicating with the MGS crew, should stay clear of the MGS due to its limited field of view. Planning for MOUT movement requires evaluating routes due to the vehicle turning radius and main gun rotation.

General observations and planning factors:

• FM communications should always be the primary form of communications with the MGS.

• Firing the MGS main gun/coax around a corner exposes 50 percent of the vehicle. Given a choice, the driver should pull forward to fire, exposing the most survivable section of the vehicle.

• Firing the vehicle commander's .50-caliber exposes approximately 60 percent of the vehicle.



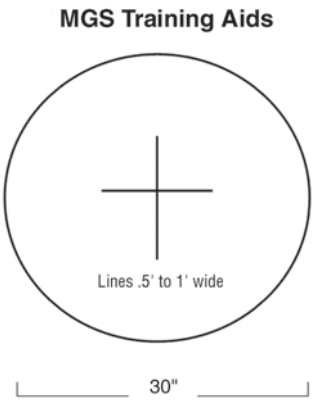


Figure 2

• Street width can greatly effect the operation of the MGS main gun. To traverse the turret 360 degrees, the MGS requires a minimum of eight meters street width.

MGS ammunition:

The commander designates the ammunition mixture for the MGS based on mission, enemy, terrain, troops, time available, and civilians (METT-TC) considerations. The preferred main gun rounds in urban operations are HEAT-T, HEP-T, and canister. The HEAT-T round is used primarily against lightly armored vehicles (secondary armor), field fortifications, and personnel. The HEP-T round is used against field fortifications, bunkers, buildings, and crew-served weapons emplacements, as well as troops where blast, concussion, and fragmentation are desired with secondary armor-defeating capabilities. It is the primary round for creating infantry breach points. The canister round is primarily used in an antipersonnel role against troops in the open with the effectiveness to defeat an enemy squad from 100 to 300 meters.

The sabot round is used as the primary armor-defeating round against tanks and tank-like targets. The sabot petals endanger accompanying infantry elements. They create a hazard area 70 meters on each side of the gun target line. The round can destroy an armored threat that wire-guided missiles cannot reach due to guidance wire obstacles along the missile's flight path.

Training Suggestions

Breach point aiming. The current TTP for creating a breach point in a building requires the MGS to fire three to five rounds in pattern based on distances and offsets between rounds. For developing this skill, the crew should practice moving the aim point. The crew will need three or more circle-shaped cardboard cutouts or other durable material 30 inches in diameter with a cross-hair drawn center circle, as shown in Figure 2.

This exercise requires the gunner and an assistant at the building's location. The gunner will take aim on the building and direct the assistant to place one of the circles on the wall centered on the gun sight reticle. The gunner will then move the aim point based on the offset and the assistant will again position a circle centered on the reticle. After three aim points have been attached to the building, proper positioning of the shot group should be evaluated. The intent is to practice making breach points from various distances and validate proper aiming offsets. Offsets will differ based on gun distances from the breach site, see Figure 3.

Gun crews should develop their own matrices for breach offset points for various distances to improve engagement speed. MGS crews should use thermal sights to scan the targeted breaching wall to identify weak points in the structure, adjoining interior walls, and load-bearing walls, which will help the gunner place his round to create the effect that the maneuver commander intended.

Coordination between gunner, driver, and vehicle commander. While maneuvering in a MOUT environment, gunners and drivers need to efficiently work together. A critical skill is the rapid engagement of a target after moving from a cover and concealed position. An MGS will be 50 percent exposed while firing in a flank direction. The gunner must position the gun tube in the direction of the enemy while the driver pulls the vehicle forward. Additionally, the driver should try to turn slightly in the direction of the enemy for increased survivability. Following gun firing, retrograde to the covered position must be practiced as the two events will happen very quickly; hopefully, without damaging the vehicle's gun tube by ramming it against any covering structures.

Movement with infantry. Habitual support relationships between MGS crews and specific SBCT rifle platoons should be formed to develop coordination and teamwork. During collective training at the infantry platoon level, it is important that the MGS be incorporated into the training plan, specifically for breach operations, MOUT training, and movement techniques.

MGS Way Ahead

The MGS will be fielded this summer to the 2d Cavalry Regiment (SBCT), Fort Lewis, Washington. The unit will also participate in the initial operational test and evaluation (IOTE) scheduled for February/March 2007. This weapons system will also be fielded to the 2d Brigade, 25th Infantry (SBCT), Hawaii. The full-rate production decision is scheduled to be made in late July 2007, following the IOTE.

Additional information on the MGS can be attained through the SBCT Transformation Portal at *www.sbct.army.mil/*.

MGS Breach Aiming Point			
Distance	**1st Hole**	**2d Hole**	**3d Hole**
200 Meters	2 mils from edge of wall	.5 mil from top of first hole	2 mils left or right from center line of first hole

Figure 3

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Improving the Tank Loader's Station for the Contemporary Operating Environment

by Sergeant First Class Vernon P. Prohaska and Captain Joshua M. Keena

"Putting aside all the fancy words and academic doubletalk, the basic reason for having a military is to do two jobs — to kill people and to destroy the works of man."[1]

— General Thomas S. Power

Operations in Iraq highlight the need for the armor force to make deliberate improvements in the tank loader's machine gun mount and M240 variant. While the tank platoon's table of organization and equipment (TOE) equips each tank with a loader's M240 machine gun and a mount designed for area suppression of limited targetry, current operations reveal that loaders require equipment and training to ensure they are as effective as their 11B M240 gunner counterparts in combat.

The tank urban survival kit (TUSK) and M1A2 continued electronic enhancement program (CEEP) include vast improvements in the design and capability of the loader's station, to include an improved M240 mount. "Hope is not a method," and you may not want to wait for the force modernization package to reach your unit before you deploy to Iraq.[2]

The equipment and training devices discussed in this article are non-doctrinal and not included in the current inventory of equipment signed for by armor company commanders and tank platoon leaders; they are, however, available in the Army materiel system. Understand that the requirements learned from combat and inevitable experimentation with doctrine and equipment drive the fielding and doctrine cycle.[3] As long as you include risk analysis and mitigation with these initiatives, you are providing valuable information for the Army's doctrinal evolution loop.

Background

Since the first "thunder run," tankers have been inventing ways to increase the effectiveness of the loader's M240 during actions on contact. As the ground war progressed, more armor leaders saw precision requirements for employing the M240 not being met with the current configuration.

- September 2004: The tank gunnery branch of Directorate of Training, Doctrine and Combat Development (DTDCD) directs the revision of the Abrams gunnery tables, to include loader's M240 engagements during tank tables V-XII.
- 2004-2005: Armor units adopt dismount training, equipment, and employ-

ment tactics, techniques, and procedures (TTP) for the loader's M240 in response to combat operations in Iraqi.

• May 2005: 1st Cavalry Division after-action reviews (AARs) highlight statistical data regarding the loader's M240 employment requirements, to include the propensity for limited-visibility engagements.

• 2004-2005: 2d Battalion, 81st Armor, the 19K one-station unit training (OSUT) battalion, 1st Armor Training Brigade, Fort Knox, incorporates TTP into the conduct of tank live fire training to ensure that the loader's M240 engagements integrate scenarios and equipment similar to those seen during operations in Iraq.

Combat Operations

"The officers and men who permit themselves to be surprised deserve to die, and the commanding general will spare no efforts to secure them their desserts."[4]

— D.H. Hill, 1863

During deployment in support of Operation Iraqi Freedom, the M240 machine gun, particularly the tank loader's variant, proved invaluable during combat operations. This machine gun was used in mounted, as well as dismounted, configurations. As tank platoons traded panzers for light wheeled vehicles, many leaders took the initiative and fabricated mounts atop high-mobility, multipurpose wheeled vehicle (HMMWV) platforms.

While conducting pre-deployment training at Fort Carson, Colorado, the soldiers of Eagle Troop, 2d Squadron, 3d Armored Cavalry Regiment (2/3 ACR), strived for excellence in all weapons training and qualification, which enabled platoon sergeants and tank/Bradley commanders the ability to train younger, less experienced soldiers on proper weapons maintenance and employment techniques. The availability of M240B conversion kits and night sights greatly enhanced the effectiveness of this weapon, as well as soldier training. As with any new equipment, soldiers need to have hands-on training, as well as tough and realistic training conditions. Familiarization is not enough — tankers need to be trained to properly mount and zero night-vision devices, daylight optics, and machine gun mount systems.

Eagle Troop, 2/3 ACR established a base camp in Ramadi, Iraq, in April 2003. By the end of the month, tankers, as well as scouts, were conducting dismounted operations. The M240, with dismount kit, became the standard configuration for the M240. The M1A2 tank would have the loader's weapon configured for quick and easy adaptation to either dismounted or mounted operations.

In June 2003, tank maintenance, fuel requirements, and the availability of repair parts played a factor in Eagle Troop tankers transitioning from M1A2 tanks to soft-top HMMWVs. The scouts trained the tankers on the cross-over; it was at this point, the M240 loader's station mounts were "liberated" from the turrets of the tanks. Fabrication and a little ingenuity had these mounts atop HMMWVs. The tankers conducted gunnery training and learned a great deal about the strength and capabilities of the weapons. The availability of PVS-7 and PVS-14 night vision devices (NVDs) enhanced the unit's warfighting ability, and the devices were put to immediate use during limited-visibility operations.

The M240 also possesses the range required to address threats at the maximum standoff, short of employing the main gun or M2 .50-caliber. When a tank was needed for a mission and the loader's M240 mount was in use on a HMMWV, the M240B came to the rescue and was a suitable replacement. The loader always kept his M4 nearby for fast response. The combination of the two undoubtedly proved a deterrent to anti-coalition forces.

Tankers on HMMWVs would have been a strange sight four years ago, but the Armor force is changing. The soldiers of Eagle Troop, 2/3 ACR adapted and maintained momentum throughout the entire deployment. The M240 and its variants proved invaluable to the success of the mission and should be incorporated into all applications.

Equipment and Training

To address the immediate threats facing soldiers and to equip the armor platoon for maximum capabilities, the following changes to the TOE represent a starting point for transformation:

At the individual level, each soldier should have either a PVS-7 or PVS-14. A fifty-fifty mix for the tank platoon (eight PVS-7s and eight PVS-14s) gives platoon leaders and platoon sergeants the tools required for limited visibility op-

"The M240 also possesses the range required to address threats at the maximum standoff, short of employing the main gun or M2 .50-caliber. When a tank was needed for a mission and the loader's M240 mount was in use on a HMMWV, the M240B came to the rescue and was a suitable replacement."

erations with the flexibility of tailoring NVDs for the mission and individual.

At the crew level, the loader's M240 should include an M240B feed tray cover (with Picatinny rail) in addition to the ground mount kit. The M240B feed tray cover will not interfere with the coax mount and allows various machine gun optics (MGOs), to include the M145 machine gun scope, PAS-13 thermal weapons sight (TWS), and PVS-4 passive weapons sight, to be mounted. Each crew should have an M145, which allows for precision aiming and employment of the M240. Because the M240 lacks the iron sight on the end of the barrel, it does not have the initial aiming accuracy of the M240B. Using an M145 solves this problem. For limited visibility engagements, a fifty-fifty mix for the platoon of PEQ-2A aiming lights and PAS-13 TWS (two PEQ-2As and two PAS-13s) would enable the platoon to employ both passive and active image intensifying devices.

The AN/PAS-13 is a silent, lightweight, compact, and durable battery-powered infrared imaging sensor that operates with low-battery consumption. The thermal weapons sight is capable of target acquisition under conditions of limited visibility such as darkness, smoke, fog, dust, and haze. Iraqi veterans often report being forced to borrow this equipment to complete combat patrols, cordon and search missions, and security operations. While this shows good initiative and teamwork, it also highlights the need to equip the armor platoon for success.

The AN/PVS-4 individual weapons night sight provides passive night vision for machine gun operators. It uses natural starlight or moonlight. It provides magnification of x3.6 and can be used to detect targets out to 500 meters. A 2.7-volt mercury battery powers the unit for about a 24-hour continuous use period. An automatic brightness control caters for sudden flashes of light, such as a rifle muzzle flash.

The M145, manufactured by Elcan, differs from the standard 3.4x sight, in that ballistic compensation is in the reticle, rather than in the mount. Reticle illumination is by a battery-powered LED with 11 intensity settings.

There are several references available that provide the framework for employing the M240 effectively in the tank platoon, which include U.S. Army Field Manual (FM) 3-22.68, *Crew Served Machine Guns*; FM 3-20.12, *Tank Gunnery (Abrams)*; "The Future of Tank Gunnery," *ARMOR*, September-October 2004; "Task Force 1-77 Armor — Back in the Saddle," *ARMOR*, November-December 2004; and "Advanced Infantry Optics and Their Future in Armor," *ARMOR*, January-February 2005.[5]

"Combat operations in Iraq have simultaneously reinforced the firepower and effectiveness of the loader's M240 while highlighting shortcomings in the present configuration. The resourcefulness, ingenuity, and teamwork of soldiers in theater have yielded TTP and field expedient materiel fixes for improved employment of the M240."

Combat operations in Iraq have simultaneously reinforced the firepower and effectiveness of the loader's M240 while highlighting shortcomings in the present configuration. The resourcefulness, ingenuity, and teamwork of soldiers in theater have yielded TTP and field expedient materiel fixes for improved employment of the M240. While it is true that "you go to war with the equipment you have," there is a requirement for incorporating feedback into fielding and doctrine evolution. The recommended training and equipment solutions mentioned in this article are critical to ensure the Abrams loader remains an effective, vital component to the tank crew in the contemporary operating environment.

Notes

[1]Thomas S. Power, *Design for Survival*, American Securities Council Press, 1968.

[2]Gordon R. Sullivan, *Hope Is Not a Method*, Broadway Publishing, 2 September 1997.

[3]Lieutenant Colonel John A. Nagl, *Counterinsurgency Lessons from Malaya and Vietnam: Learning to Eat Soup with a Knife*, Praeger Publishers, 2002. In Chapter 2 of his book, LTC Nagl explains the cyclical nature of doctrinal evolution, with feedback from the force, feeding the loop and driving transformational changes in equipment, training, and doctrine.

[4]D.H. Hill, 1863, as quoted in U.S. Army Field Manual 3-90, *Tactics*, U.S. Government Printing Office, Washington, DC, 4 July 2001, Chapter 12.

[5]U.S. Army Field Manual 3-22.68, *Crew Served Machine Guns, 5.56-mm and 7.62-mm; M249, 5.56-mm Machine Gun; M60, 7.62-mm Machine Gun; M240B, 7.62-mm Machine Gun*, U.S. Government Printing Office (GPO), Washington, D.C., 31 January 2003; FM 3-20.12, *Tank Gunnery (Abrams)*, GPO, Washington, D.C., 15 August 2005; Major Herbert Skinner and Sergeant First Class Michael Dunfee, "The Future of Tank Gunnery," *ARMOR*, September-October 2004, pp. 20-25; Staff Sergeant James L. Gibson, "Task Force 1-77 Armor — Back in the Saddle," *ARMOR*, November-December 2004, pp. 23-25; and Captain Francis J.H. Park, "Advanced Infantry Optics and Their Future in Armor," *ARMOR*, January-February 2005, pp. 18-21.

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Contemporary Sniper and Observation Post Operations

by Sergeant First Class Mathew Donofrio

On 5 July 2004, the 1st Squadron, 11th Armored Cavalry Regiment re-stitched their opposing force (OPFOR) desert combat uniforms with standard Army regulation insignia and began preparing for war.

The Ironhorse Squadron's task organization mirrored that of an armored task force with a 10-HMMWV scout platoon. With many of the usual uncertainties, such as a deployment date, area of operations, and platoon mission, we simply focused on the basics. As a scout platoon sergeant, I focused our training on physical fitness, advanced rifle marksmanship (ARM), room clearing, and vehicle and personal searches. Training culminated with a National Training Center rotation in November 2004. With the limited time, I knew I was not going to take the most prepared platoon to war; my goal was to take a disciplined and versatile platoon to Iraq.

Three months into theater, the platoon had conducted various missions, including combat patrols, reconnaissance, escorts, unmanned aerial vehicle (UAV) employment, raids, and route clearance. However, it quickly became clear our main role would be sniper and observation post (OP) operations in the counter-improvised explosive devise (IED), counter-rocket, and counter-mortar fight.

During the first two months in north Baghdad, east of the Tigris River, we rapidly learned the techniques of reconnaissance in an urban environment. The first few times our OPs were compromised, the quick reaction force (QRF) rushed in to extract them. It soon became apparent that the dismounts could gain valuable information if they stayed to develop the situation. Even abandoned buildings tended to get frequented, and "non-hostile compromise" was usually inevitable. We had some engagements during those early days, which resulted in both confirmed and unconfirmed enemy killed in action (KIA) and the elimination of an IED cell operating in the Al Muthana Bridge area. We took these lessons and further refined our techniques in western Abu Ghraib, a sector in which the squadron reduced IED activity by more then 50 percent in six months (see Figure 1).

Thankfully, the squadron commander did not divide up the scout platoon. His guidance was to retain OP, sniper, command and control (C2), QRF, and sustainment operations all within the same self-contained unit — the scout platoon. We mitigated the risk of using two- and three-

	May	June	July	Aug	Sep	Oct	Nov
Discovered		19	28	19	19	23	10
Detonated		22	12	15	13	12	13
Total	57	41	40	34	32	35	23

Figure 1

man teams by using a dedicated, internal QRF. The scout platoon served as the squadron's primary shaping element. We conducted weekly platoon-level after-action reviews (AARs) prior to our operations orders so that all new information and procedures, along with all significant events of the previous week, could be discussed by everyone. The scout platoon remained under squadron control throughout the deployment and significantly shaped the battlespace for the main ground force.

The Quick Reaction Force

We experimented with multiple QRF postures: initially four vehicles, then three, finally establishing two for the remainder of the deployment. Ultimately, it was the two-truck QRF that enabled continuous operations. The QRF had to stay within communications range, usually within 2 to 3 minutes of the snipers and OPs, but not close enough to deny the kill zone established by the dismounts. The QRF would recon future positions, noting times and frequencies that civilians used buildings.

As secondary tasks, the QRF inspected suspicious activity reported by the OPs that did not warrant engagement; kept the sniper team supplied with enough water to sustain it for up to 48-hours on a rooftop; and verified team concealment, informed them of necessary adjustments, and coordinated with other elements in sector.

Sniper and Observation Post Teams

Our two sniper teams consisted of three men each: the team leader, the sniper, and the security man. The team leader (a junior noncommissioned officer) carried an M4 carbine with an M203 grenade launcher. The sniper used either the bolt-action M24 sniper weapon system (SWS) with PVS-10 day/night sight or the M14 rifle. Although the M107 Barrett sniper rifles were available, the teams preferred the more manageable M24 rifles to facilitate movement into and out of positions. The team leader and sniper were either school trained or attended a modified course conducted by the San Bernardino Police Department, focusing specifically on the mechanics of long-range marksmanship. The security man carried an M249 squad automatic weapon (SAW) with collapsible buttstock and short barrel. The team's normal operating time was 24 to 48 hours.

The OPs mirrored the sniper teams, with the exception of the sniper; they normally operated with just two men for 18 to 24 hours. When they did take three men, the third also carried an M4 carbine. As shown in Figure 2, the major difference between the two was the organization and engagement strategy.

Insertion

During insertion operations, the object was to find the quietest way into the house and verify sectors of observation. In some cases, using the front door was the only way into the house, which sometimes presented problems. In a country of much lawlessness, a team could find itself in contact with someone simply trying to defend his home. Once the team verified observation from its position, it was time for a little gambling. If the team leader thought there was no way to avoid compromise, he would wake the man of the house, explain the situation and his intentions, and complete the search of the house accompanied by its owner. If the team leader thought compromise could be avoided, he would quietly search the house on his own. From what we found, Iraqis are generally heavy sleepers. If the team did not coordinate on arrival and was subsequently compromised, negotiations would then begin. The goal of these negotiations was to present a professional appearance and encourage the locals to come and go as they please while remaining silent about our presence for the sake of making the country a safe place to live.

Whenever possible, we sent the same team to a specific area, which helped establish relationships and gain trust among the local population. The same team possessed familiar faces and had an intangible knowledge of the area that cannot simply be briefed to another team. The teams would have candy, coloring books, and other items for the children. Some of the families who lived near IED hotspots had actually lost members of their families to shrapnel from the bombs. Out of respect and professionalism, and to prevent anti-Iraqi forces (AIF) from compromising home owners, we paid strict attention to policing up all trash.

"Non-hostile Compromise"

The teams, particularly the snipers, began learning both verbal and nonverbal communications techniques and began effectively interacting with civilians to develop the situation. For the most part, the Iraqis seemed happy with our efforts; they did not necessarily feel great about us operating in their homes or places of work. No doubt, there were times when local nationals simply sent the message throughout the neighborhood that American forces were in their homes so they would not be held liable by AIF. However, even compromise produced denial, which prevented AIF from emplacing IEDs in that area.

Doctrinal "3-Team" Task Organization

	A TEAM	B TEAM	C TEAM
PL (1)	2	5	(PSG) 4
	3	6	9
	7	8	0

Platoon Final Task Organization

	A TEAM	B TEAM	C TEAM
Q	PL (1)	5	PSG (4)
R		7	
F	2 OR 3		9 OR 0
OP	2 OR 3		9 OR 0

SNIPERS
(6) SHADOW
(8) REAPER

Figure 2

"During the first two months in north Baghdad, east of the Tigris River, we rapidly learned the techniques of reconnaissance in an urban environment. The first few times our OPs were compromised, the quick reaction force (QRF) rushed in to extract them. It soon became apparent that the dismounts could gain valuable information if they stayed to develop the situation."

Many of the local people were willing to support our efforts; however, in many cases, explanations and negotiations were necessary. For example, one of the teams was using a particular house that had missing bricks on its balcony, which provided great observation cover. However, one day the team returned to use the house again and found the owner had made repairs to the balcony. The team leader asked the man why he had repaired the bricks. When the local national realized the missing bricks provided observation, he carved out a couple of bricks for us. We caught an insurgent that very night! When the engagement was over and the dust had settled, the man came up to the rooftop and shook the soldiers' hands. Later on, during another operation on that rooftop, we paid him for his assistance.

The non-hostile compromise was unfamiliar to most of the team. The importance of how the team negotiates with an Iraqi national during a non-hostile compromise cannot be overstated. As stated earlier, in the beginning of our tour, we would simply rush in the QRF to handle these situations. A couple of times, we tried to intentionally and "unintentionally" detain local nationals in a house or building. Unintentional detention means the security man plays cards or visits with the family to keep anyone from leaving, without using force. On other occasions, we simply told them they had to stay. Both of these techniques proved unsuccessful; however, once the teams became proficient at explaining and persuading, the family would usually come and go as they pleased, and on many occasions, even fed our soldiers. Only once was an OP or sniper team engaged by the enemy over the entire year, which proved to be an unpleasant defeat for the AIF.

"Our two sniper teams consisted of three men each: the team leader, the sniper, and the security man. The team leader (a junior noncommissioned officer) carried an M4 carbine with an M203 grenade launcher. The sniper used either the bolt-action M24 sniper weapon system (SWS) with PVS-10 day/night sight or the M14 rifle."

Engagement Strategy

Initially, we anticipated one or two enemy over a two- or three-phase emplacement operation, based on intelligence preparation of the battlefield (IPB) from OIF I and II veterans. While we did see this tactic, we also witnessed several different IED emplacement techniques: single person on a bicycle; vehicle with multiple persons; multiple vehicles and persons; and even the drop-and-pop technique where the car never comes to a complete stop. AIF emplaced IEDs using covert operations during hours of darkness and high-traffic situations during daylight hours. We had to rethink and adjust our engagement strategy after our first engagement with a two-vehicle AIF team.

The engagement strategy or battle drill was executed as follows:

- Sniper prepared to fire while security man prepared automatic weapon.
- Team leader alerted the QRF by radio and QRF began movement (time permitting; otherwise, they called at first opportunity).
- Sniper fired, the M249 fired immediately after (team leader followed with M203, if target was a vehicle/hand grenade or was dismounted within range).

The OP teams engaged with the most casualty-producing weapon first, the M203 if within range; otherwise, the M249. Instructions were shoot to kill, if an AIF member was wounded and could be of intelligence value, even better. The team executed two separate tasks during emplacement operations by AIF:

- Task 1 — kill the emplacer, the most technically competent person on the AIF team, which generally had a 1 to 2 week

impact on the cell's operational capability.

• Task 2 — kill, wound, or capture the AIF security element for a real, lasting effect. Nothing gets around town faster than, "Mohammed just got killed by a sniper while putting a bomb in the road!" In our experience, AIF did not stay and fight, nor did they attempt to help wounded comrades.

The 3d Infantry Division distributed vignettes to train sniper teams on rules of engagement (ROE) once we arrived in theater. The vignettes helped further illustrate ROE down to the lowest individual level, instilling confidence and enabling soldiers to make competent decisions instantaneously. Companies and battalions using sniper and OP teams should seek out this guidance if it is not already available.

Equipment and Aids

Properly equipping the OP and sniper teams is a vital element to mission success.

The list below supplements the equipment any dismounted team should have on hand (personal weapons, night observation devices (NODs), class I, and medical equipment):

• General equipment includes tactical standard operating procedures (SOP), Iraqi smart card, and zip strips.

• Commo equipment includes ASIP radio, headset, hand-held microphone, long whip and base, short whip and base, batteries, frequency cutsheet, ICOM x 1, field expedient commo equipment, and personal communications system (optional, but recommended).

• Sniper equipment includes rifle, sand sock, tools as needed (personal preference), bullets (20 to 40 rounds, personal preference), and Otis cleaning kit.

• Observation equipment includes binos, civilian laser rangefinder, night visions goggles (NVG) with magnifier (3x), PAS 13B, and batteries.

• Navigation equipment includes civilian plugger, and large-scale area maps, acetate coated.

• Near/far recognition equipment includes VS17 panel, flare, smoke, large infared (IR) strobe, IR chem lights, bug lights, and thermal tape.

• Nonstandard equipment includes desert shaded ponchos, bolt cutters, dark colored sneakers (personal preference), hijab/burqa, bug juice, English/Arabic dictionary, surefire IR flashlight, collapsible ladder (if needed), grappling hook/large "D" ring with 30-foot cord/rope, and black plastic NOD mount (personal preference).

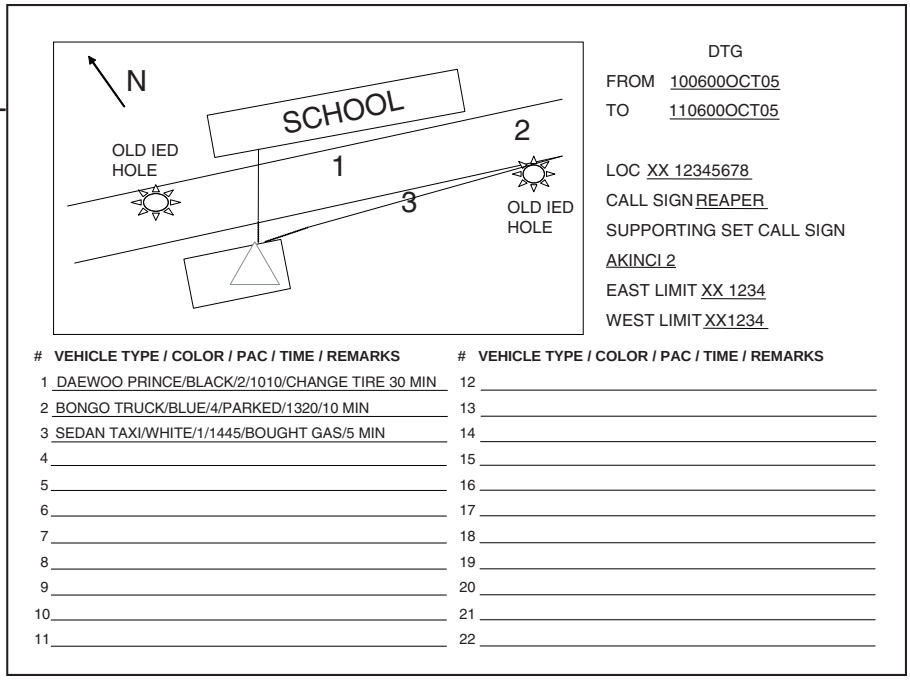

Figure 3

A questionnaire (flowchart type) written in Arabic and English that allowed for "yes" and "no" answers was a very helpful item. The list of questions included "do you have any weapons;" "if so, show them;" and "do you know where AIF live?" A letter of explanation, based on current unit talking points and written in Arabic, was used by the team leader at first contact, which greatly enhanced the probability of establishing relationships.

The platoon also developed a modified range card, shown in Figure 3, which recorded any vehicle that stopped to change a tire or had car trouble within the OP's sector. The card was developed after an incident involving a sniper team:

The team was observing a local national boy who was selling fuel from cans by the roadside all morning. Periodically, he

"During insertion operations, the object was to find the quietest way into the house and verify sectors of observation. In some cases, using the front door was the only way into the house, which sometimes presented problems. In a country of much lawlessness, a team could find itself in contact with someone simply trying to defend his home."

would leave his fuel cans and then return. On one occasion when the boy was gone, the team observed an approaching vehicle, which stopped at the location where the boy was selling fuel. An unknown man got out of the vehicle and placed two cans of fuel among the boy's other fuel cans. The team clearly saw all of the man's movements and concluded that he was the boy's fuel distributor. It turned out that there were explosives in the cans. Thankfully, no one was injured.

The modified range card helped track suspicious vehicle movement and on one occasion, helped prevent injury and or death from a vehicle-concealed IED that parked within a team's sector of observation. The modified range cards were analyzed weekly and monthly and assisted in illustrating exactly what could be seen from each position, which enabled the platoon leader to better plan for future positions.

Training

The Joint IED Defeat Task Force (JIEDDTF) spent considerable time with our platoon in Iraq to endorse the tactics of what is referred to as the "small kill team" (SKT). JIEDD-TF advocates proposed changes to the curriculum of the U.S. Army Infantry School, which would incorporate SKT tactics and employment training. While these plans are still in the works, leaders can overcome this shortfall by focusing some time on a few very important tasks, which will generate a tremendous effect through the lethality of snipers and OPs. Everyone has been developing ARM/close-quarter marksmanship (CQM) programs, which is great; however, snipers and OP teams need a tailored program. They also need training to plan for the non-hostile compromise, which should be done prior to deployment. I would also suggest focusing on vehicle identification, language skills, and sniper/OP team engagement drills.

Back in the "old days" we used to do vehicle identification religiously with the "T" series tanks. There are about a dozen very common vehicles in Iraq and with the confusion of urban warfare, vehicle identification is very important. Platoons should spend at least one-half day per week focusing on language and NCOs should drill the entire platoon on language skills daily — OP teams do not have interpreters or translators!

Every 19D has pulled his fair share of OP duty; however, there are vast differences between our duties in Iraq and traditional scout duties. First and foremost, the old saying of "if a scout shoots, he's wrong," is not applicable in this environment. Today, the enemy has the capability of emplacing IEDs in seconds — not minutes. When you secure a target, eliminate it immediately. The QRF can finish the engagement, should the vehicle flee, or go find wounded AIF that escape the scene.

All soldiers, especially snipers, should be comfortable shooting from an elevated platform, off a knee, and from a seated position. Soldiers should be instructed on how to hit and immobilize vehicles and should be competent at hitting moving targets after just a day or two of training. Mocking up range towers with high and low windows on modern range facilities would be a good place to create practical training scenarios for units.

Leaders, especially in the planning forum, need to be cognizant of the fact that these are not traditional OP operations. Teams are observing through windows and holes in brick walls where there is deadspace. The sector may not begin for 200 meters out, but can end 700 meters beyond. An IED could be emplaced within those 200 meters in front of the position that the OP team cannot observe.

Discipline cannot be overstated! Noise, light, complacency, and fighting the sleep monster are all the basics we emphasize from day one in the Army. A lot of time and effort goes into what becomes a 5-to-10 second engagement; there are a lot more days of boredom than excitement. However, the effects of destroying enemy IED teams in front of an entire neighborhood overwhelmingly shaped support and confidence in coalition forces and instilled fear in AIF.

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"The teams, particularly the snipers, began learning both verbal and nonverbal communications techniques and began effectively interacting with civilians to develop the situation. For the most part, the Iraqis seemed happy with our efforts; they did not necessarily feel great about us operating in their homes or places of work."

Breaking the Paradigm of Crisis Maintenance

by Brigadier General Mike Tucker

The U.S. Army's equipment is built for durability and to accomplish the mission for which it is designed, even in the harshest of conditions. However, this "milspec" endurance is often short lived due to an all-too-often "don't fix it until it breaks" attitude. One could term this as crisis maintenance versus preventive maintenance.

The bedrock of any maintenance program lies in a unit's ability to conduct quality services. Truth is: our military equipment can only perform as well as the services we conduct.

Why Some Vehicles Breakdown

If services are done to standard, our equipment will have a better than 95 percent chance of not experiencing a mean-time failure between services. In simple terms, you won't breakdown unexpectedly. However, units are consistently challenged with conducting scheduled services for one primary reason — time.

This problem normally stems from a failure to allocate time on unit training schedules for services. Successful units include the conduct of services in their quarterly training guidance and note scheduled services on the battalion's long-range training calendar. Such visibility allows commanders to see likely points of friction between scheduled training and scheduled services. Having visibility of this early in the planning process allows commanders to mitigate and adjust training schedules to allow for quality services. Like mandatory training, services are also required; unfortunately, the latter often pays for the former.

One Size Does Not Fit All

Each vehicle in the Army's inventory has a prescribed amount of time required for a given service. This is provided to commanders and maintenance managers on the Maintenance Allocation Chart (MAC) of the respective vehicle's technical manual.[1] Maintenance standard operating procedures (SOPs) often direct a specified amount of time for the conduct of services. This is usually broken down by tracks and wheels (one week for tracks and three days for wheels). For in-

stance, the MAC allocates 120 man hours for an M1A1 annual service and 36 man hours for the annual service on an M998 HMMWV.[2] It is evident that a "cookie-cutter" approach in our SOPs will not provide the amount of time required to conduct quality services.

Motor Pool Math

Let's take a closer look at what we would normally consider a 40-hour work week in the motor pool. Are we getting the number of hours we think we are each week in the motor pool? Is it enough to get the job done?

Most Army units conduct physical training from 0630 to 0730 hours daily, followed by first formation at 0900 hours. Usually, this formation is conducted in the company area and often command information is disseminated along with occasional promotions and award presentations. We then march to the motor pool, draw our tool boxes, don our coveralls, secure the keys to our vehicles, and move to the vehicle line or maintenance bays to begin work. By this time, it is at least 0930 hours, if not later. Most units break for lunch at 1130 hours and return for formation at 1300 hours. Again, more command information, march to the motor pool, and so on. Finally, we are back on the line at work about 1330 hours. Again, most units break for motor pool cleanup at 1630 hours and the day is complete. Adding all this up, my math comes to five hours in what we would consider to be an eight-hour day.

Further, taking into account that sergeant's time training is conducted one day a week, we average 23 hours a week of actual maintenance time. This, of course, fails to account for the often Monday or Friday training holiday, which brings us to an 18-hour week; a far cry from 40. If the commander has allocated even two weeks for a tank platoon service, he may fall short, unless steps are taken to further mitigate.

Always Begin with Before and End with After

In accordance with the applicable technical manual, completing vehicle services to standard requires the following be conducted: begin with a before-operations check; dispatch the vehicle; drive the vehicle a minimum of five miles; conduct a during-operations check on level ground; return vehicle to the unit motor pool; and perform an after-operations maintenance check. Real efficiencies are achieved when a unit conducts commo checks from distant locations in conjunction with the during-operations checks. These checks are recorded on the vehicle's Form 5988 and become the actual document from which the service is conducted, in conjunction with the service checklist from the applicable technical manual.

Failing to begin a service with a before-operations check could cause maintenance personnel to overlook potential mechanical problems, such as the vehicle's steering pulling to one side, the vehicle shifting improperly, the brakes or linkages binding, the hubs overheating, or any of the fluid lines leaking. More importantly, this same process is repeated during the after-operations check to determine if any of the replaced hoses or filters are leaking and if the vehicle is operating properly.

Ways to Mitigate

Commanders should have an appreciation for the amount of time it takes to conduct services on assigned equipment. Completely understanding time require-

"Each vehicle in the Army's inventory has a prescribed amount of time required for a given service. This is provided to commanders and maintenance managers on the Maintenance Allocation Chart (MAC) of the respective vehicle's technical manual. Maintenance standard operating procedures (SOPs) often direct a specified amount of time for the conduct of services."

ments for the MAC, coupled with an understanding of "motor pool math," commanders can ensure that enough time is allocated to conduct services to standard.

Conducting the pre- and post-service road march is also important, and in some circumstances, will require appropriate convoy and road-march clearances. Again, incorporating vehicle services into the training guidance early in the planning process is very important to help facilitate coordination efforts.

Present and Accounted For

During services, the vehicle operator/crew must be present, as well as the mechanics. Services should never be conducted without this marriage of skill sets. Commanders must make adjustments to the duty roster to ensure essential personnel are present for duty in the motor pool for the duration of the service — not to mention the availability of maintenance personnel.

"Without question, soldiers will know what commanders deem important by observing where they spend the majority of their time. If services are done to standard, we will stop senseless breakdowns and equipment failure. This sends a bad message to our soldiers — they must not only have confidence in their leaders and training, but in their equipment as well."

Setting Condition

In addition to the factors mentioned above, commanders should address certain concerns to determine if the scheduled service is set up for success. For example, commanders should ensure the correct number of service kits have been ordered; that adequate petroleum, oil, and lubricant products are on hand to conduct the service in accordance with the applicable lubrication order; that adequate dry nitrogen is on hand to properly purge optics and turret components when conducting services on fire control systems; that the unit-level logistics system-ground (ULLS-G)-produced "parts received-not installed" list has been purged and a plan has been developed to install them; and that adequate numbers of operational steam cleaners or pressure washers are on hand.

This article validates the fact that services do not just happen but must be planned and appropriately resourced if they are expected to be completed to standard. We owe this to our soldiers, who must man and operate our vehicles to accomplish their assigned missions. Services, as well as routine maintenance, are top-down operations that will fail if unit commanders do not give maintenance programs the proper attention and emphasis. A unit with routine breakdowns and unscheduled maintenance requirements is a unit with a poor service program and a commander who does not deem maintenance readiness important to the unit's warfighting readiness.

Finally, commanders must spend quality time in the motor pool observing and assessing the maintenance efforts of their unit. Cameo appearances and "drive-bys" are inadequate. World War II veteran, GEN Bruce C. Clarke said, "An organization does well only those things the boss checks."[3]

Without question, soldiers will know what commanders deem important by observing where they spend the majority of their time. If services are done to standard, we will stop senseless breakdowns and equipment failure. This sends a bad message to our soldiers — they must not only have confidence in their leaders and training, but in their equipment as well.

Notes

[1]The complete Maintenance Allocation Chart (MAC) can be found in Technical Manual (TM) 9-2350-264-20-1-5, *Unit Maintenance Manual, Vol 5 of 5 for Tank, Combat, Full-tracked: 120mm Gun, M1A1*, Appendix B, pp. B-4 through B-16. MACs originate early in the production cycle as a joint venture between the TRADOC combat developers and the original equipment manufacturer (OEM). The process starts with OEM engineering estimates and logistic support analyses (LSA), which are then validated by TRADOC combat developers. The combat developers conduct these logistics demonstrations in a controlled environment using soldiers from various TRADOC installations. These soldiers perform selected tasks from the OEM task list. Once time and standards are validated, the OEM task list is published as the MAC in the applicable technical manual.

[2]According to TMs 9-2350-264-20-1-1 and 1-2, the semi-annual service for the M1A1 is 58.8 hours for the hull service and 61.2 hours for the turret service. TM 9-2350-264-2-1-1, *Unit Maintenance Manual, Vol 1 of 5 for Tank, Combat, Full-tracked: 120mm Gun, M1A1* and TM 2-2350-264-2-1-2, *Unit Maintenance Manual, Vol 2 of 5, for tank, Combat, Full-Tacked: 120mm Gun, M1A1*, Headquarters, Department of the Army, US Government Printing Office, Washington, D.C., 3 May 2003.

[3]GEN Bruce C. Clarke, *From Leadership to Commandership*, online at *www.trumanlibrary.org/oralhist/clarkebimage3.htm*.

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DRIVER'S SEAT from Page 6

the rim should just be in view. All ACH helmets should be fitted with the thinner size 6 crown pad in the top of the helmet. The crown pad should touch the top of the wearer's head. Fit can be adjusted by adjusting the pad positions inside the helmet, tightening the retention straps, or exchanging the helmet shell for a larger size. By inspecting, leaders can quickly determine if the bottom of the ACH comes to the top of the Soldier's ear canal opening. If it does not, leaders are required to examine other possibilities for the improper fit and take corrective measures, to include suspension pads and retention straps for serviceability. If any of the components are broken or worn out, they should be replaced.

Since there is currently no small-sized ACH, Soldiers who have a loose fit in a medium-sized ACH shell with size 6 pads are best accommodated in a medium-sized ACH with size 8 pads or a correct fitting PASGT helmet. It should also be noted that when other items, such as headsets, NBC mask, and cold weather caps, are worn with either helmet, the headband and suspension on the PASGT and the pads in the ACH will need to be adjusted to allow for the additional equipment. Failure to make adjustments may make the helmet ride too high on the head, putting the Soldier at greater risk.

Soldier safety remains priority one and Armor leaders are dedicated to ensuring the safety of their Soldiers. The PASGT and the ACH were developed to provide ballistic protection to the head, temple, ear, and neck areas against fragmenting munitions without degradation to the Soldier's field of vision, stability, and hearing, which significantly enhances Soldier survivability. However, if Soldiers are unaware of the proper fit and wear of these helmets, they are exposed to increased risk of injury due to ballistic threats — knowledge is power. Leaders must ensure correct fit and wear standards are enforced. This is only one of the many safety key enablers that increase Soldier survivability. Leaders must ensure that every safety procedure on every piece of equipment is enforced.

Technical references, fitting guides (with visual examples), and requisitioning instructions for both helmets are available online, courtesy of PEO Soldier, at *www.peosoldier.army.mil/achsoum.asp.*

"Teach our young Soldiers and leaders how to think; not what to think."

Information Operations continued from Page 25

Patrol leaders could also influence the locals with whom they spoke to report all suspicious activity to U.S. and Iraqi security patrols, or make an anonymous call to the police station. If the people want to believe that locals are not shooting at Americans, then the residents need to at least notify multinational forces or local police regarding any stranger who enters their community. Any town or district that refuses to tolerate insurgent and criminal activity deserves infrastructure improvements ahead of those communities that harbor terrorists and pretend their districts are entirely peaceful. The Diyala government delineated between violent areas and those with a populace supporting the rule of law.

To further develop effective IO, the task force IO officer could use the theme, "funding is tied to security" in a variety of efforts over a period of about a month. Preparing talking points for patrol leaders to carry similar messages would be the beginning. The IO officer could also recommend that company commanders inform SOIs about their government's coffers during visits, particularly with mayors and muqtars. The SOIs could prioritize projects for their communities and share this information with the commanders, who, in turn, could pass the data to the S5 for creating a master list.

A platoon could also escort the PSYOPS team to the local radio station to conduct an interview about how the provincial government continues to mature as a competent administration, and deliver a CD containing Multinational Corps-Iraq infomercials.

Another platoon could escort the CA team to the city power plant to discuss the effective use of funds with the plant manager. Advance coordination with the provincial television station and newspaper would ensure media coverage of the power plant tour to show the populace that the U.S. is interested in improving the quality of life for Iraqis.

Another effective IO measure would be using PSYOPS channels to design fliers for patrols to distribute. The verbiage might read: "Petition your city council to improve your community's roads and electricity — a representative government only works when the community gets involved."

IO Integration — an Essential Task in Postmodern Warfare

The Global War on Terror continues to be a battle of ideals. Whoever achieves victory will be the opponent who most effectively conveys his perception of reality and aspirations for the future with a host-nation populace and an international audience. The U.S. Army can little afford to forget the lessons gained through a decade of Balkan peacekeeping operations and four years of proactive engagements since 11 September. Military leaders at all levels, most specifically at the tactical level, must accept that in the absence of a conventional threat, IO is a critical force enabler. Ensuring that we train soldiers to convey the right messages to a civilian on the battlefield today may be just as vital as ensuring they know how to close with and kill the enemy.

Notes

[1]*Information Operations: Warfare and the Hard Reality of Soft Power,* ed. Leigh Armistead, Brasseys, Inc., Dulles, 2004, p. 1.

[2]U.S. Army Field Manual (FM) 3-0, *Operations*, U.S. Government Printing Office (GPO), Washington, D.C., 14 June 2001, pp. 11-16.

[3]FM 3-13, *Information Operations: Doctrine, Tactics, Techniques, and Procedures,* GPO, Washington, DC, 28 November 2003, pp. 1-5.

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From the Boresight Line:

The Value of a Master Gunner: Priceless

by First Sergeant Robert Hay

Many of my past articles have discussed the duties of the master gunner, the training he receives, and how he is selected to attend the master gunner's course. Once a student has successfully completed the course, he is a master of gunnery. This article illustrates how a master gunner uses his knowledge in real-life scenarios.

When a master gunner is presented with a problem, he is required to go through a series of steps to determine a solution:

- Is it a tank equipment problem? Can I correct it? What maintenance troubleshooting procedure do I use or instruct the turret mechanic to perform?
- Is there a crew procedural problem? What information does the crew need to correct the problem?
- Do I have both an equipment and crew procedural problem? How much time will it take to correct the problem? Do we move the crew to another tank due to our limited range training time?
- During combat, can the crew fight degraded? What part(s) are needed to fix the tank? Do we move it to the collection point for repairs or do we need a replacement?

The master gunner's ability to apply his technical skills and knowledge not only affects the 25 percent firepower of the platoon, but also the lives of four soldiers.

27 February 1991, Iraq. *The task force is moving North in Iraq on its way to executing the left hook into Kuwait. A65, the company XO's tank is the only vehicle with the Loran system mounted and is guiding the company's movement. The thermal imaging system (TIS) goes blank, the crew can no longer use their thermal system, and it's a night operation! As the only vehicle with the navigational system, the tank is unable to pull back for repairs. The turret mechanic is unavailable, so the company master gunner jumps on to troubleshoot. He quickly determines that the power control unit (PCU) is bad. The tool truck has a spare PCU and brings it forward. In about 30 minutes, the master gunner has replaced the PCU and the tank is now fully mission capable (FMC) ready to continue the fight.*

The above vignette is not that unusual to most master gunners as far as the troubleshooting process is concerned. It is, however, significant because it was accomplished during combat, at night, on the move. This real life scenario showcases the capabilities of the tank master gunner. He quickly diagnosed the problem, recommended a solution, and installed the replacement PCU by using knowledge he gained from the Master Gunner Course. Without the knowledge from the school, he would not have known the relationships between the various line replaceable units (LRU) and the TIS system and quickly determined the solution.

7 April 2003, Baghdad. *The tanks of the lead task force into Baghdad had conducted the Thunder Run two days prior and had several maintenance issues and degraded systems. Positioned downtown Baghdad in front of the conference center, White 1's hydraulics go down. The crew is forced to fight in manual mode for the next eight hours. The majority of the unit's maintenance is back at the unit maintenance collection point (UMCP) working on other task force vehicles. With limited maintenance forward with the task force and its lines of communications still unsecured, there is no way to get the tank back to the UMCP; it's left to the company master gunner to diagnose the problem. He quickly determines that the turret hydraulics distribution valve (TDV) is broken. He radios his findings higher and later that evening, a TDV is pushed forward with the rearm and refuel (R2) package. The tank is back in the fight FMC in less than two hours.*

The above is a scenario of how a master gunner uses his knowledge gained in the master gunner course to enhance his unit's combat effectiveness. The master gunner receives almost 30 hours of training and troubleshooting on the turret hydraulics system; his in-depth and extensive understanding of the hydraulics system and its components allowed him to quickly diagnose the problem and recommend a course of action. Having this knowledge prevented a delay in the vehicle's FMC status.

June 2003, Ba'qubah. *The battalion master gunner is given guidance from the task force commander to develop a gunnery validation plan ready to execute in three months, which will later be transformed into a combined arms gunnery validation, including mortars, AT4s, and Apaches, as well as convoy live fire. A daunting task to most, it is more so during combat operations with limited resources. The master gunner selected an old range that belonged to the Iraqi army's III Corps as the training area. Without materials to make targets or access to target lifters, he had disabled Iraqi vehicles towed in as hard targets and used plywood to make troop targets. The first validation gunnery was executed ahead of schedule, just two and a half months later.*

The master gunner used various lessons learned from the master gunner school that enabled him to accomplish this mission. The training management he received during the course enabled him to understand and execute the process of going from no range to training execution in less then three months for a combined arms exercise. The surface danger area diagram and firing tables training enabled him to safely set up the range and incorporate various firing systems and safe firing zones based on target and ammunition type to prevent potential safety hazards. Properly organizing the range and its operation was a result of the training received for advance conduct of fire and plan and conduct gunnery training.

The examples above illustrate how a master gunner can assist his unit during peacetime, combat, or pre/post-deployment training. Simply stated, the master gunner is a combat multiplier.

Without a doubt, there are many more examples of how master gunners have applied the skills and knowledge gained from the master gunner course to enhance unit combat effectiveness. If you have an example of how your master gunner or you as a master gunner have applied the training received from the master gunner course, please share it with us. Send your story to *robert.hay@knox.army.mil.*

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