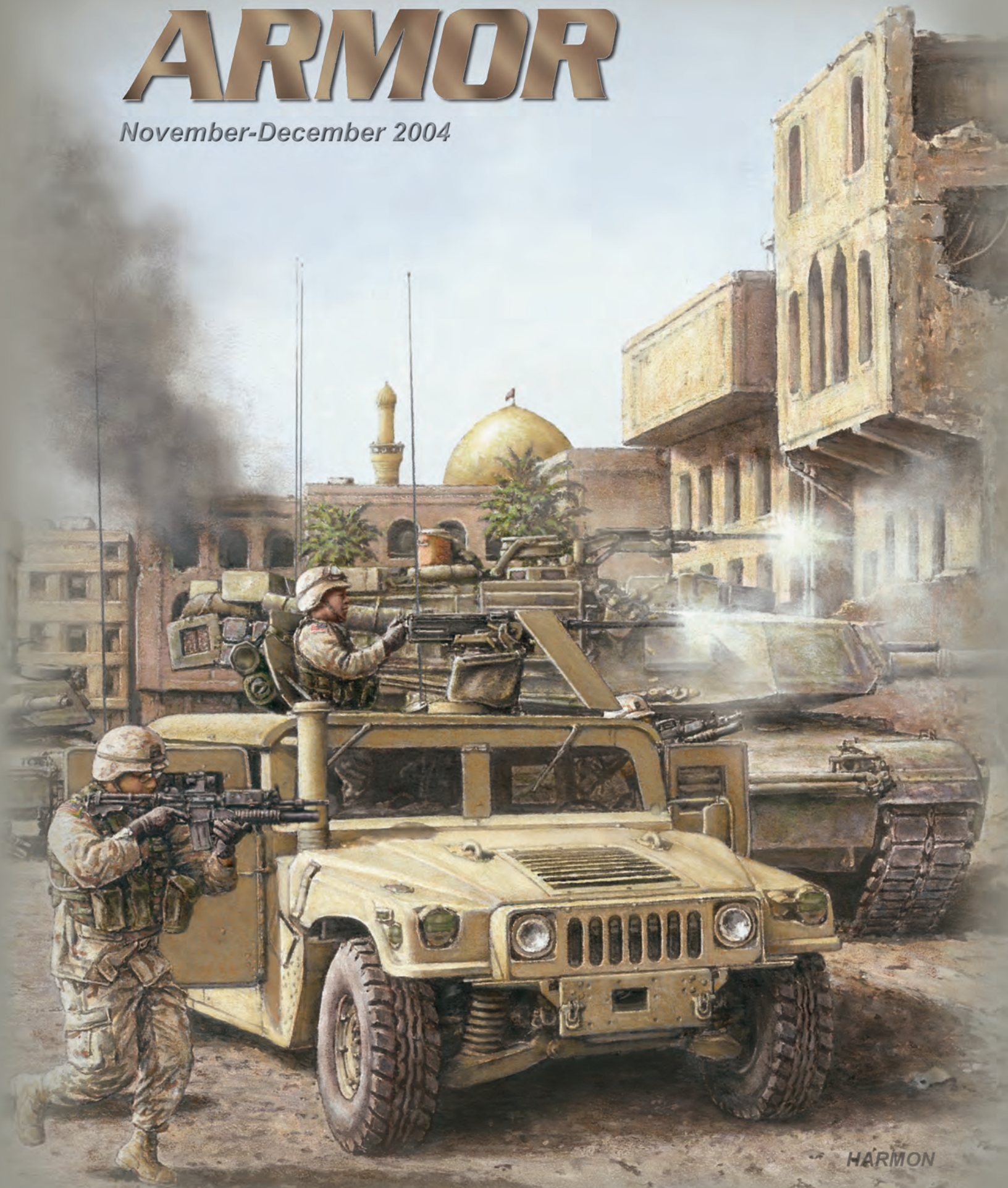


ARMOR

November-December 2004



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ARMOR

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Once More Unto the Breach



After the defeat and surrender of Germany in May 1945, the undertaking of rebuilding Europe and restoring a functional and democratic government was first priority for the victorious allies. There was much concern about how to feed, clothe, house, and maintain order among concentration camp survivors, homeless German citizens, and massive amounts of German prisoners of war. Allies were also concerned with a possible guerrilla war raged by German partisans who received guidance in January 1945 from prominent Nazi leaders to continue to fight despite the inevitable defeat of the German Wehrmacht.

During Germany's rebuilding, there were attacks on U.S. soldiers from German resistance forces, displaced civilians, and concentration camp survivors who felt the Americans were siding with former Nazi party members and soldiers. Newspaper headlines and editorials touted the United States' untenable situation, saying there was no end in sight — much like current viewpoints regarding the United States' position in Iraq. In his timely article, "The German Werewolf and the Iraqi Guerrilla," Captain Brian Glasshof compares and contrasts German guerrilla forces, operating toward the end and aftermath of World War II, with the insurgents today in Iraq.

Similar to the circumstances in Germany immediately following World War II, Iraq has become a tougher place to govern; however, with time, the correct application of sheer force, reconstruction funds, and the will of Iraqi citizens to seize control of their country and defeat insurgents and foreign fighters, Iraq could follow the model of a defeated Germany and become a stable and vibrant country. The key to Iraq's stability is to defeat insurgents and Iraqi fighters, a task no one knows better than the soldiers from Task Force 2d Battalion, 37th Armor, 1st Brigade, 1st Armored Division, the 'Iron Dukes.'

On 22 April 2004, the Iron Dukes, assumed mission from 3d Brigade, 1st Infantry Division, in the holy city of An Najaf, Iraq. The enemy, known as Muqtada's militia, controlled An Najaf and neighboring Al Kufa. The Iron Dukes battled nonstop for five weeks and broke the enemy's will to fight, destroying more than 600 militia and wounded countless others, ultimately leading to the defeat of al-Sadr's militia.

In this issue of *ARMOR*, three warriors share their first-hand battle experiences from the defeat of al-Sadr's militia. In their articles,

Major Todd Walsh, "The Fight for Kufa: Task Force 2-37 Armor Defeats al-Sadr's Militia," and Lieutenant Colonel Pat White, "Task Force Iron Dukes Campaign for Najaf," describe their units' actions in Kufa and Najaf, which resulted in expelling Muqtada al-Sadr's militia from the holy cities of Kufa and Najaf.

In a gripping recount of how his unit came to the aid of an isolated infantry platoon in the middle of Sadr City, Captain John Moore's, "Sadr City: The Armor Pure Assault in Urban Terrain," provides an in-depth account of how his company conducted a hasty attack into the midst of the densely populated city in the northern portion of Baghdad. Displaying heroic actions and courage under fire, the Crusaders relieved the isolated infantry platoon.

How do you prepare and train your unit for war when you go from an M1A1-equipped task force to a mixed task force of tanks and infantry? Staff Sergeant James Gibson's article, "Task Force 1-77 Armor — Back in the Saddle," explains how he assisted in transforming his unit for action in Iraq. Once again, American ingenuity and the ability to change on the fly and win, proves true.

Prior to the development of the M1-series tank, the United States lagged far behind the rest of the world in producing tanks with firepower, mobility, and survivability. In their article, "Major Tank Developments 1960-2004," former *ARMOR* Magazine editor, retired Lieutenant Colonel Burt Boudinot and retired Lieutenant Colonel Teddy Sanford Jr., outline how the United States finally overcame weaknesses in developing tanks.

Day after day, one of the U.S. Army's newest units is proving to be quiet effective during combat operations. In his article, "The Reconnaissance, Surveillance, and Target Acquisition Squadron: Agile and Adaptive, Relevant and Ready," Captain Keith Walters explains how this dynamic squadron is successfully executing combat missions that were once only notional ideas.

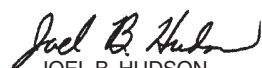
As our authors point out, the operating environment in Iraq has created an adaptive military force, capable of dominating challenging environments. *ARMOR* is intent on bringing critical battlefield observations from the Armor Force to the Armor Force. Keep writing — it increases battlefield success. Have a safe and happy holiday season!

— DRM

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Stryker TOW Variant Less Capable

Dear *ARMOR*,

As I read "The Stryker Company and the Multifunctional Cavalry Platoon," by Colonel Bruce B.G. Clarke, in the July-August issue of *ARMOR*, I was struck by an anomaly in the current Stryker unit organization. Why do we need a Stryker antitank guided missile (ATGM) variant?

During World War II, organic infantry antitank guns (37mm and 57mm) were too small to be generally effective, while the towed tank destroyers (76mm) were too cumbersome to be effectively maneuvered. Medium tanks (75-76mm) and armored tank destroyers (76-90mm) were more effective, but were not generally available to infantry units.

The 2.36-inch "Bazooka" rocket launcher was fantastic in its time. In 1942, it allowed an infantryman to defend against any known tank. No longer could enemy armor overrun dismounted infantry with impunity. As armor protection improved, the infantry needed larger and heavier defensive weapons. The 3.5-inch "Super Bazooka" came too late for much use during World War II, but served well in Korea. Recoilless rifles evolved as light (57mm and 90mm) and vehicle-mounted (75mm, 105mm, and 106mm) infantry weapons. All of these were relatively light weapons, firing reasonably large projectiles. The common drawbacks (compared to cannons) were short range, low velocity, poor accuracy, and large firing signature.

In the 1960s, the wire-guided ATGM was another breakthrough. The tube-launched, optically tracked, wire-guided (TOW) missile, especially with its superior guidance system, provided range, accuracy, and lethality far greater than any tank or towed antitank gun of the time. It finally provided light and mechanized infantry with a true overmatching standoff capability against enemy tanks.

However, tank gunnery has improved dramatically — today's tank cannons shoot faster and farther with a much shorter flight time. The only advantage left to the ATGM is its light weight. Hence, the anomaly: given a Stryker cannon variant with an effective 105mm cannon, why is a Stryker TOW variant necessary? Colonel Clarke points out in his article, you need the cannon to "...deal with situations in urban terrain where only a gun will suffice." However, I cannot imagine a situation where only a Stryker TOW would suffice.

I do not suggest eliminating the TOW. It remains a very useful weapon since it can be mounted in high-mobility, multipurpose wheeled vehicles (HMMWVs) and M113-series armored personnel carriers. It is also an excellent complementary weapon on the M2/M3 Bradley. But in a Stryker armor, cavalry, and reconnaissance unit, equipped with the 105mm cannon variant, the TOW variant is less capable and should be replaced.

CHESTER A. KOJRO
LTC, U.S. Army, Retired

New MTOE, Not More Weapons

Dear *ARMOR*,

First Sergeant C.E. Gillham, whose letter appeared in the July-August 2004 *ARMOR*, is absolutely correct. Tankers don't necessarily need more weapons; they need to be able to fight their tank. However, today's battlefield and subsequent support and stability operations do require tankers to perform dismounted duties, for the simple fact that someone has to do it. Captain Mike Sullivan's article "Arming the Knight for Dismounted Combat," in the May-June 2004 issue of *ARMOR*, states, "The current MTOE [modified table of organization and equipment] for armor companies assigns two rifles per tank. This is completely inadequate when soldiers are dismounted."

I disagree with Captain Sullivan's statement. If a tank company has so many soldiers dismounted that two rifles per tank crew is not enough, then the tank platoon or company has been downgraded and is no longer effective to provide enough firepower and support to warrant the presence of tanks in the first place. This can be corrected, as First Sergeant Gillham states in his letter, "leave the small arms shooting, snooping, and moving to the infantry [and scouts], and the breaching and other mobility/countermobility skills to the combat engineers." Unfortunately, there are many times when the immediate need for these skills is not met with the desired supply of skilled soldiers on hand, based on the current organic and task organized units.

Our Army is currently undergoing many changes to its organization. As I have stated in letters past, no current unit organization is better suited and provides a more diverse, mobile, and lethal force than the divisional cavalry squadron. Task organizing is not the answer. Organize units so that all the skills necessary are readily available to the commander, and these many diverse skill sets know how the others operate and can effectively employ and complement shared capabilities. Only then will our Army truly fight as a combined-arms team.

JASON McMURRAY
SFC, U.S. Army

Refining the Lesley McNair Approach to Force Restructuring

Dear *ARMOR*,

The U.S. Army's original purpose of adopting a brigade system in the early 1960s was to create a modular system for task organizing units. Like the combat command system used by armored divisions during World War II, the brigade was intended to facilitate flexibility in the cross attachment of divisional assets for specific mission requirements. While this approach to organization appears excellent in theory, it runs up against the realities of practice. In short, *flexibility* will usually be compromised in the interests of *cohesion*.

This tendency is somewhat reflected in the evolution of divisional structure since the Re-

organization Objective Army Divisions (ROAD) reorganization of the early 1960s. Not only have command relationships been standardized as much as possible, but in the interest of self-sufficiency, asset upon asset has been piled on the heavy division until it is weighed down to the point of strategic immobility. The assertions that our Cold War heavy division's tables of organization and equipment (TO&E) are too unwieldy for the modern operating environment are undoubtedly correct. But then again, I would argue that it was too heavy to fight in a Cold War environment as well. Not only do behemoth divisional structures reduce strategic and operational mobility and flexibility, they undoubtedly present division commanders the unenviable task of managing assets rather than fighting battles.

With the brigade units of action (BUA) we are now perpetuating this mistake by maintaining the bloated condition of our brigade-level organizations rather than reducing what I would describe as organizational overload. The tendency to overburden maneuver units with assets reflects the garrison and administrative mentality afflicting our Army today and is hardly in line with creating an expeditionary force possessing strategic mobility. Once again, this turns brigade commanders into managers, diverting their focus and compromising the essence of combat leadership.

What we need is the Lesley McNair approach to force restructuring — ruthless eradication of assets not directly related to the combat efficiency of maneuver units. Refining this elimination process may be necessary, but should be equally acute.

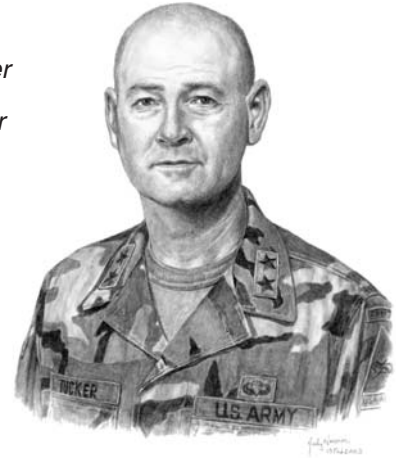
This process would consist of three major steps: divest brigades and brigade units of action and replace them with the regiment as the primary operational and administrative entity; remove it from the regimental organization if it doesn't directly contribute to the close fight; and develop procedures and doctrine that facilitate interface between combat support/combat service support/service support elements and the supported maneuver organization so that the combat leader is free from responsibility for directing such activities.

In transitioning to the regiment, the Army will return to an organization that encourages and cultivates the sense of unity, tradition, and cohesiveness that contributes to combat effectiveness and soldier morale. Getting rid of the loose organization of the brigade structure will also result in higher echelons of command maneuvering units as whole entities, rather than breaking them down and scrambling them about in dribs and drabs. Such dispersion not only results in piecemeal commitment to combat, but leads to creating ad hoc command relationships that undermine command and control.

As to our association with mounted warfare, the result of this reorganization would be creating two basic types of regiments — the infantry regiment (Stryker) and the armored cavalry regiment. Stryker infantry regiments would

Continued on Page 50

Major General Terry L. Tucker
Commanding General
U.S. Army Armor Center



Abrams Tank: Centerpiece of the Combined Arms Team

"When you need a tank, you need a tank!"

— LTC Greg Reilly, Commander,
1st Squadron, 3d ACR

Supporting the global war on terrorism while transforming organizations into new heavy unit of action brigade combat teams and combined-arms battalions means armor Soldiers are busier than ever. While development of the future combat system (FCS) and fielding of new Stryker brigades continues, remember that the Abrams tank and Bradley fighting vehicle are core systems to the heavy brigade combat team (BCT) and will remain critical components of the combined-arms team for decades to come.

Within the next three years, you will see all M1, M1IP, M1A1D, and M1A2 tanks out of the force. Even with reorganizing brigades into heavy BCTs, the number of Abrams tanks in the active component will not change significantly. The M1A2 system enhancement program (SEP) is currently being fielded to the 4th Infantry Division and will be completed during 2005.

The 3d Armored Cavalry Regiment will receive M1A2 SEPs with improved electronics starting in 2006. M1A1 Abrams integrated management (AIM) tanks, rebuilt through the AIM process, will be fielded to all other active divisions. The 2d Infantry Division received these rebuilt tanks this year and units at Fort Riley and the 3d Infantry Division will field the M1A1 AIM tanks by 2009. Once the U.S. Army National Guard (ARNG) completes its reorganization, it will have fewer tanks, but will field the M1A1 in its heavy BCTs.

During the past 18 months, Abrams tanks have been in combat in Iraq. Tankers are confident in its survivability, lethality, and reliability as part of the combined arms team because it enabled aggressive action in the face of hard-fighting enemy elements. We have seen great battlefield success and high survivability and lethality in close combat due to the tank's capabilities

and the tanker's courage. We have also taken casualties and seen enough action to realize certain reinforcements and improvements are necessary.

We must improve tank and crew survivability against adaptive threats. We must exploit simple survivability enhancements to improve protection for loaders and tank commanders, which will enhance their abilities to fire machine guns, thereby increasing effectiveness and reducing exposure times.

There are a number of other improvements already planned for the tank to ensure it remains relevant and capable of overmatching the future threat. Situational awareness improvements include a new second-generation forward-looking infrared (FLIR) for the M1A1. This sight is essential to ensure overmatch against current and potential enemies, reduce fratricide risk, and enhance situational awareness. We will begin to put second generation FLIR on M1A1 AIM tanks coming off the production line in 2006. These M1A1 AIM tanks will also get blue force tracking system integration components, a highly accurate far-target location capability, and a thermal driver's vision enhancer. Improved communications capabilities will also be integrated to link the tank to the FCS's network.

Abrams tank lethality is already unmatched. Even so, ongoing lethality enhancements will further increase its capability. The M829A3 is the latest generation kinetic energy (sabot) round and has an improved penetrator design and propellant. It has been in full-rate production for one year and was recently released for worldwide use. The XM1028 canister, a 120mm antipersonnel round, is nearing type classification and low-rate production and will be available to the field in 2005. Additional ammunition improvements are expected to spiral from FCS program developments. An initiative to improve tank gun accuracy and the ability to fire from

fleet central control facility (CCF) is also underway, which will reduce the need to screen all tanks prior to employment.

Sustaining tanks in the operational environment in Iraq, one of the harshest environments for tanks, is tough business. Maintaining readiness and controlling sustainment costs require increased reliability and engine life from the M1A1 turbine engine (AGT 1500). Over the next five years, Program Manager-Abrams and industry will execute an engine revitalization program to increase the Abrams' reliability and durability. The M1A2 SEP will receive additional batteries and an improved voltage regulator to meet under armor auxiliary power demands and road arm spindles will be manufactured through a new process to increase durability by a factor of ten.

Improved precision gunnery training simulators fielded across the force will soon get urban terrain databases to support more realistic training scenarios in simulated urban environments. The XM1002 training round will soon offer improved training for multipurpose antitank (MPAT) ammunition by having a settable (dummy) nose switch and will mimic the size, shape, weight, and flight characteristics of the M830A1.

New gunnery tables are being validated for the upcoming release of the new gunnery manual. These revised tables include more demanding tasks with an increased emphasis on machine gun engagements and firing the loader's M240 machine gun.

As you face challenges ahead, remain mindful of Armor Soldiers who have sacrificed life and limb in Iraq. Discipline, training, and hard work, combined with the best equipment and best training in the world, are key to winning the war in Iraq and bringing our tankers home safely.

Forge the Thunderbolt!

*CSM George DeSario Jr.
Command Sergeant Major
U.S. Army Armor Center*



Training Armor/Cavalry Soldiers For Future Force Requirements

Training today's Armor and Cavalry Soldier to be more effective and survivable is the first requirement of adapting to the current operating environment. Soldier skills continuously evolve to meet the demands of the new flexible and versatile battlefield.

The U.S. Army Armor School's 1st Armor Training Brigade (ATB) at Fort Knox, Kentucky, realizes that Soldiers are the ultimate platform, remaining the irreplaceable foundation that combines the tools of war that can defeat any enemy in any environment. The 1st ATB teaches warrior skills that allow Soldiers to survive on the battlefield. Initial entry training at Fort Knox is no longer an antiquated course of a peacetime Army — it produces warriors ready to tackle the challenges of a contemporary Army at war.

Every Soldier is a leader. In midst of intense change throughout the Army, the Soldier remains the center of our formations. The responsibility to train these dynamic Soldiers to adapt to the current warrior culture can be challenging. Tools of war continuously improve, but only trained warriors can exploit them.

We must prepare the Armor and Cavalry force for the future. The 1st ATB has taken on this challenge and is building future warriors for battlefield roles. This challenge requires critical changes to the vast array of capabilities, skills, techniques, and methods of training to assure warriors arrive at their units prepared for war. These changes include one of the most important soldier skills — rifle marksmanship. Necessity for this skill has not waned, despite recent changes in the way we approach war; however, marksmanship training has changed. It is no longer simply familiarization with the weapon, followed by several days at the range to zero and qualify. The fundamentals of shooting are still firmly in place, but more emphasis is placed on reality and actually employing the weapon in the contemporary operating envi-

ronment. Student warriors are taught the basics of quick-fire techniques, similar to those practiced by seasoned Special Forces soldiers. They soon learn they are unlikely to encounter a wartime situation similar to a qualification range; rather, they will more likely shoot from a high-mobility, multipurpose wheeled vehicle (HMMWV) window while on the move.

Today's advanced marksmanship training helps new warriors understand and prepare for the battles they will experience. In addition to the myriad of additional live-fire exercises, student warriors are exposed to numerous real-world situations via electronic simulation (EST). The EST system allows them to shoot in multiple realistic scenarios, where they can employ the fundamentals of rifle marksmanship, as well as the advanced techniques. When ammunition is scarce for the training environment, EST provides realistic training and virtually limitless trigger-time.

Much like revising the old static marksmanship program, tanker and scout training has been revised to add training skills that were previously omitted from the program of instruction. The war in Iraq has moved into the cities, and to mimic the war, Fort Knox moved a portion of its training to the Zussman military operations in urban terrain (MOUT) training site. During these training events, student warriors begin to learn the complexities of urban warfare. They also learn that they will not always be mounted, thus realizing dismounted fighting skills cannot be ignored. In the urban environment, student warriors are instructed on tasks that have become routine for tankers and scouts in the Middle East, which include movement techniques in an urban environment, identifying unconventional cover and concealment, room-clearing procedures, and the limitations of a mounted force on an urban battlefield.

Change in any part of an intricate organization is difficult to forecast, but the 1st

ATB has already incorporated new tasks never before taught in the initial entry training environment. One-station unit training for tankers and scouts has incorporated convoy operations and land mine training. Student warriors learn the fundamentals of how a convoy operates, what actions to take in the case of an ambush, and how to properly defend the convoy. In conjunction with adding convoy operations to training, land mine training has been adjusted to incorporate what too many soldiers were forced to learn by experience on the battlefields of Iraq. Land mine training still addresses conventional land mines but incorporates improvised explosive devices (IEDs).

Time constraints have caused other training aspects to be reduced to provide additional time resources for new training programs. Drill and ceremony, while still taught, has been restructured to create relevant urban training. Also, various aspects of training have been combined to create a realistic and stressful training environment that mimics war as closely as possible. The daily march to the classroom now emphasizes individual and squad movement techniques, Soldiers still move to the classroom, but now they move tactically, advancing as if they were under the constant threat of enemy fire. It is not uncommon for student warriors to encounter a simulated IED en route to the classroom or the dining facility.

Soldiers, ready and willing to become warriors, are more than ever prepared to move into an unending chaotic and uncertain battlefield, filled with a conventional enemy, terrorists, improvised explosive devices, ever-present media, and crowds of non-combatants.

Iron Discipline and Standards!

From the Boresight Line:

Building Ranges in Austere Environments

by Staff Sergeant Michael Pratt

Building ranges in austere environments poses challenges for master gunners. In today's deployable environment, master gunners must have an anytime-anyplace capability to build ranges.

Think Early

Several factors must be considered prior to building ranges in any environment: the commander's intent; which weapons platforms will be fired on the range; environmental factors of the location and condition of the terrain; types of accessible targets; types of ammunitions and if they are dud producing; types of ammunition surface danger area diagrams (SDADs) will be based on; identifying the approving authority regarding the use of land and the SDAD; and whether or not the area is located in a permissive, semi-permissive or hostile environment.

Intent/Weapons

Being a tank master gunner makes the first two issues easy — one would think. Today, with the influx of coalition forces and joint task forces from around the world in almost every mission, you must think beyond building a range for the M1A1/A2/SEP.

The best way to decide which weapons platforms will be used on the range is to involve your S3. The S3 can clarify the commander's intent and find points of contact from task forces or coalitions who are subject matter experts on particular platforms — every force has someone equivalent to a master gunner. Normally, when you build a range in a combat zone, everyone wants to use it, including air, artillery, mortar, transportation, and any other assets in your vicinity. Always plan for the worst-case scenario.

Land/Environment

A survey of the land will be required. Try to match the fighting environment as closely as possible. Take a look at the vegetation, if any is present; do not base your site on small sand dunes, they tend to move. Have your S2 provide historical data on the normal environmental conditions for certain times of the year — you do not want a piece of land that floods every January. Two very important considerations are the local community and clearing the area of mines and duds. Use a simple checklist for surveying the land. The checklist should include determinate factors such as matching the fighting en-



vironment, if the area can accommodate large caliber weapons and air-to-ground munitions, if the area can support firing year round with minimal down time due to environmental conditions, if the range will interfere with the local community, possible security problems maintaining the range, clearing the area of mines and duds, historical use of the land, and its impact area status.

Targetry

Normally, in an austere environment you will initially have to use improvised targets. Hard targets, such as war scraps, are a possibility, but require a very large SDAD, are hard to maintain, and offer no scanning techniques for crews. This is good for basic familiarization or systems verification. Locally purchased plywood, two-by-fours, and concrete blocks can also be used as targets.

If you have access to standard targets, take into consideration possible interference with your target lifters. If you have to make your own targets, you can find the minimum dimensions for standard targets in U.S. Army Field Manual 3-20.12-7, *Tank Gunnery Training Devices and Usage Strategies*.

Ammunition

Department of the Army (DA) Pamphlet 385-63, *Range Safety*, addresses proper dimensions of SDAD for U.S. weapons systems and ammunitions. If you have an adequate backstop, one of the easiest techniques is finding ammunition with the largest ricochet area against the type of target that will be used, such as .50-caliber ammo against steel or earth. This could prevent developing unnecessary SDADs for each ammunition type.

If air-to-ground munitions will be used, coordinate with the aviation subject matter expert; he can assist in preparing the aviation unit's surface danger zone.

Approval Authority

The approval authority for ranges varies depending on whether a waiver is required. DA PAM 385-63 outlines the requirements for waivers based on SDAD modifications, impact areas, or ammunition. The theater commander should publish standard operating procedures for establishing ranges in an area of operations.

Permissive, Semi-permissive, or Hostile Environment

One of the most important things to consider is the environment. During Operation Iraqi Freedom, the initial environment following the major ground combat was semi-permissive, which meant ranges built had to be torn down after use, unless they were located within a unit's secure footprint.

The current environment in Iraq is considered hostile for training, which requires ranges to be torn down after use, as well as security details to secure training areas during training. This is very labor intensive for units. If you are only shooting small-caliber weapons, it may be more beneficial to build a scaled range.

Building ranges in foreign countries, such as Hungary, Czech Republic, Poland, and Bulgaria, can be fun and challenging. Building ranges in Iraq or Afghanistan can be challenging and extremely dangerous. Make sure you do a good risk assessment before you fire and put steel on target!

Task Force Iron Dukes Campaign for Najaf

by Lieutenant Colonel Pat White

On 22 April 2004, Task Force (TF) 2d Battalion, 37th Armor, 1st Brigade, 1st Armored Division, the 'Iron Dukes,' assumed mission from 3d Brigade, 1st Infantry Division, in the holy city of An Najaf, Iraq. The enemy, known as Muqtada's militia, controlled An Najaf and neighboring Al Kufa. The mission statement appeared simple: destroy the militia and restore order to An Najaf/Kufa to allow transition of authority to a legitimate Iraqi government; and, on order, transfer security responsibilities to Iraqi security forces (ISF).

When the fighting stopped and the smoke cleared on 4 June 2004, TF Iron Dukes had battled nonstop for five weeks and broken the enemy's will to fight, destroying over 600 militia and wounding countless others, capturing or destroying all types and calibers of weapons, successfully detaining two top aides to Muqtada al-Sadr, and seizing weapons caches in the holy cemetery and Sahla Mosque.

For the Iron Dukes, the road to An Najaf began on 28 May 2003. The Iron Dukes were cross attached to the 'Dragoons,' 2d Armored Cavalry Regiment (ACR). The Dukes accepted attachment of one light cavalry troop and one

detached tank company. For the next 10 months, the Dukes would perform combat missions, peacekeeping missions, and recruit and train 500 Iraqi police and an Iraqi civil defense corps battalion in southern Baghdad.

Between 4 April and 10 April 2004, the Dukes fought in Sadr City, Baghdad, under tactical control of 1st Brigade, 1st Cavalry, followed by fights in Al Kut on 10 April and Ad-Diwaniyah on 17 April. These actions successfully prepared the Iron Dukes for one of the most intense urban battles since the Iraq ground war in 2003.

The fighting in Najaf began on 28 April 2004. Available combat potential for the fight included: two M1A1



Task Force Iron Dukes

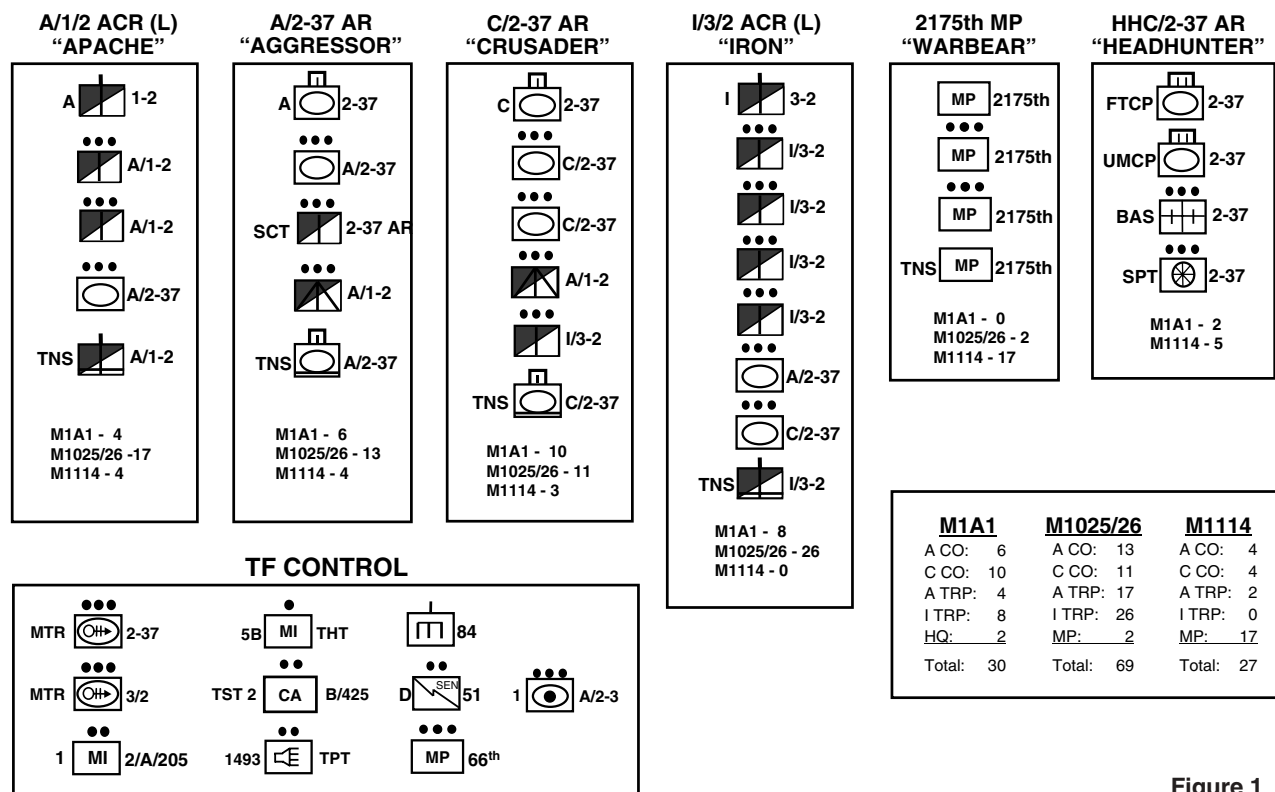


Figure 1

Abrams integrated management (AIMS) organic tank companies, comprised of companies Aggressor and Crusader; two light cavalry troops, made up of Apache Troop, 1st Squadron, and Iron Troop, 3d Squadron; one Paladin battery with fire-finder radar, Assassin, 2d Battalion, 3d Field Artillery; one military police (MP) company (minus), Warbear, 2175th Battalion, Missouri National Guard; one MP platoon, Renegade, 66th MP company, Fort Lewis, Washington; one light combat engineer company (CEC), 84th CEC, 2d ACR; one psychological operations team; two civil affairs teams; an electronic warfare platoon; and an organic headquarters and headquarters company.

The task force organized forces into four maneuver teams, as shown in Figure 1. These forces were arrayed across the battlespace in three forward operating bases (FOBs), separated by approximately 40 kilometers. Headquarters and headquarters company (minus) operated from FOB Duke, a dusty patch of ground in the middle of the desert. One tank team and the Paladin battery were located at FOB Hotel on the northern outskirts of An Najaf. The rest of the task force collocated with an El Salvadorian battalion in the heart of An Najaf at FOB Baker/Golf. The task force also integrated into operations aerial scout weapons teams (OH-58D Kiowa Warriors), an AC-130 gunship, F-16 Fighting Falcons, unmanned aerial vehicles, Iraqi counterterrorism forces, and an operational detachment A (ODA) team already operating in An Najaf.

The enemy was made up of trained and untrained militia. The trained militia members were organized into four companies. Two companies were employed as defensive companies and controlled key terrain around the Ali Shrine and Kufa mosque, while two companies were employed as attack companies throughout Kufa and Najaf.

The untrained militia roamed the streets and executed 'opportunity attacks' on coalition patrols and Iraqi citizens. Additionally, throughout the city, Sadr lieutenants resided with personal security detachments, and almost every mosque and school was being used as a cache for weapons or mortar firing points.

Again, the mission statement *appeared* simple. In reality, the task force would be challenged daily, balancing application of force with the complexities of the battlefield. First and foremost, consideration had to be given to collateral damage on holy sites, including the Imam Ali Shrine, which is a religious symbol for over 5 million Shi'ite worldwide and headquarters for Ayatollah Sistani, Cleric Muqtada al-Sadr, and more than 500 militia fighters; and the Kufa Mosque, which is second only in religious significance to the Ali Shrine and is the stronghold of the militia with more than 600 fighters.

To the north of the Ali Shrine, lies the largest Shia burial ground in the world. This area was infested with insurgents from the Ali Shrine and Kufa, and was used as a weapons cache, and as the task force would later learn, a sensitive site requiring precision fires.

This article shares lessons learned and methods developed during the fight in Najaf/Kufa. Although, the fight will never be labeled a modern 72 Easting, or spearhead into Iraq by the 3d Infantry Division, the intensity, tempo, and constraints have application for future employment of armor forces in urban terrain.

Tempo and Campaigning

Understand the complexity of the battlefield. In the case of Najaf and Kufa, considering political backlash from damaging holy sites and creating unnecessary collateral damage was para-

mount in all planning and execution. Soldiers were well aware of the cascading effects a hole in the golden dome or a city block razed during counter fire would have on the Shia population; in essence, defeating the campaign's purpose. From the onset, these constraints became a leader challenge and commanders executed to perfection. Soldiers adapted engagement techniques and chose appropriate weapons systems to destroy the threat, with little or no damage to significant holy sites. The staff identified holy sites during the military decisionmaking process and planned around them by using precision fires, nonlethal fires, or bypassing the site.

Have a plan. On this complex battlefield, tempo is probably the most important factor a staff and commander consider when developing the campaign plan. Do not be overzealous; realize you will lose equipment, soldiers to wounded in action, and energy as you continue to fight, day after day. Take the end state, and shape your plan. In Najaf, we focused on three areas, and integrated these areas into continuous attacks.

We concentrated first on the militia — keep up the pressure, stay flexible, and remain unpredictable. We focused secondly on Madhi leaders — target them and choose the right time to attack, such as at a time when the enemy is depending on public leadership. The task force conducted spoiling attacks on Fridays (prayer day) to disrupt al-Sadr's movement between Najaf and Kufa. On two such occasions, Sadr was forced to send his second in charge to speak at Friday prayers in Kufa, and on one occasion, the task force captured his personal aide. Even when unsuccessful in capturing high-value targets, the fact the task force disrupted enemy movement and communications became crucial

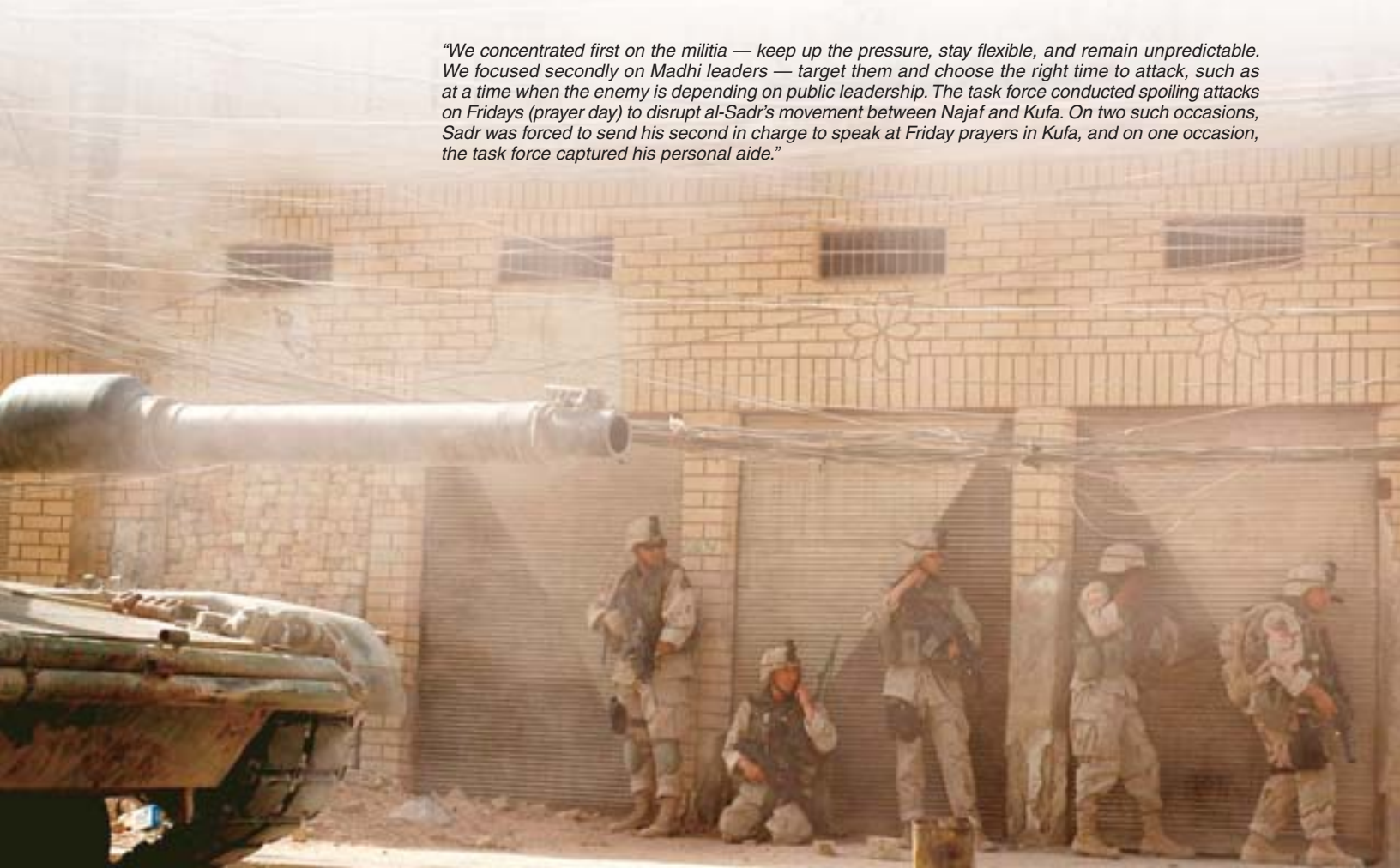
for follow-on missions. For example, about two weeks into the campaign, the task force began targeting Muqtada and his top three lieutenants. Our end state was capture, but in the process, we found that we directly affected the enemy's ability to coordinate, communicate, and maintain the initiative, which allowed the task force freedom of maneuver throughout the area of operation. Finally, we concentrated on weapons caches. We specifically targeted enemy supply lines and ammunition caches.

In effect, these three areas caused the militia to fight in multiple directions, and forced him to choose priorities. By forcing the enemy to make choices, we gained the initiative, forcing the enemy to consolidate his forces to protect his high payoff targets, allowing the task force to focus on destroying the militia. If a commander fails to campaign, the task force can easily become mired in reactive mode and lose focus on the end state.

Watch your soldiers and equipment. We have the best soldiers in the world, and they are 'can do' all the time. Rely on platoon leaders and platoon sergeants to gauge soldier effectiveness. We stared hard and aggressive, and within a week, we were losing the attention-to-detail battle. We began pacing operations so that a troop/company had a 12-hour period in which to rest and refit. The campaign plan took this timeline into consideration, and allowed the company/troop to execute company-level offensive operations as well as task force operations. The task force chaplain and medical platoon are also excellent sources for determining the effect of continuous operations on soldiers.

The battalion maintenance office and battalion maintenance technician are important in predicting Class IX needs and surg-

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ing mechanics. Over the first three weeks, task force tanks began chewing up track, hubs, and road arms. The task force XO sent up a red flare and we received phenomenal support from 1st Armored Division and theater assets.

Precision Engagement, Lethal Fires, and Shaping the Battlefield

The most precise weapons system in the task force was the M1A1 main battle tank. The coaxial-mounted M240 machine gun is precision at its best. Outrange the enemy RPG gunner and you can conduct precision recon-by-fire in urban terrain while minimizing collateral damage. The tank also has the most accurate and deadly system available — the 120mm main gun. Tank commanders learned early on that firing a multipurpose anti-tank (MPAT) round, a high-explosive antitank (HEAT) round, or an obstacle-reducing (OR) round immediately silenced enemy massed formations due to tremendous psychological effects. A tank can fire a main gun round through a window and destroy the enemy while damaging only one room, minimizing collateral damage. Tanks can also create entry points for scouts or infantry by firing a main gun round into the wall of a school or directly into the side of a building. OR and MPAT rounds are effective in destroying hasty obstacles, and the task force even used the MPAT round to suppress enemy dismounts on the street.

The task force relied on main gun after experiencing the effects of the tank commander's .50-caliber in close urban terrain. Armor piercing incendiary (API) .50-caliber rounds are devastating and accurate, but cause a significant amount of collateral damage. The API round will pass through four to five buildings without slowing down. The round demolishes concrete structures and sets flammable materials, such as palm and date trees,

ablaze. During one fight, an RPG gunner was hiding behind an Alaska barrier, which is concrete, reinforced with rebar, and 12 feet high, and instead of using a main gun round, he shot 50 rounds of API into the base of the Alaska barrier, killing the RPG gunner and clearing the area.

During rehearsals, commanders focused on weapons system employment, integrating fire control measures, such as main gun tight from target reference point (TRP) 1 to 2, and .50-cal tight TRP 3. You still have the loader's M240 for suppressive fires down alleyways, and each loader and tank commander carried M4s on top of the turret, which we used multiple times in killing or suppressing an enemy rifleman or intercepting an RPG approaching the tank from an adjacent alleyway.

Snipers are critical in the urban fight. This is common sense, but a tank battalion does not have snipers, so we developed our own by using soldiers that were 'long shooters' or we integrated trained snipers from an attached light cavalry troop. In Najaf and Kufa, we could not position snipers in town unless the area was cleared and supporting forces were available for extraction. Our method was to move into an area, clear a building, drop the team, and continue forward movement. The sniper team was assigned specific targets, and time on station. Snipers were very effective in destroying RPG gunners along the walls of the mosque or in the minarets.

Use every combat system available. During the Dukes' five-week fight in Najaf/Kufa, the task force employed AC-130 gunships, Kiowa Warriors with Hellfire missiles, and Copperhead, as well as variable time (VT) and time fuse delayed (TFD) 155-mm and 120mm. Each had a specific purpose built into the plan. AC-130 fires were deadly for clearing bunkers, destroying RPG

gunners in the palm groves, and in canalizing the enemy. After the first few engagements, the enemy decided it was not wise to stay outside while the sound of the AC-130 circled overhead. We used this advantage in either driving the enemy back inside to allow us closer maneuver, or keeping him off station while an unmanned aerial vehicle (UAV) located a strongpoint, passed grid location, then called in the AC-130 to destroy his strongpoint.

The Kiowa Warrior has a fantastic weapons platform. When resourced with Hellfire, a commander can engage those hard-to-reach targets. Additionally, an armed UAV becomes the weapon of choice when engaging an enemy moving around urban terrain. During one of the task force's last battles, an enemy mortar man, using a pickup truck with a 82mm mortar in the back, was conducting attacks on FOB Golf. The UAV was brought in; it identified, followed, and when conditions were right, destroyed the mortar, mortar man, and truck, with absolutely no collateral damage.

Paladin fires were critical to our success. We fired all types of munitions. Later in the campaign, the enemy developed his own methods to counter traditional 'fire for effect' high explosive rounds. The enemy would remain inside buildings or along the roofs of sensitive targets. On occasion, we would engage enemy on rooftops or engage an enemy mortar man near a built-up area with VT. In one instance, there were enemy RPG gunners and riflemen across the river inside a second-story building preventing a troop from maneuvering into a support-by-fire (SBF) position. Six TFD rounds later, the troop established the SBF and the mission continued with the enemy destroyed.

Early in the campaign we used Copperhead with OH-58D to destroy bunkers along narrow streets and in palm groves. The system works, with practice, and allows the maneuver commander freedom of movement along lateral routes. The task force also had an opportunity to employ an Iraqi counterterrorism force, which was impressive. The enemy believed the coalition would not enter mosques because their information operations campaign had convinced them of such. The enemy's information was correct! The coalition did not enter the mosque — the Iraqi counterterrorism force did, destroying five enemy riflemen and locating and confiscating a cache of mortars, RPGs, AK47s, and hand grenades.

"The most precise weapons system in the task force was the M1A1 main battle tank. The coaxial-mounted M240 machine gun is precision at its best. Out-range the enemy RPG gunner and you can conduct precision recon-by-fire in urban terrain while minimizing collateral damage. The tank also has the most accurate and deadly system available — the 120mm main gun. Tank commanders learned early on that firing a multipurpose antitank (MPAT) round, a high-explosive antitank (HEAT) round, or an obstacle-reducing (OR) round immediately silenced enemy massed formations due to tremendous psychological effects."

The impact of nonlethal fires is integral to any campaign. The task force was well armed with a tactical psychological team (TPT), two civil affairs (CA) teams, two attack/bomb dog teams, PROPHET, engineers, and several media sources. For example, the task force would target neighborhoods identified by electronic warfare assets that indicated local people were undecided on coalition support. We would move in and project a positive message with the TPT, followed by CA teams, who developed projects on the ground. We also sent in the TPT and CA teams during the 'mitigation phase' of operations to assess public sentiment and collect information on collateral damage.

The bomb/attack dog teams were used on every operation involving suspected arms caches or mortar firing positions, and the engineers were critical in building force protection around FOBs, Iraqi police stations, and other highly sensitive targets. The task force also used the engineers to recover jersey barriers employed by the enemy along trench lines and to fill in enemy trench lines and fighting positions.

The media should be treated like family because they target the international community and keep higher echelons of command happy. The information provided before and immediately following the operation determined how successful the story got out. Normally, the task force commander briefly described the operation, concept and target, and placed the reporters in a vehicle (M1114 or M113), which trailed one of the companies. After the fight, a quick recap of what happened, maybe an interview for clarification, and the story is done. In some instances, commanders need to 'go live' during a fight, to ensure the press does not make assumptions. In all cases, treating the press with dignity and respect paid huge dividends.

Combat Leaders

Lead by example. In urban terrain, commanders discover that to visualize the battlefield, they absolutely have to be in the middle of the fight. A commander can best gauge intensity and tempo by being in the middle of the decisive effort and the company's main effort. This has implications, and subordinate commanders will need a while to become familiar with this course of action, but it was successfully employed in Najaf.



Never be without communications. Commanders have a need to dismount in urban terrain — yes, even tank battalion commanders. Get caught without coms while on the ground and you instantly lose situational understanding and the information passed on the command net between crosstalking company commanders.

Rule one: The command net is the command net. This takes practice. The main function of the command net is to facilitate commanders' crosstalk. The tactical operations center (TOC) monitors and passes necessary intelligence updates or announces combat multipliers arriving, but it should not be used for the battalion XO, battalion S3, and battalion commander to carry on conversations about the fight.

Rule two: During the fight, the visible commander on the battlefield helps steady the force. This is not as obvious as one might think — based on personal experience, it is a learned skill.



It is much harder for a commander to be present and commanding during the fight, than when executing simulations or training at combat training centers. Commanders must be mentally prepared before the fight, visualize where they want to be to influence the fight, then adjust fire if the fight shifts.

Confidence and demeanor. Never doubt yourself, your commanders, or your soldiers. Maintain confidence in your equipment and the ability of your entire team to keep combat systems in the fight. We train on intent, and we succeed by sticking to what works. A leader who micromanages in battle will produce disastrous results. Let your subordinate commanders develop and execute their plan in conjunction with your commanders intent; no matter how much you want to, do not tell a subordinate how to “suck the egg.”

Know your subordinates' abilities — can do; can't do (but really can). This is something that is developed over time. Commanders already have an 80-percent solution on how subordinate commanders react under stress. The battlefield reveals how they react to success or to losing a soldier. Learn and apply this knowledge in future fights. An aggressive commander may push too far when success is achieved quickly in his sector, not see-

ing the entire battlefield. A commander may even hesitate if he loses a soldier or vehicle, not understanding the impact of this delay on adjacent units. Most of these issues should be addressed in the task force combined-arms rehearsal, but the task force commander will ultimately make his decisions based on an intimate understanding of his subordinate's capabilities and limitations.

The three most important lessons learned in the fight for Najaf will be applicable in future battles. Commanders and staffs must first develop a campaign plan, taking into consideration a realistic timeline for achieving the end state, then visualizing the pace or tempo required to sustain the fight. Consideration must be given to combat potential, applied in a deliberate fashion, and integrated into the campaign's end state. Additionally, the U.S. Army's combat systems are unbeatable. Every system applies precision and becomes deadly when properly employed with a little ingenuity. Finally, combat leaders bring everything together. Technically and tactically proficient commanders and soldiers win the day, but they are not tireless, and they will make mistakes. A com-

“Snipers are critical in the urban fight. This is common sense, but a tank battalion does not have snipers, so we developed our own by using soldiers that were ‘long shooters’ or we integrated trained snipers from an attached light cavalry troop. In Najaf and Kufa, we could not position snipers in town unless the area was cleared and supporting forces were available for extraction.”

mander must constantly gauge the effectiveness of his soldiers and leaders, a knowledge gained through experience and trust.

The fight for Najaf was an intense and bloody affair. The five-week battle again validated that our soldiers and leaders are the best in the world, we have the best equipment, and doctrine is just that, doctrine! Most importantly, the Najaf fight proved armor remains relevant and is a lethal force in urban terrain.



Lieutenant Colonel Pat White is currently the G3, 1st Armored Division (1AD), Wiesbaden, Germany. He received a B.A. from Claremont College and an M.S. from Central Michigan University. His military education includes Armor Officer Basic Course, Field Artillery Officer Advanced Course, U.S. Army Command and General Staff College, and Joint Professional Officer Course. He has served in various command and staff positions, to include commander, Task Force (TF) Iron Dukes, 2d Battalion, 37th Armor, 1AD, Operation Iraqi Freedom; chief, current operations, J3, Joint Forces Command, Norfolk, VA.; S3 and XO, 2d Battalion, 70th Armor Regiment, 3d Brigade, 1AD, Fort Riley, KS; opposing force tank company commander, D Company, 1st Battalion, 4th Infantry, Combat Maneuver Training Center, Hohenfels, GE; and commander, C Company, 2d Battalion, 32d Armor Regiment, 1st Brigade, 1AD, Kirchgoens, GE.



The German Werewolf And the Iraqi Guerrilla

by Captain Brian K. Glasshof

A country exercised from the tyranny of a madman. Members of the national and local leadership at virtually every level outlawed — members of an ousted criminal regime. Intelligentsia that resisted the movement, ruthlessly eliminated by a paranoid dictator, leaving a nation without a vital personnel infrastructure. Fiscal infrastructure decimated by the effects of war. American troops and military leaders forced to grapple with a fanatical resistance using guerrilla tactics to frustrate operations and influence the local population. An indifferent local populace that changes disposition from one block to another.

Although the scenario is familiar, the time and place was 1945 Germany concluding five years of world war. The similarities are much deeper than the sociopolitical landscape and the operational military decisionmaking that accompany it. The small-unit tactics that are currently used against coalition forces in Iraq are similar to those used by German resistance in 1945 against allied forces. We can draw from these experiences and lessons learned to better equip our forces for the current mission.

As German leaders grappled with a failing military campaign, some resurrected the centuries-old concept of guerrilla tactics. General Heinrich Himmler, leader of the Schutzstaffel (SS) and commander in chief of the home army, undertook

the responsibility to develop an organization, later named “Werewolf,” to “fight behind the front as a diversionary force,” and subsequently lead a paramilitary resistance, once the regular military capitulated.¹ Himmler placed SS Police General Pruetzmann in charge of this new secret organization, which successfully executed missions both behind enemy lines in the west, and in Berlin to counter the Russian advance. These Werewolf missions are similar in purpose and endstate to current Iraqi resistance and provide historical, as well as tactical perspective, to guerrilla resistance.

Initially, Werewolf activity focused on local leaders that cooperated with occupational forces. The most famous and successful of these attacks was in the city of Aachen against the American appointed Chief Burgomaster (mayor), Franz Oppenhoff. Aachen is a small town in the southwestern region of Germany that allied troops conquered.

Mayor Oppenhoff’s crime resulted from his cooperation with American occupational forces, which included discussions of how best to structure a defeated post-war Germany.² Himmler issued the “death sentence” for these actions and named the mission Operation Carnival. To execute the sentence, Himmler selected a Werewolf group of five, which included one woman. The group was tasked to parachute behind enemy lines, infiltrate into

the town, reconnoiter the objective, select the place to kill the mayor, and then execute actions on the objective. The lone female of the group, Isle Hirsch, conducted the night reconnaissance to ascertain Mayor Oppenhoff’s location and the composition/disposition of his security forces. Hirsch found the mayor’s home easily and discovered the extremely lax security, despite Oppenhoff’s fear of such a strike. After disseminating the intelligence to the remainder of her group, a three-man detail executed the killing. Once the objective was accomplished, the Werewolf team quickly broke contact and initiated exfiltration.

Although Operation Carnival was successful, it was not the norm for the duration of the war. More often, the success of the Werewolves depended on the Hitler youth during the defense of Berlin. During these operations, the Werewolf-trained soldiers executed guerrilla close combat tactics with great success. In one case, Adolf Hitler awarded the Iron Cross to a 12-year-old soldier who recorded 20 Russian tank kills.³ The *SS Werewolf Combat Instruction Manual* provided the tactics for the exploits during the battle for Berlin, and best illustrates how the Werewolf fought at the small-unit level.⁴

The Werewolf organization, at its smallest level, consisted of four guerrillas and a leader. This five-man group was employed when operating in areas of tight

observation and was employed during the first phases of guerrilla warfare.⁵ The first stage was the beginning of resistance, or guerrilla warfare, in which the situation was unclear or observation was very tight. During phase one, the objective was high payoff targets and harassment actions. These missions were quick strike and avoided decisive engagement.

Phase two included multiple groups or platoons with combat missions or the destruction of large objectives. Phase-two missions were only used when the situation was clear and in favorable terrain. In either type of mission, phase two involved decisive contact.

Phase three involved using task force-sized guerrilla organizations, composed of several platoons or companies, and was supported by the regular army. Operation Carnival was a phase-one mission. The goal of guerrilla warfare is the involvement of the general population in an uprising that overwhelms the enemy and allows for future offensive operations of the regular army.⁶

The two most advantageous tactics are interdiction and ambush.⁷ Interdiction operations are surprise operations in the enemy's rear that result in the destruction of high payoff targets such as supply, communications, transportation, or civil engineering soft targets. Interdiction is best used when implemented during phase one of guerrilla warfare and, as such, seeks to avoid decisive contact. On the

other hand, the ambush is used throughout operations and is based on surprise. It is best used when integrated with mines and light automatic or antitank weapons. Ambush sites are more effective if the enemy cannot identify them as potential ambush sites, thus maintaining the necessary surprise component. Operation Carnival illustrates the use of interdiction, and the battle of Berlin is an example of successfully using ambushes.⁸

Superior reconnaissance, which provided superior intelligence, was essential to all Werewolf action.⁹ An intelligence network gathered the necessary information/intelligence and was made up of individual scouts who worked independently.¹⁰ Charismatic people, whom the local population considered helpful, often filled these scout positions.¹¹ Lightly equipped, small units then used the intelligence to maintain superior maneuverability.¹² Both Operation Carnival and the heroics of 12-year-old boys during the battle of Berlin relied on these basic principles. These principles continue today on the battlefield in Iraq.

The current environment in Iraq is similar to that of Germany in 1945. Iraqi fighters planned guerrilla tactics before the war began and implemented these tactics before the war concluded. Iraqi fighters and subsequent resistance groups incorporated essential elements of the Werewolf instruction manual, which produced their most successful engagements.¹³ Un-

like the Werewolves, Operation Iraqi Freedom (OIF) elevated guerrilla tactics from phase one to phase two, and arguably phase three during the attack of the 507th Maintenance Company.

OIF resistance is based on the tactics of interdiction and ambushes. Interdiction is demonstrated daily with attacks on battalion supply lines and on operational targets such as aircraft approaching and departing Baghdad International Airport. Both are high payoff targets, specifically enumerated as interdiction targets in the Werewolf instruction manual.¹⁴ In most cases, these attacks are conducted as part of phase one of guerrilla warfare as defined by the Werewolf instruction manual.¹⁵ Small groups, ranging from three to five personnel, execute these operations and avoid decisive contact by attempting to destroy their targets and then break contact by using covered and concealed routes or withdrawing into friendly crowds. Flexibility and maneuverability are essential to the success and survivability of these attacks and the attackers.

Armament is usually light, only enough to destroy targets and rarely surpass rocket-propelled grenades (RPGs), antitank guided missiles (for aircraft), and light automatic weapons for local security. Mortars are also employed, but are done so from a truck platform, or if dismounted, are dismounted quickly and only long enough to drop rounds and then remount the truck and exfiltrate. If heavier dismounted armament or additional ammunition is needed, caches seem favored over carrying additional weight or using additional forces. This was particularly true in the beginning of OIF when innumerable caches were regularly found throughout the entire region. When implementing interdiction, the biggest difference between OIF and Germany is the increased mobility and maneuverability of the attackers due to the availability of automobiles, which provide easy exfiltration.

The ambush is the most successful tactic used throughout the region. The ambush techniques used in OIF are usually executed with an improvised explosive device (IED) and sometimes in conjunction with small arms and RPG fire. If the ambush is executed with a small force of less than three to five personnel, then an IED is the method of choice. In this case, the Werewolf fundamental of avoiding decisive contact is achieved. The IED is detonated remotely from a safe distance

"As German leaders grappled with a failing military campaign, some resurrected the centuries-old concept of guerrilla tactics. General Heinrich Himmler, leader of the Schutzstaffel (SS) and commander in chief of the home army, undertook the responsibility to develop an organization, later named "Werewolf" to "fight behind the front as a diversionary force," and subsequently lead a paramilitary resistance, once the regular military capitulated."



“The two most advantageous tactics are interdiction and ambush. Interdiction operations are surprise operations in the enemy’s rear that result in the destruction of high payoff targets such as supply, communications, transportation, or civil engineering soft targets. Interdiction is best used when implemented during phase one of guerrilla warfare and, as such, seeks to avoid decisive contact. On the other hand, the ambush is used throughout operations and is based on surprise.”



that minimizes the opportunity for coalition forces to conduct action drills due to the inability to easily or quickly identify the enemy. If the enemy uses direct fire contact, it is not decisive in nature.

Resistance fighters might use direct fire in conjunction with IEDs, but only when the terrain strongly favors the guerrilla fighter. Initiating a near ambush with an IED, followed by subsequent small-arms fire and RPGs is a good example of direct fire. Guerrilla fighters use direct fire when attacking smaller groups, or when they are in position to withdraw into crowds, buildings, or canals. Supremacy is not in firepower (AK47 versus M2 or M240) but in the number of weapons systems and fighting positions. Direct fire is used from multiple locations and from different angles, which allows massing guerrilla firepower and simultaneous dispersement of coalition fire in multiple directions. Once direct fire is used, guerrilla forces continue using direct fires until coalition forces execute successful actions on contact. Successful actions on contact usually involve suppression to allow forces to break contact and execute medical evacuation.

Guerrilla forces also used the fundamentals of flexibility, maneuverability, and reconnaissance to execute the hasty ambush on the 507th Maintenance Compa-

ny. With the situation unclear, guerrilla forces minimized contact and collected information while repositioning forces. When the 507th, believing their previous route to be clear, backtracked through the town, the guerrillas attacked, achieving surprise. The guerrilla forces massed in a decisive engagement once they realized they had sufficient firepower to destroy the entire coalition force that remained in the engagement area.

Coalition forces can use three principles of war against guerrilla tactics; they can better use mass, security, and economy of force to defeat the current threat. Improving mass will allow the coalition to maintain firepower superiority in each engagement. The ability of guerrilla tactics to use a much smaller force and gain firepower superiority with that smaller force can be mitigated. Particularly against the ambush, coalition forces can mass forces against any enemy that uses direct fire systems. Currently, enemy guerrilla forces identify soft targets or small combat patrols as ambush targets. Combat patrols are usually no more than three vehicles and can be as few as two vehicles. If one vehicle is hit with an IED and rendered combat ineffective, this leaves one or two vehicles to react to contact and simultaneously conduct medical evacua-

tion. The remaining vehicles are not capable of returning fire in multiple directions and mass fires. In this case, all fires are dispersed and not massed. To mass fires, a second three-vehicle section is mandatory. The second section can conduct the patrol behind the lead section. If the lead section gains contact in an ambush, the second section maintains the freedom of maneuver and can action to a favorable position to mass fires on a specific target.

One section massing fires can quickly defeat or destroy one fighting position that is no longer concealed. Destroying a flank firing position can quickly allow friendly forces to reorient fires on the remaining two or three fighting positions. Initial suppression by the second section will allow the lead section in contact to more easily coordinate its degraded fires to suppress the two fighting positions that remain. Once the initial fighting position is destroyed, the orientation of the second section can shift to the next fighting position. Once friendly forces demonstrate the ability to mass fires, enemy forces will break contact.

Using a second section as a follow-on force for all combat patrols provides security. Increasing the patrol’s depth prohibits the enemy from effectively flank-



“The current environment in Iraq is similar to that of Germany in 1945. Iraqi fighters planned guerrilla tactics before the war began and implemented these tactics before the war concluded. Iraqi fighters and subsequent resistance groups incorporated essential elements of the Werewolf instruction manual, which produced their most successful engagements.”

ing friendly forces. Additionally, during military operations in urban terrain, a section in depth enables the patrol to adequately scan building tops located immediately next to the first patrol. It is much easier to scan rooftops from a distance. Snipers and other rooftop forces wait for the signal that friendly forces are in the engagement area before revealing themselves, and then doing so in a favorable condition. With a section in depth, friendly forces will more quickly identify ambush forces on rooftops or upper floors, and subsequently, more easily suppress those ambush forces.

If an ambush is conducted with an IED only, without direct fire, the section in depth provides the needed personnel to begin cordon operations. It is nearly impossible for one section with casualties to conduct cordon operations. Guerrilla forces will immediately attempt to break contact, and if possible, exfiltrate the ambush site. The second patrol is more capable of cordoning the area and eliminating the freedom of maneuver necessary for the guerrilla to expedite the withdrawal. Once an area is cordoned, additional forces might be capable of conducting sweeps and searches to identify enemy forces.

Mandating patrols consisting of two three-vehicle sections is an appropriate application of economy of force. The enemy is force oriented; they must attack friendly forces to obtain any success. By concentrating forces in fewer patrols, the total area affected by patrols is reduced. However, since the enemy must attack friendly forces, the amount of vehicles in contact at any given time increases. Therefore, fewer patrols are out of position to gain contact or support friendly forces in contact. Otherwise, patrols that are not in contact when other friendly forces make contact with an ambush are patrols without relevant purpose.

Guerrilla tactics used today in OIF are based on the same fundamentals of the German Werewolf of World War II. Understanding the similarities and adapting these fundamentals to the contemporary operating environment provides the historical perspective needed to counterattack successfully. Rather than patrol a larger percentage of assigned areas, concentrate forces in fewer patrols to gain mass and security, and gratuitously improve economy of force.



Notes

¹Charles Whiting, *Hitler's Werewolves*, New York, Stein and Day, pp. 66 and 164.

²Ibid., p. 56.

³Ibid., xxx.

⁴Michael C. Fagnon, *SS Werewolf Combat Instruction Manual*, Boulder, CO, Paladin Press, 1982, p. 13.

⁵Ibid.

⁶Ibid., p. 7.

⁷Ibid., pp. 45, 47.

⁸Ibid., pp. 45-47.

⁹Ibid., p. 8.

¹⁰Ibid., p. 41.

¹¹Ibid., p. 40.

¹²Ibid., p. 8.

¹³Ibid..

¹⁴Ibid., p. 47.

¹⁵Ibid.

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The RSTA Squadron: Agile and Adaptive, Relevant and Ready

by Captain Keith R. Walters

Local time on the Iraq-Iran border is 2130 hours.

“Saber six, this is bravo six. We have GSR [ground surveillance radar] contact with two vehicles moving east to west at 30 mph, approximately five clicks east of Phase Line Nissan,” reported the B Troop commander from his Stryker on the squadron command frequency, forwarding reports from his third platoon.

Third platoon, B Troop, was the southern element of the troop screen, with a robust task organization of four Stryker Reconnaissance Vehicles (RV), one ground surveillance radar (GSR) team, and one FM retrans team. Operating three dismounted observation posts (OP) and three mounted RV OPs, the 21-scout recce platoon had good observation of two routes crossing the international boundary, thoroughfares routinely used as infiltration routes by factions supporting the former Iraqi regime.

Using long-range advanced scout surveillance systems (LRAS3), the scouts had

identified the vehicles from a far distance. As the suspicious vehicles moved west, terrain masked their movement. The GSR team maintained contact, confirming their continued movement along the infiltration routes and into named area of interest (NAI) 116, third platoon’s primary focus.

Saber six, commander of the reconnaissance, surveillance, and target acquisition (RSTA) squadron, immediately jumped to the brigade command frequency to request diversion of the surveillance troop’s unmanned aerial vehicle (UAV), which was currently flying over a quaint town eight miles west of NAI 116 in support of an infantry battalion in the final phases of a cordon and search operation. The squadron S2 learned from brigade headquarters that an al-Qaeda official would attempt to infiltrate along the route. Caves and valleys within NAI 116 offered rogue bands sanctuary. Saber six intended to use every RSTA asset available to exploit this golden opportunity. Stryker six, the Stryker brigade commander, approved the diversion and soon

the UAV was en route to NAI 116 at 6,000 feet above ground level.

The two vehicles continued their western movement, stopping briefly about one kilometer east of the border. The LRAS3 from OP B32 easily identified two suspicious adult males who joined the convoy, which then sped across the international boundary into NAI 116.

Bravo six alerted his troop mortar section and tactical human intelligence (HUMINT) noncommissioned officer (NCO), that he was moving into better position to command and control the coming fight.

As the squadron S2 predicted, the two vehicles stopped outside a cave complex, a suspected weapons cache, and the occupants loitered in the valley, unaware that scouts and ground and airborne sensors were observing them. Three OPs, one mounted and two dismounted, had eyes on the gathering, the GSR team had zeroed in on their precise location, and the UAV loitered at a distance, its camera fo-



“The Stryker brigade is no longer a mere curiosity; it is no longer a wheeled formation in communities insistent on either riding on a tracked vehicle or simply walking into battle. It is important for the Army, and especially the armor and cavalry forces, to understand the characteristics that make the RSTA squadron unique from any other cavalry formation.”



cused on the gathering crowd of insurgents. By the time one of the infiltrators heard the faint drone of the UAV in the night sky above, it was too late. Scouts on OP B33 had called for mortar fire from the troop mortar section while the squadron tactical operations center (TOC), guided by the live UAV video feed, requested and directed artillery fire from the Stryker brigade combat team's (SBCT) artillery battalion and its 155mm howitzers.

The fires were precise and devastating — 120mm mortars and 155mm high explosive shells dropped within 50 meters of their targets. As the scouts on the ground called, “fire for effect,” over the troop command frequency, howitzer fire decimated the two vehicles and their occupants.

B Troop and the RSTA squadron had validated a capability that RSTA visionaries had conceptualized only four years earlier. The RSTA squadron had identified a threat out of contact, maneuvered assets into position, and placed lethal fires on its targets without compromising its ground positions.

In this vignette, the RSTA squadron conducts a refreshingly traditional cavalry mission — a troop with additional task-organized assets establishes a screen to

deny a known enemy access to routes across the international boundary. This is a comfortable scenario for all cavalrymen and may even be nostalgic to the old timers who stood guard against the Soviets only 13 years ago. In the immediate future, the RSTA squadron is more likely to operate in a support and stability operations environment than in a high-intensity conflict.

Most of our lessons learned from RSTA squadrons will be support and stability operations. As the first Stryker brigades operate in predominately lower intensity support and stability missions, we must educate the Army on their vast capabilities to avoid typecasting by leaders at every level as a support- and stability-centric formation.

It is important to highlight the RSTA squadron as a formation uniquely structured and equipped to operate across the full spectrum of operations. Many units across the Army use the systems described in the vignette: LRAS3, GSR, and UAV. The RSTA squadron, however, operates with these systems organized under a single squadron-level commander with the command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) architecture required to operate over distances required

of the “eyes and ears” of the Stryker brigade.

Active duty and retired officers and NCOs charged with Army transformation and future doctrine at Fort Knox, Kentucky, designed the RSTA squadron to neutralize or defeat both existing and potential threats across the spectrum of operations. In the coming months, we will learn of the RSTA squadron's exploits as it continues to conduct basic missions that previous units conducted in sector, but will do so with the unique capabilities of the RSTA squadron. This article provides a basic understanding of those dynamic capabilities and their potential for expanded use Armywide.

Understanding the RSTA Squadron

As a large percentage of our Army prepared for and executed critical combat missions, there was little opportunity to educate the entire force on the Stryker brigade's capabilities. Likewise, there is little understanding within the armor and cavalry community of the RSTA squadron's capabilities. The Stryker brigade is no longer a mere curiosity; it is no longer a wheeled formation in communities insistent on either riding on a tracked vehicle or simply walking into battle. It is important for the Army, and especially the

armor and cavalry forces, to understand the characteristics that make the RSTA squadron unique from any other cavalry formation.

The RSTA squadron is indeed the most unique conventional formation in the U.S. Army, and its introduction into combat comes at an opportune time for our nation. As the first of six planned SBCTs currently operates in Iraq, the second SBCT prepares for deployment, while the third fields its equipment in Alaska. With three more RSTA squadrons scheduled for fielding, one in Hawaii, one at Fort Polk, Louisiana, and one with the Pennsylvania National Guard, the Army should no longer consider this a conceptual or fringe element.

Organizing the RSTA Squadron

Forty officers from eight branches, 176 NCOs, and 221 enlisted soldiers of 18 military occupational specialties (MOS) are organized into three recce troops, one surveillance troop, and one headquarters and headquarters troop. The Stryker RV (13 per recce troop) is the base platform of the RSTA squadron. Each Stryker RV is operated by a two-man crew (driver and gunner) and carries a three-man scout team. Its armor protects the crew from heavy machine gun fire and add-on slat armor protects against rocket-propelled grenades (RPG). The Stryker is also equipped with a Force XXI battle command brigade and below (FBCB2) system, which provides the senior scout on each vehicle a real-time picture of friendly-element locations and the latest templated enemy locations. Vehicle crews communicate over FM radio with two all-source imagery processing (ASIP) systems, or digitally via FBCB2.

Other Stryker variants in the RSTA squadron carry a similar suite of equipment with a few mission-oriented variations:

- The mortar carrier variant (MCV) (two per recce troop) is equipped with a remote weapons station (RWS) for its M2 .50-caliber machine gun. The RWS enables the gunner to fire the weapon from a protected position inside the vehicle with thermal or daylight sights. The MCV is the platform for the troop's 120mm mortar tubes, although tubes must be dismounted from the vehicle for firing. Future variants will support onboard firing.

- The fire support variant (FSV) (one per recce troop) is very similar to the RV with the few exceptions being a modified array of digital communications equipment and top-mounted ground vehicular laser locator/designator.

- The medical evacuation variant (MEV) can carry four litter or six ambulatory patients and affords squadron medics added protection during evacuation missions when compared to standard high-mobility, multipurpose wheeled vehicle (HMMWV) ambulances.

- The command variant (CV) is the squadron commander's vehicle. The CV is armed with an M2 with RWS and has the standard suite of FBCB2 and ASIP digital and FM communications, as well as maneuver control and all-source analysis systems to facilitate the commander's control of the operation.

Three recce troops comprise the nucleus of the squadron's collection assets. Each troop is manned by six officers, 41 NCOs, and 46 enlisted soldiers organized into three recce platoons, a troop headquarters section, and a mortar section. The recce troop consists of 13 RVs, two MCVs, one FSV, two HMMWV variants, and three M1083 5-ton medium tactical vehicles (MTVs). Scouts are armed with M4 5.56mm carbines equipped with M68 reflex sights and PEQ-2 laser designators. Each scout squad has an M240 7.62mm machine gun. Troops have a total of six Mk19 40mm automatic grenade launchers and 12 M2 .50-caliber machine guns. Recce troops are usually task organized with one MEV.

In a traditional reconnaissance role, a recce troop can recon up to three routes simultaneously or conduct surveillance of up to six designated areas with both mounted and dismounted observation posts. In a support and stability environment, the recce troop puts HUMINT collectors on the ground with one 97B assigned per recce squad. A senior counterintelligence sergeant assists the recce troop commander in integrating and analyzing human intelligence gathered on the ground. A recce troop can also conduct up to three simultaneous hasty traffic control points and one long-duration deliberate traffic control point on high-traffic routes.

The surveillance troop is the element that makes the RSTA squadron a truly unique organization. Six officers, 23 NCOs, and 37 enlisted soldiers of various MOSs man the surveillance troop and execute specialized missions in the ground sensor systems (GSS) platoon, UAV platoon, or nuclear, biological, and chemical (NBC) reconnaissance platoon.

During most tactical missions, GSS platoon assets are task organized throughout the squadron to afford optimal focus of collection assets. The GSS platoon consists of three Prophet signal intercept platforms, three GSR teams, and three remotely monitored battlefield surveillance systems (REMBASS) that detect seis-



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"Doctrinally, the SBCT is designed to be a full-spectrum early entry combat force. Early entry forces will likely enter theaters through populated urban centers, engaging enemies using asymmetrical means. HUMINT collectors, working in conjunction with scouts on the ground, UAV, and Prophet will provide the brigade commander with situational understanding, enabling the initiation of prompt, decisive operations at appropriate levels of the operational spectrum."

mic waves caused by human or vehicular movement. When used in conjunction with recce troop OPs, these assets greatly enhance the squadron's surveillance capabilities. They provide redundant observation when focused on specific areas in relatively open terrain. In restricted terrain, commanders can employ GSS and REMBASS to cover dead space where binoculars or LRAS3 systems cannot reach beyond hill masses or buildings. Adding the Prophet to the intelligence, surveillance, and reconnaissance (ISR) plan provides the ability to intercept enemy communications, serving as an enabler of proactive reconnaissance in any area of operations.

The NBC reconnaissance platoon enables the SBCT to detect enemy use of chemical and radiological contaminants and some biological weapons, and is the sole element within the brigade that can safely confirm or deny use of such weapons. This is especially critical today. In the past, U.S. forces had a clearer definition of enemy weapons capabilities. We may now find our forces deployed against rogue nations and transnational organizations that have covertly gained weapons of mass destruction (WMD) and the means to deliver them. In this capacity, the NBC recon platoon will prove to be a key element to the success of RSTA squadron operations.

In most instances, however, our forces will have a clear understanding of enemy

WMD capabilities. When the NBC threat is minimal, the NBC recon platoon is the ideal element to provide viable command and control (C2) node security. Its mobility, relative survivability, and mounted crew-served weapons are an improvement over MTV gun trucks in that capacity.

The most unique element of the RSTA squadron is its UAV platoon. The platoon consists of four Shadow 200 UAVs. UAV pilots operate these aircraft from stations collocated with the squadron TOC or from a UAV control shelter that can be positioned anywhere on the battlefield, including with recce troop command posts. The UAV can loiter and provide surveillance of specific targets or conduct reconnaissance of assigned routes. In either instance, its payload provides 10-digit target grids to the squadron TOC, a capability that adds yet another observer of indirect fires and an unconventional means of conducting battle damage assessment and target handoff.

Despite a fleet of 53 Strykers, an accompanying fleet of 51 HMMWV variants, and 15 MTVs, the RSTA squadron, like each battalion in the SBCT, relies on a combat repair team (CRT) of only 17 mechanics for maintenance support. The CRT is an element of the brigade support battalion (BSB), but has a habitual garrison relationship with the squadron. Conceptually, the CRT provides area support when the SBCT is deployed to a theater of operations. In practice, however, the

CRT collocates with the squadron administrative and logistics command post and provides maintenance support from a central location, in a similar manner that a maintenance platoon operates in a unit maintenance collection point, albeit with a far smaller ratio of mechanics to vehicles.

With no internal haul assets, the RSTA squadron relies on a logistics support team (LST) from the BSB. Each LST is tailored to fit a particular mission. The LST provides class I, III, V, and transportation support which may include M978 fuelers, a loading handling system (LHS) trailer with fuel blivots, a field feeding team (FFT) composed of a collapsible kitchen and three kitchen company-level feeding (KCLF) units, and a haul package for class V.

The CRT also falls under the LST when deployed. Original SBCT doctrine envisioned organizations that would deploy and conduct sustained operations for 72 hours prior to the first logistics package (LOGPAC) arriving in theater. Given the wide range of reconnaissance missions required of the RSTA squadron over the entire SBCT area of operations and the Stryker's fuel-consumption rates, this has proven impractical. Task organization of the LST within the squadron, however, mitigates inherent logistic strains. The squadron commander can opt to task organize fuel blivots, KCLF units, and contact teams from the CRT for prolonged

reconnaissance missions in areas far from main supply lines. Limited assets, however, require the added measure of proactive reporting from troop first sergeants and logistics forecasting from the squadron S4 to meet the supply needs of recce troops deployed to far corners of the area of operations.

In addition to logistics constraints, there are, of course, tactical limitations to RSTA squadron capabilities. Technology is an enabler and when digital systems are fully functional across the entire formation, it is a great combat multiplier. Terrain, however has a say in the utility of high technology systems. Terrain is a limiting factor with current near-term digital radios (NTDR) in transmitting data over the digital network. Future SBCTs will field improved systems to overcome this limitation, but for the time being, the RSTA squadron commander must address the same problem that his predecessors, who used flags and standards, faced — making optimal use of terrain while maintaining effective communications across the entire formation.

The Firepower Issue

The RSTA squadron is designed to detect an enemy out of contact and defeat him with a wide selection of options such as target handoff to an SBCT infantry battalion or the brigade antitank company, indirect fire, close air support, or even naval gunfire. The RSTA squadron is fully capable of doing so.

Infantry battalions in the SBCT each have three mobile gun system (MGS) platoons (one per infantry company manned by 19Ks and led by armor officers) for a total of nine MGS platforms per infantry battalion. Adding MGS to the RSTA squadron (organized as one platoon of three MGS per recce troop or as a separate company of 10 MGS) would enable it to fight for information when necessary.

Fighting for information is the least desired course of action but is necessary in offensive or defensive operations against a conventional foe. Adding MGS would also provide the squadron commander task organization options for C2 node and logistics convoy security, which are important issues that currently have no solutions outside of reducing the number of troopers and RVs dedicated to the squadron's primary mission — reconnaissance.

During support and stability operations, the MGS would provide a deterrent that is absent in the current structure of a recce troop, especially during TCP opera-

tions on high-trafficked routes. Cordon and search operations are ideally executed with the manpower of an infantry company, but the reality on the ground and in future contingencies indicates that commanders may depend on recce troops to execute such missions. During cordon and search operations, MGS platforms would provide tactical flexibility to the troop commander on the ground for both outer cordon missions and for quick reaction forces, should cordon and search missions escalate into higher intensity urban combat.

Operational Flexibility

No brigade-sized unit in the Army has the luxury of an organic battalion-sized reconnaissance element. The SBCT is the exception. The size and structure of the RSTA squadron ensure the SBCT information dominance on the battlefield.

The RSTA squadron executes with the audacity of a traditional cavalry unit, yet is designed to operate successfully across the entire spectrum of operations, like no other cavalry unit. The diverse capabilities of the RSTA squadron beg of further uses for the unique formation, some within the current construct of the Stryker brigade, another with alternative uses within current force organizations.

Military analysts have written hundreds of articles over the past decade on the evolving environments in which the Army will conduct future missions. The future has arrived. Operation Iraqi Freedom has become a campaign in which units often conduct support and stability operations and mid-intensity offensive operations within a single 24-hour period. Over the course of weeks, even days, the focus fluctuates between them. The wide range of capabilities of the RSTA squadron make it an ideal unit for operations in Iraq. The structure enables it to conduct tactical HUMINT gathering, intelligence from which the remainder of the squadron can conduct forceful and aggressive reconnaissance operations against known insurgents. The troopers of the RSTA squadron have been trained to conduct exactly that — HUMINT efforts yielding actionable intelligence that leads to decisive reconnaissance operations with battle handover to infantry battalions. In fact, this has been a focus of training for both the first and second Stryker brigades. Conceptually, the RSTA squadron should be quite successful in this capacity. In reality, huge training budgets allocated to the Stryker brigade will pay dividends as well-trained leaders and troopers validate concepts, doctrine, and tactics in Iraq.

Doctrinally, the SBCT is designed to be a full-spectrum early entry combat force. Early entry forces will likely enter theaters through populated urban centers, engaging enemies using asymmetrical means. HUMINT collectors, working in conjunction with scouts on the ground, UAV, and Prophet will provide the brigade commander with situational understanding, enabling the initiation of prompt, decisive operations at appropriate levels of the operational spectrum.

RSTA Squadron's Immediate Future

The RSTA squadron is capable of providing information dominance in any operational environment on any type of terrain. Successful RSTA operations give the brigade commander unprecedented situational understanding, crucial to decisive maneuver against our asymmetric threat in the information age.

Creating a functional unit, such as the RSTA squadron, requires not only developing and procuring high-tech equipment, but a change in mindsets throughout the armor and cavalry communities. Operational realities of the immediate post-Cold War world in places such as Somalia, the Balkans, and the Philippines, were the catalysts of the proactive initiation of Army Transformation. Senior officers and noncommissioned officers at major armor and cavalry posts across the Army mistakenly viewed transformation as the first step toward the demise of our beloved Abrams tanks and Bradley Cavalry Fighting Vehicles.

As missions increasingly occurred in urban areas, the tankers-don't-do-cities mentality prevailed, to a large extent justified by the limitations of our platforms, but mostly due to an unwillingness to tailor our skills and thinking to the necessities of the contemporary world. Many contemplated an Army moving away from the M1 and M2 families of vehicles, which would lead to a decreased role in the future for the armor/cavalry community. On the contrary, transformation has ensured increasing relevance of armor and cavalry formations across the full spectrum of operations.

The ferocious dash to Baghdad by the 3d Infantry Division in Operation Iraqi Freedom, spearheaded by its armored formations, demonstrates the overwhelming dominance of our Army's heavy forces. These forces secured a decisive victory over conventional Iraqi forces. There is no force in the world that would have stopped our heavy formations. The situation in Iraq now and for the foreseeable future requires a different, albeit aggres-

sive, approach — one that the SBCT is tailored to conduct. The RSTA squadron's assets are already proving to be invaluable in the hunt for high-value targets and leaders of the insurgency in cities such as Samarra.

As the transition of power to an Iraqi government approaches, the effort will increasingly become one of nation building. Department of Defense officials have hinted at creating multiservice stabilization and reconstruction units centered on just that. The new units would be made up of engineer battalions, civil affairs and psychological warfare teams, and other units that would help build infrastructure and promote stability. There will be an inevitable need for combat power to serve as a deterrent to potential adversaries of new democratic regimes and, if necessary, to quell insurgencies. The RSTA squadron is perfectly suited to this type of mission — capable of gathering critical intelligence on the ground in support of newly formed governments, providing security for both international organizations and Defense Department units tasked with building infrastructure, all the while possessing the necessary firepower to defeat insurgents in villages and in rural areas.

Efficiently Using the RSTA Squadron: Coordination Yields Efficiency

In the near future, as more brigade commanders gain access to RSTA squadrons and their immense capabilities, their challenge will be effectively using the squad-

ron. Currently, combat training centers are revealing a general trend: RSTA squadrons and battalion scouts are conducting similar, redundant efforts, indicating a lack of synchronization in ISR planning across the brigade.

Collection efforts of the RSTA squadron and infantry battalion scouts should be complementary. This is possible only when we synchronize squadron, infantry battalion, and brigade-level ISR planning at the very onset of the military decision-making process.

Ideally, as the RSTA squadron completes its zone reconnaissance, its leaders conduct a thorough reconnaissance hand-over with the infantry battalion tasked with entering a specific area of operations. This is possible when infantry battalion S2s conduct coordinated ISR planning with the RSTA squadron staff and troop- and platoon-level leaders that operate within the applicable area of operations. More often than not, infantry battalion S2s conduct their ISR planning independently of the RSTA squadron and the brigade S2. This results in wasted effort as infantry battalion scouts conduct time-consuming reconnaissance of areas and routes already reconnoitered by recon troops.

A coordinated effort between RSTA squadron executors and staffers, brigade S2 and S3 officers, and infantry battalion S2 and S3 officers, guarantees optimal use of all recon assets. Such coordination provides infantry battalion commanders the flexibility to use scout platoons

more traditionally — on flanks or in quick reaction force-type missions — another example of the RSTA squadron as an ideal combat multiplier.

The RSTA Squadron: Ready and Relevant Today

On 24 October 1999, the U.S. Army broke from the “reactive” tradition of adjusting doctrine and force structure to meet existing threats. Army Transformation officially began during a time of relative peace in our nation's history. As events over the past five years have demonstrated, transformation was indeed “proactive” and visionary.

The initial concepts of Army Transformation are bearing the fruits of success today as the first two Stryker brigades operate in support of the Global War on Terrorism. Some envisioned the interim brigade combat team as the bridge to what was then called the Objective Force. The SBCT, especially the RSTA squadron, is proving to be more than a bridge — current events have elevated the relevance of the RSTA squadron and the SBCT to a level that think tanks could not have envisioned in October 1999.

The RSTA squadron, designed to be operational anywhere on the globe, guarantees that the Army can have a viable force on the ground quickly. The RSTA squadron has the staying power to fight and win as conflicts progress from one stage to another. The troopers of the RSTA squadron are trained to fight, win, and succeed in all of these environments. Well-trained, motivated, and cognizant of what they represent to the Army and the Nation at this critical juncture in our history, these troopers form the nucleus of the most flexible unit in the Army today — agile and adaptive, relevant and ready.



“The ferocious dash to Baghdad by the 3d Infantry Division in Operation Iraqi Freedom, spearheaded by its armored formations, demonstrates the overwhelming dominance of our Army's heavy forces. These forces secured a decisive victory over conventional Iraqi forces. There is no force in the world that would have stopped our heavy formations.”

Captain Keith R. Walters is commander, B Troop, 2d Squadron, 14th Cavalry (RSTA), 1st Stryker Brigade, 25th Infantry Division, Fort Lewis, WA. He received a B.A. from the U.S. Military Academy, West Point, NY. His military education includes Armor Officer Basic Course, Armor Captains Career Course, and Combined Arms and Services Staff School. He has served in various command and staff positions, including tank platoon leader, support platoon leader, and XO, Headquarters and Headquarters Company, 1st Battalion, 32d Armor, Fort Lewis, WA; XO, Headquarters and Headquarters Troop, 1st Squadron, 14th Cavalry (RSTA), Fort Lewis; assistant S3, 2d Battalion, 72d Armor, Camp Casey, South Korea; and assistant S3 and S1, 2d Squadron, 14th Cavalry (RSTA), Fort Lewis.

Task Force 1-77 Armor — Back in the Saddle

by Staff Sergeant James L. Gibson



Approximately six months prior to deploying to Iraq in support of Operation Iraqi Freedom II, 1st Battalion, 77th Armor Regiment (1-77AR), 1st Infantry Division, was told it would be deploying without all its M1A1 tanks. As the battalion's master gunner, this decision posed quite a challenge — not to mention the task of developing a gunnery training program that not only supported qualifying 15 tank crews, but also ensured everyone in the battalion was trained on mission-focused tasks.

The majority of these tasks were geared toward the infantry, and for most of our tankers, these tasks, such as close quarters marksmanship, M240 machine gun qualification, squad live fire exercises, and convoy live fire, were new. After an intense training period, our tankers were well trained in these new tasks and had finally accepted the fact that most of them were not going to be on a tank the entire deployment. Our task force deployed to the Iraqi theater of operations on 4 March 2004 to conduct combat operations.

Going to war without tanks was tough for an armored battalion to accept. Most tankers have been in the Army for years,

training for this exact moment — testing our abilities as armor crewmen in a combat environment. But we essentially traded in our tanks for rucksacks and became light cavalymen for the deployment. You can only imagine the excitement and sigh of relief when three months into the deployment, the task force received another company of tanks. Since we were the only armor battalion in the brigade, we knew that tank crews would come from Task Force 1-77AR.

The first issue we encountered was the lack of qualified tank crews. During the last gunnery, the only crews that qualified were the ones who would man the original 15 tanks. The previous gunnery was conducted eight months prior, and because tank crews are required to qualify once a year, all our tank commander/gunner combinations were now out of tolerance. After the task force commander decided which platoons would receive the additional tanks, a gunnery qualification was necessary to validate the new crews.

As the task force master gunner, I was charged with this task, which required developing a training plan to ensure the crews were retrained on many of the armor crewman tasks. Crews were trained

and evaluated by their platoon leaders, and the company commander submitted a memorandum to the task force commander stating all crews had completed the required training prior to the live fire. Training was divided into five areas:

Safety training. Safety training included depleted uranium hazards, which were conducted during the live-fire portion of training. Crews fired at T-55s that were destroyed during Operation Iraqi Freedom (OIF) I. Safety training also included limited visibility operations — driving a tank with a driver's night sight is an extremely perishable skill. Ground guide procedures were included in safety training, as well as thermal vehicle identification and crew drills. Crew drills covered ammunition fire in the crew compartment, fire in the engine compartment, removing injured crewman through loader's hatch, removing injured crewman through driver's hatch, immediate action for engine failure, abandon tank, tank rollover, loss of brakes, loss of steering, and turret traversing procedures.

Tank crew gunnery skills test. Tank crew gunnery skills test must be completed prior to any live-fire event and this was no exception. Company master gun-

ners and company leaders ensured the test was done to standard.

Crew stabilization. Commanders were advised that they should fill tank commander/gunner positions with soldiers experienced in those positions. A combat environment is not the place to train new crews unless absolutely necessary.

Tabletop trainer. When we deployed, we took the tabletop trainer with us, which paid big dividends. We used it because we did not have a unit conduct of fire trainer (UCOFT) in the division. Crews had to obtain the same standards with the tabletop trainer as they would have if they were firing in a UCOFT.

Live fire. It was extremely important to know that our crews could put “steel on target.” A master gunner’s dream is to design and build a tank range that supports all types of ammunition up to 120mm high-explosive antitank (HEAT) rounds.

The area was called “Objective Hawaii,” an old Fedayeen communications center that had been abandoned and destroyed during OIF I. It provided almost 20 square kilometers of rolling desert land that was perfect for a range. Just a few weeks prior, the range establishment packet was

approved for firing, and the process of placing targets and marking firing positions began.

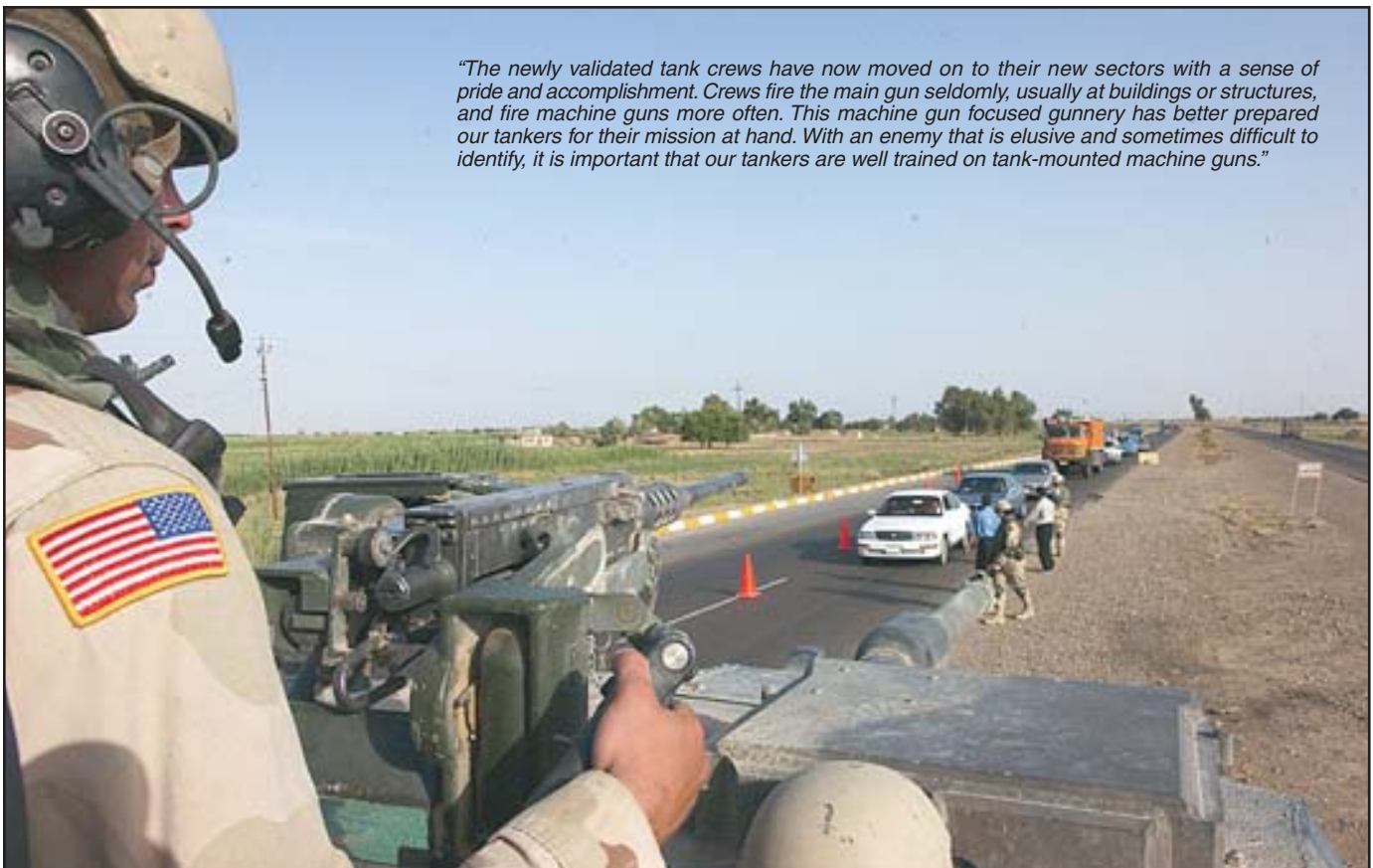
The first issue we encountered was the surface danger area, which encompassed some Iraqi farmland outside the actual range area. Prior coordination was made with the local city counsel, area sheikh, and Iraqi police, which enabled us to notify the local farmers when we would be firing. Farmers were also paid a dislocation allowance for leaving the area for the three days we fired and would receive compensation for any damages the firing may cause.

I spent the five days leading up to the live fire on the range with the combat patrol. The M88 pulled one T-55 700 meters from the firing position and the other T-55 1,150 meters away. The rolling terrain did not allow for any targets further than 1,150 meters. Tankers are accustomed to firing at targets well beyond that range during gunnery, but this was a new type of mission, one with which tankers were not familiar. The scaled-down ST-5 panels were also placed at 700 meters, instead of the normal 1,500 meters.

The tank crews arrived at the range eager and ready to shoot. Day one was live

fire accuracy screening test (LFAST) and machine gun zeroing, and we conducted driver’s training at night. With the exception of having to LFAST one tank, day two was all machine gun firing or a Tank Table V (modified), which included four daytime engagements and three night. Two of the day engagements allowed the loader to fire his M240. It was amazing how many loaders were hitting troop targets, primarily because they were not using the standard “butterfly” trigger, but using the dismount kit’s buttstock and pistol grip. This allowed the loader to have better control over the weapon and lay more accurate fires. Adding the dismount kit to the loader’s M240 limits him to firing at ground targets only. He is the primary “air” guard on the tank, but having air superiority allows commanders the ability to exercise this option.

During a normal gunnery rotation, the loader only fires his M240 during one engagement for the entire gunnery. Lack of training or focus on the loader firing his M240 is a concern. We are no longer fighting an enemy that is tank heavy, but rather an enemy that fights on foot or from the back of a pickup truck. It is more imperative to have a loader who is machine gun proficient, rather than one who can



“The newly validated tank crews have now moved on to their new sectors with a sense of pride and accomplishment. Crews fire the main gun seldomly, usually at buildings or structures, and fire machine guns more often. This machine gun focused gunnery has better prepared our tankers for their mission at hand. With an enemy that is elusive and sometimes difficult to identify, it is important that our tankers are well trained on tank-mounted machine guns.”

load a HEAT round in less than four seconds.

The first day on the range was scheduled as follows:

- Engagement 1 — (defense) personnel carrier (PC) (710m) (T-55) and two sets of troops (5-700m) (loader's 240, coax, and .50 cal).
- Engagement 2 — (defense) PC (710m) and troops (500m) (coax and .50 cal).
- Engagement 3 — (defense) repeat engagement 1.
- Engagement 4 — (offense) two sets of troops (coax) (5-700m).

Night training included:

- Engagement 1 — (defense) truck (710 m) (T-55) and troops (500m) (coax).
- Engagement 2 — (defense) two sets of troops (5-700m) (coax).
- Engagement 3 — (offense) truck (700 m) and two sets of troops (5-700m) (coax).

At first, crews were attacking the range as if they were at home station. "Stoppage, on the way, stoppage," was followed by a request to elevate and work the machine gun problem. Back at home station that would be the right thing to do, but in a combat situation the enemy has a vote. The first few crews had to be reminded that this was not a Tank Table VIII and they had other machine guns to service targets. Tank commanders also did not use "defilade" time. On personnel carrier and troop engagements, they pulled out and fired at both targets simultaneously, just as they would in a real situation.

The tank crews on the ready line observed this and caught on quickly. The crews had to be reminded that the enemy was not going to stop attacking because the tank had a machine gun problem. Home station gunnery does not fully prepare tank crews for this type of situation. Crews are trained for "break-time" and fighting against a clock, not a true hostile target. Tank crews must be prepared to fire at a target with another weapons system if one fails to fire. The only way to prepare crews for this is to train at home station. We should not cut crews for engaging targets with the wrong weapons system.

The last day at the range included six engagements. The task force commander wanted to emphasize machine gun firing and only a few main gun engagements. Crews attacked the range with excitement, knowing that they were going to fire service HEAT rounds at real T-55s. The throughput on the range was amaz-

ing! We completed 21 day runs in less than four hours. Crews were no longer worrying about stoppage time — "stoppage, on the way, stoppage," was immediately followed by "caliber 50" or "loader 240, troops, 10 o'clock."

The engagements for the Tank Table VIII (modified) day firing were:

- Engagement 1 — (defense) 2 sets of troops (coax).
- Engagement 2 — (defense) PC and 2 sets of troops (loader 240, coax, .50-cal).

- Engagement 3 — (defense) PC and troops (coax and .50 cal).
- Engagement 4 — (offense) tank and troops (main gun and coax).

Night training included:

- Engagement 1 — (defense) tank and troops (main gun, gunner's power control handle failure, and coax).
- Engagement 2 — (offense) truck and troops (coax).

Twenty-one night runs were completed in less than three hours. The reason for the high throughput is that crews were fighting through the engagements. They were using other weapons systems to service targets and work through problems simultaneously.

The newly validated tank crews have now moved on to their new sectors with

a sense of pride and accomplishment. Crews fire the main gun seldomly, usually at buildings or structures, and fire machine guns more often. This machine gun focused gunnery has better prepared our tankers for their mission at hand. With an enemy that is elusive and sometimes difficult to identify, it is important that our tankers are well trained on tank-mounted machine guns.

We have now passed the 100-day deployed mark. With the limited number of main gun rounds our tanks have fired, it



only drives home the fact that machine gun training should be a top priority of all tank units deploying to Iraq. The days of the main gun being the primary weapons system on a tank are diminishing.



Staff Sergeant James L. Gibson is currently task force master gunner, Task Force 1st Battalion, 77th Armor Regiment (1-77AR), 1st Infantry Division (1ID), Operation Iraqi Freedom II. His military education includes M1A1 Master Gunner Academy, Primary Leadership Development Course, and Basic Non-commissioned Officer Course. He has served in various positions to include company master gunner, C Company, 1-77 AR, 11D, Schweinfurt, Germany; tank commander, C Company, 1-77AR, 11D, Schweinfurt; and platoon sergeant, C Company, 1-77AR, 11D, Schweinfurt.

The Fight for Kufa: Task Force 2-37

by Major Todd E. Walsh

As coalition forces entered their second year of the war in Iraq, the 'Iron Dukes' from Task Force 2d Battalion, 37th Armor (TF 2-37), attached to the 2d Armored Cavalry Regiment (ACR), headed toward the holy city of Najaf and its smaller sister city, Kufa, to suppress the widespread April Mahdi militia uprisings. Najaf and Kufa had become a base of power and influence for Muqtada al-Sadr and his militia.

Al-Sadr, a radical Shi'a cleric who derives his legitimacy from his martyred father, was intent on driving a wedge between Iraq's interim governing council, coalition forces, and the large Iraqi Shi'ite population. His militia, or Mahdi army, had initiated the uprisings across Iraq during the first week of April 2004 to hinder coalition and Iraqi security efforts and jeopardize regional stability needed for the forthcoming transitional government. Al-Sadr's center of influence lay in the old town of Najaf, near the revered Imam Ali Shrine, and his militia had spread to Kufa in an attempt to control its inhabitants and key bridges to the two cities. Located roughly 150 kilometers south of Baghdad along

the Euphrates River, the cities of Najaf and Kufa are separated by only a few kilometers of suburban sprawl and industrial park, the locale where Task Force 2-37 was positioned to protect coalition provisional authorities and to better strike the enemy.

On 22 April, in a brilliant feint by the 2d ACR, using the 3d ACR in a limited attack on the eastern bank of the Euphrates just east of Kufa, TF 2-37 moved under the cover of darkness, without incident from a distracted enemy, into forward operating bases (FOB) Hotel, Golf, and Baker to relieve exiting Spanish forces. That evening, the task force moved 29 M1A1 Abrams integrated management (AIM) tanks, 62 M966/1026-series guntrucks, 33 M1114 up-armored high-mobility, multipurpose wheeled vehicles (HMMWVs), 2 M1117 armored security vehicles, 6 M109 Paladins, 4 M1064 120mm mortar carriers, 2 towed 120mm mortars, and various combat support vehicles into the Najaf-Kufa city limits. Before the enemy could react to the infiltration of forces between the two cities, the Iron Dukes had forward positioned the task force in a lodgement that would eventually



Armor Defeats al-Sadr's Militia

bring about the defeat of al-Sadr's militia — five bloody weeks later.

Over the next several weeks, the task force, composed of two tank companies, two light-wheeled ground cavalry troops, one up-armored military police company, one motorized combat engineer company, and a Paladin battery, deliberately expanded its zone of influence in Najaf and Kufa. The two tank companies and two light-wheeled ground cavalry troops were all task organized into tank and cavalry teams on arrival, giving the task force commander numerous tactical options for future missions.

Initially, it was tough going, with every patrol or logistics convoy subject to ambush whenever they left an FOB. Quick reaction forces, composed of a tank section or platoon, were released when contact was made, to further develop the situation. It became readily apparent that the enemy favored certain areas in the city to initiate attacks, and after identifying enemy-oriented named areas of interest, the task force took steps to target enemy cells.

Patrols did not continue movement after an ambush; the ambushed patrol or convoy had to get out of the kill zone and establish a base of fire, while maintaining contact with the enemy until a reaction force arrived to hunt down and destroy remnants. Sometimes this would take hours and would develop into a sustained firefight once the ambushers were either reinforced or cornered. The Iron Dukes had the time and tactical patience for a systematic and deliberate approach in dealing with the enemy after every ambush. This finally brought the task force freedom of movement along main supply routes into and out of the city, as the enemy's outlying forces were attrited.

As the task force expanded its battlespace, a number of operations were undertaken to apply continued pressure to al-Sadr's militia and political organizations. These operations were designed as limited attacks to gain intelligence, draw out enemy forces, and attrit as much of the enemy as possible.

A number of company- and task force-level operations were conducted throughout May in a successful effort to disrupt Mah-





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di militia command and control, isolate his remaining forces, and prevent his ability to reinforce and resupply. Attempts were also made to target several key lieutenants in al-Sadr’s organization; some of these attempts were very successful. Elements of the task force captured al-Sadr’s deputy and his chief political advisor in two separate raids, further limiting al-Sadr’s control over his forces and his ability to make direct coordination with followers spread throughout Najaf and Kufa. Intelligence sources reported confusion among al-Sadr’s inner circle of lieutenants, many of which had fled the area or had gone to ground. This set the conditions for the task force to fully isolate Kufa and any Mahdi militia therein from the rest of al-Sadr’s army. Kufa operations were deemed less sensitive than conducting offensive operations in old-town Najaf, near the Imam Ali Shrine.

By the end of May, al-Sadr’s remaining forces were split and isolated in the old town of Najaf and in a loose defensive perimeter around the Kufa Mosque. During the last week in May, rumors of talks between al-Sadr, Ayatollah Sistani, and local tribal leaders were ongoing in an effort to bring about a peaceful solution to the Mahdi militia problem. The constant pressure was working. Intelligence sources also confirmed that much of Najaf and Kufa’s 750,000 inhabitants were fed up with the fighting and wanted an end to hostilities and called for the departure of the Mahdi army. With this backdrop, the task force began planning and executing a series of final attacks into the heart of Kufa to destroy remaining militia and seize weapons caches, keeping constant pressure on al-Sadr’s organization to force a favorable political solution.

At 2200 hours on 30 May, TF 2-37 initiated Operation Smack-down, the first in a series of attacks into Kufa that would take place over the next 96 hours. The initial attack, which included Team Apache, A Company, 1st Battalion, 2d ACR; Team Iron, I Company, 3d Battalion, 2d ACR; and Team Crusader, C Company, 2-37 Armor, was a limited attack or probe to gauge Mahdi militia defensive positions around the Kufa Mosque.

The task force conducted the near-simultaneous and coordinated maneuver of its teams in a force-oriented zone reconnaissance directed toward the Kufa Mosque from the north, west, and south. Limits of advance were established 500 to 800 meters from the mosque, along the enemy’s suspected perimeter defensive positions. Company/teams had to maintain full situational awareness of adjacent-unit progress and location during

the reconnaissance to mitigate the risk of fratricide and prevent enemy infiltration in between and behind friendly units.

Crusader made contact as they entered the western side of Kufa, and Iron made contact as they conducted reconnaissance from the south along a more rural approach. Fighting continued for over an hour with multiple rocket-propelled grenade (RPG) and small arms engagements from alleyways and overgrown palm groves. Shortly before midnight on the eve of Memorial Day and just before elements of the task force were to withdraw from contact, two M1A1 Iron Duke crewmen were killed in action. A tank platoon leader from Team Crusader, and the other, a tank loader in Team Iron, died courageously while engaging the enemy and gaining vital intelligence for the task force. This intelligence would be used to take the fight to the enemy deeper into Kufa in the upcoming operations. The Iron Dukes confirmed 22 enemy fighters killed in action, as well as the composition and disposition of the Mahdi militia’s outlying defenses and observation posts.

At 1800 hours on 1 June, the Iron Dukes initiated the second Kufa force-oriented zone reconnaissance of Operation Smack-down. The purpose of this follow-on operation was to further reduce the offensive capabilities of al-Sadr’s militia within Kufa. Key tasks were to destroy enemy fighting positions that made up the enemy’s perimeter defense around the Kufa Mosque and destroy al-Sadr’s militia within western Kufa. In addition, the task force planned an information operation to mitigate any hostile reaction to the attack. This second attack, conducted in the late afternoon and timed to take advantage of daylight, included Team Aggressor, A Company, 2-37 Armor; Team Iron, I Company, 3d Battalion, 2d ACR; and Team Crusader, C Company, 2-37 Armor. This was another limited action designed to penetrate farther into the Mahdi militia defensive positions around the Kufa Mosque — with limits of advance as close as 350 meters from the mosque compound. This time, however, the task force offset the attacks, but still coordinated the maneuver of its teams to achieve a desired effect on the enemy.

Both Aggressor and Iron attacked from the south, covering the rural farmland and palm grove expanse south of Kufa, with Aggressor in the west and Iron in the east. The intent was to draw the enemy south away from Crusader’s axis of advance through zone five, allowing Crusader the element of surprise and unimpeded movement to Phase Line (PL) Ginger.

Movement for Aggressor and Iron was canalized and slow, and all vehicles, including tanks, had to restrict maneuver to the roads. Aggressor had sporadic contact as they maneuvered to their support-by-fire position, and Iron's advance went unopposed. As the two teams approached their limits of advance, Crusader was launched into the attack. Heavy fighting ensued when Crusader reached PL Ginger, with the enemy resisting from positions around an abandoned police station and cemetery in the vicinity of target reference point (TRP) 003. Crusader tanks received machine gun and RPG fire from the Kufa Mosque outer wall, but continued their attack to limit of advance (LOA) Janie. The enemy also made several desperate attempts to reinforce his cemetery position, but was met with lethal precision tank fires, which quickly eliminated any elements that closed on the position in the crossfire.

The Iron Dukes confirmed another 40 enemy fighters killed in action, as well as the composition and disposition of the Mahdi militia's inner defenses around the Kufa Mosque. Within 36 hours, the task force would launch the culminating attack of Operation Smackdown, while maintaining the initiative and keeping pressure on al-Sadr's organization. If effective, the continued destruction of the enemy would allow coalition-backed mediators to meet any al-Sadr peace gesture from a position of power.

At 0630 hours on 3 June, the Iron Dukes initiated the final Kufa attack of Operation Smackdown. The purpose of this follow-on operation was to completely reduce the offensive capabilities of al-Sadr's militia within Kufa. Key tasks included destroying reinforced enemy fighting positions that made up the enemy's perimeter defense around the Kufa Mosque and destroying militia mortar positions in an occupied schoolyard just 300 meters northwest of the mosque.

For several days, forward operating bases Golf and Baker had been on the receiving end of enemy heavy mortar (120mm), but could not respond with counterfire due to the proximity of non-

combatants to the enemy mortar firing positions. The task of eliminating the enemy's indirect threat in Objective Oakland was given to Iron Troop. Due to restricted urban terrain around the schoolyard and the need for Iron to get quickly onto the objective with surprise, the task force commander decided to have only two teams participate in the attack with the remaining combat power left available in reserve. Unlike the preceding operation, Crusader Troop would attack first along its axis of advance through zone five up to LOA Janie. This would put Crusader in a support-by-fire position (the anvil) to draw the enemy away from Objective Oakland and allow Iron Troop (the hammer) to attack from the north and seize its objective before the enemy has time to react and reposition.

Crusader started its attack shortly after 0630 hours and proceeded 500 meters into western Kufa before it made contact with the enemy. Contact was light and Crusader continued the attack to PL Ginger without losing momentum. At 0645 hours, Iron Troop began its attack from command post (CP) 54 to 60 to 40. Iron Troop led with a tank platoon along this axis of attack followed closely by its organic cavalry. As the lead tanks approached CP 40, six subsurface daisy chain mines were detonated in the road, followed by enfilading small-arms fire from several large buildings to the southeast. Undeterred, Iron's tanks continued the attack toward Objective Oakland to set the outer cordon and provide the scouts needed security outside the schoolyard. As the tanks rolled up to and around the schoolyard complex, Iron's cavalry and mortar section attacked to seize the three large school buildings inside the compound.

Fighting broke out immediately within the school and room-to-room clearing became necessary. With mounted inner cordon scouts fixing and suppressing enemy on the second floor of the largest building, the clearing team closed in on the remaining enemy. Ten Mahdi militiamen died where they fought inside the schoolyard, leaving one 120mm and two 82mm mortars open for



"The Iron Dukes had the time and tactical patience for a systematic and deliberate approach in dealing with the enemy after every ambush. This finally brought the task force freedom of movement along main supply routes into and out of the city, as the enemy's outlying forces were attrited."

capture with a large stockpile of rounds. The enemy heavy mortar threat had been eliminated.

As Iron cleared the objective, Crusader reported movement of a platoon of militia toward the schoolyard from the south. Furthermore, the enemy, as reported by Iron's tanks, attempted another envelopment from the north with an additional platoon of dismounts.

As captured equipment was loaded from the schoolyard onto Iron Troop's trucks, the outer cordon of tanks and cavalry begin contact with the enveloping enemy dismount force. The outer cordon had set deliberate positions at key inner city road intersections covering most dismounted avenues of approach into the schoolyard. Crusader disrupted the enemy's ability to effectively reposition forces in mass with precision tank fires, allowing Iron's outer cordon to destroy enemy counterattacking forces as they were piecemealed into the fight. This fight continued for about 45 minutes until enemy action had tapered off to just a couple of small groups of dismounts attempting to work the periphery, but were unwilling to make any concerted attack. Once Iron's clearing team had loaded up their trucks with captured ammo and equipment, the task force commander gave the order to withdraw starting with Iron and then Crusader. The Iron Dukes confirmed another 41 enemy fighters killed in action, as well as the destruction of all Mahdi militia inner defenses outside of the Kufa Mosque.

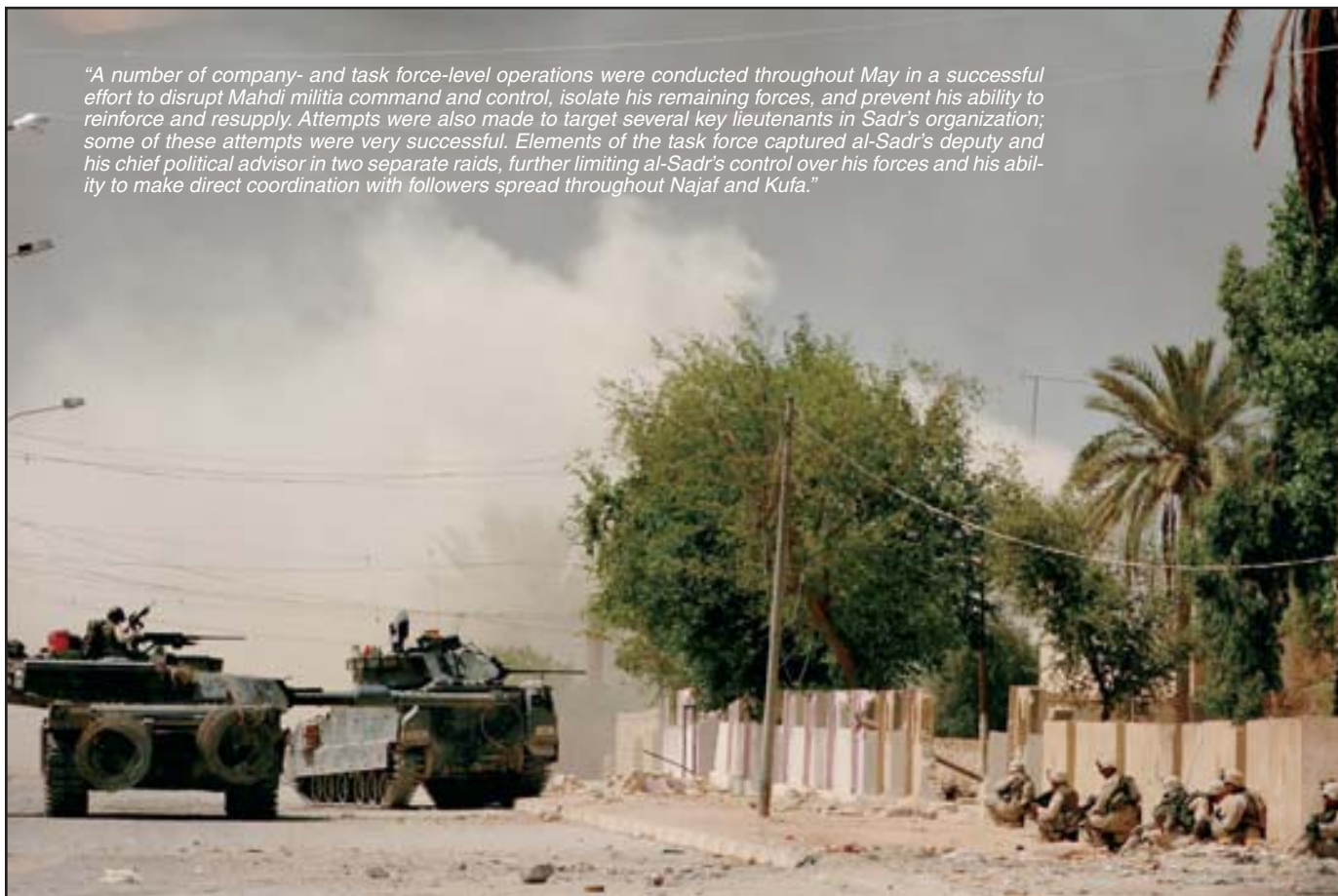
Within 24 hours, the task force received word that the governor of Najaf had entered into serious deliberations with al-Sadr representatives over the terms of ceasefire and conditions for

standing down the Mahdi army. Different sources speculate that the Mahdi army had been severely attrited in Najaf and Kufa during the preceding weeks with estimated casualties as high as 1,000 enemy fighters killed in action. There is no doubt that the constant pressure applied to the enemy by Task Force 2-37 Armor's force of arms, the discipline of its troopers in battle, and the ultimate sacrifice of those Iron Dukes who fell fighting the enemy, singularly contributed to the defeat of al-Sadr's militia in Najaf and Kufa. This measure of force led directly to the current stability enjoyed by the Najaf and Kufa inhabitants today. This article is dedicated to the lasting memory of Lieutenant Ken Ballard and Specialist Nicholaus Zimmer — Iron Dukes to the end.



Major Todd E. Walsh is the brigade executive officer, Ready First Combat Team, 1st Armored Division, Freidberg, Germany. He received a B.A. from Princeton University and a M.B.A. from Embry-Riddle University. His military education includes the U.S. Army Command and General Staff College, the Joint Fire Power Control Course, Armor Officer Advanced Course, Scout Platoon Leader Course, the Armor Officer Basic Course, Air Assault School, Airborne School, and Ranger School. He has served in various command and staff positions, including executive officer and S3, Task Force 2d Battalion, 37th Armor, 2d Armored Cavalry Regiment (ACR), Operation Iraqi Freedom; observer controller, National Training Center, Fort Irwin, CA; commander, D Company, 1st Battalion, 64th (1-64) Armor Regiment, Fort Stewart, GA; S4 and assistant S3, 1-64 Armor, Fort Stewart; executive officer, B Company, 2d Battalion, 33d Armor Regiment, Fort Knox, KY; and tank and scout platoon leader, 1 Troop, 3d Squadron, 11th ACR, Bad Hersfeld, Germany.

"A number of company- and task force-level operations were conducted throughout May in a successful effort to disrupt Mahdi militia command and control, isolate his remaining forces, and prevent his ability to reinforce and resupply. Attempts were also made to target several key lieutenants in Sadr's organization; some of these attempts were very successful. Elements of the task force captured al-Sadr's deputy and his chief political advisor in two separate raids, further limiting al-Sadr's control over his forces and his ability to make direct coordination with followers spread throughout Najaf and Kufa."



Sadr City: The Armor Pure Assault in Urban Terrain

by Captain John C. Moore

Baghdad, Kut, and An Najaf were scenes of concerted attacks by the Mahdi army throughout Iraq on 4 April 2004. On that afternoon, elements of the Mahdi army engaged multiple elements of 2d Battalion, 5th Cavalry Regiment (2-5 CAV), 1st Cavalry Division, nearly simultaneously throughout Sadr City in northern Baghdad. Twenty soldiers from Comanche Red Platoon, 2-5 CAV, had become isolated in the northern central portion of Sadr City, and available vehicle assets prohibited the unit's exfiltration. Soldiers from C Troop, 2d Battalion, 37th Armor (Crusaders), attached to the 2d Armored Cavalry Regiment (ACR), conducted a hasty attack into Sadr City to relieve the isolated infantry platoon.

The Crusaders had been operating in Sadr City since October of 2003 when an ambush in the city killed and wounded a number of troopers from 2d Squadron, 2d Armored Cavalry Regiment (2/2 ACR). From October 2003 to April 2004, constant operations in Sadr City had familiarized the 2d Battalion, 37th Armor (2-37 AR) with the local terrain, which proved vital during the attack.

The 2/2 ACR redeployed to Fort Polk, Louisiana, in March, and the Crusaders began to work for 2-5 CAV (Lancer), which had assumed responsibility for Sadr City. The Crusader's carried out two major combat operations to relieve Comanche Red, which led to a 3-kilometer fight out of Sadr City to evacuate the platoon and their casualties.



The Initial Attack by Crusader Blue Platoon

Crusader's third platoon, with four M1A1 tanks, stood by as a quick reaction force (QRF), on order from the commander of 2-5 CAV, as a result of perceived higher tensions in Sadr City.

At approximately 1630 hours, following Lancer's decisive contact throughout Sadr City, Lancer Main called Crusader X-ray and informed Crusader to ready the QRF immediately and send it northeast of routes DELTA and COPPER to relieve Comanche Red, which had suffered casualties and was isolated and in continued contact. Crusader Blue left its operations base at the Martyrs' Monument within 10 minutes and proceeded northeast along route AEROS and then northwest along route FLORIDA to begin its attack northeast up DELTA to relieve Comanche Red. Crusader Blue turned northeast on DELTA and had initial contact just north of the district advisory council (DAC).

Crusader Blue fought for several minutes traveling northeast up DELTA toward route GOLD and received several rocket-propelled grenade (RPG) rounds from the buildings on the eastern side of DELTA, none of which hit the tanks. Small-arms fire was very intense however and came from both sides of the street. All four Crusader Blue tanks engaged the enemy on both sides of the road with coax, .50-caliber, and M240 loader's machine guns, M4 carbines, and M9 pistols. Many of these attackers were dressed in Iraqi police uniforms, and third platoon substantially reduced the attackers' numbers.

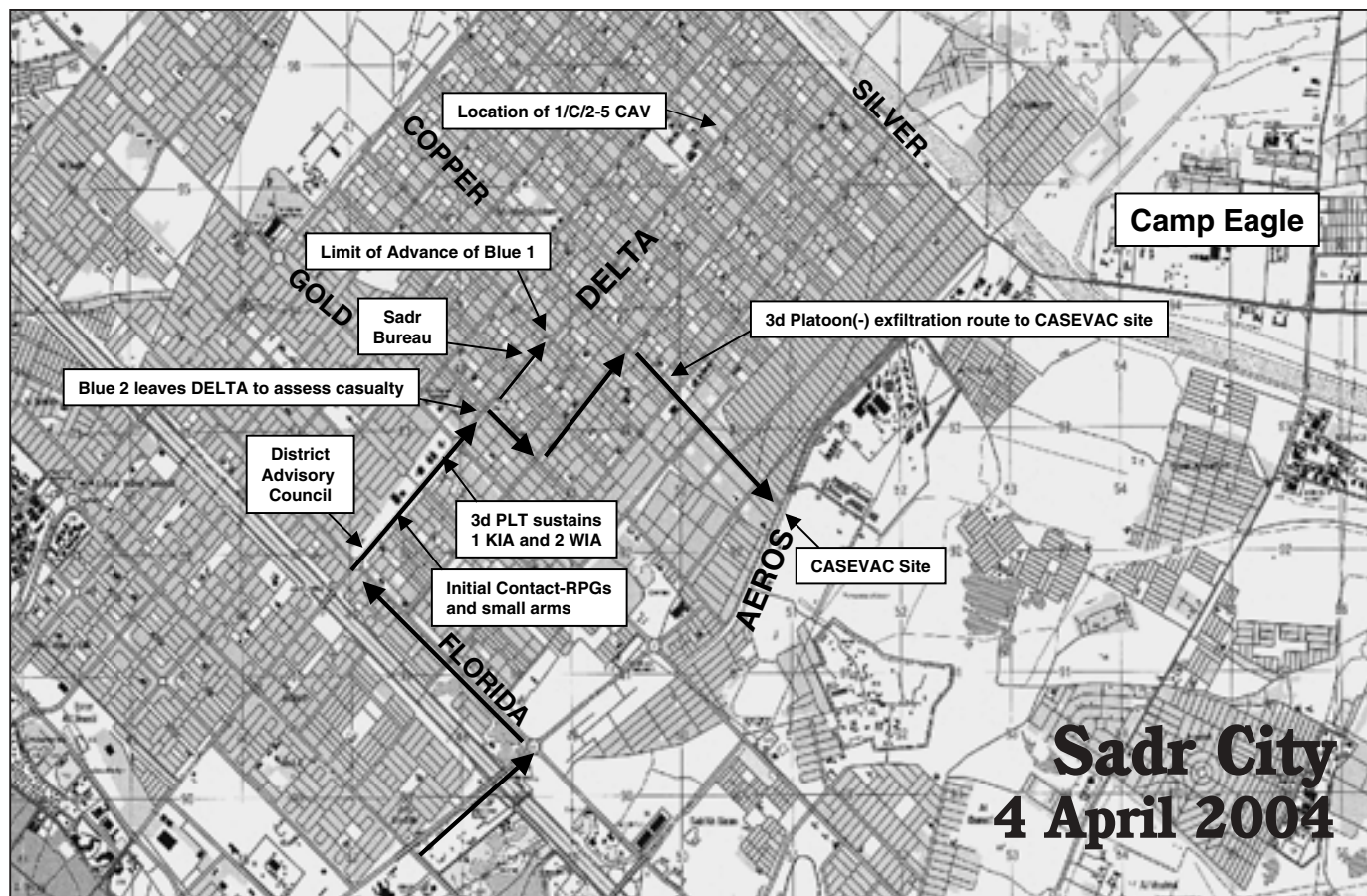
Blue 1 ordered the platoon to continue to fight north. After fighting past route GOLD, RPG and small-arms fire continued, and about 500 meters northeast of GOLD on DELTA, Crusader Blue suffered three casualties. Blue 2 decided to move off of

DELTA to get to a position where he could assess the casualties. He turned southwest off of DELTA between route GOLD and the Sadr Bureau, then traveled southeast to route CHARLIE. Crusader Blue followed his move. Blue 1 ordered his platoon to follow his move back to route DELTA and continue the attack. At the same time, Crusader 5 informed Crusader Blue that they should move their casualties to a hasty casualty collection point (CCP) at the intersection of routes AEROS and COPPER. Blue 1 brought his tank back to DELTA and turned northeast, but the remainder of the platoon continued to the hasty CCP. Blue 1L informed Blue 1 that the other tanks in the platoon had not followed. Blue 1 immediately ordered the tanks to consolidate at the DAC and continue their attack.

The platoon's other three tanks moved to the CCP to conduct casualty procedures. After the casualty exchange and receiving several hundred rounds of 7.62mm ammunition from Crusader White in an up-armored high mobility, multipurpose wheeled vehicle (HMMWV) platoon, the three Crusader Blue tanks returned to the DAC and consolidated with the unit. As the C Troop commander, I was at Camp Cuervo, battalion headquarters, during this operation and immediately returned to the Martyrs' Monument to ready the three remaining tanks to join Crusader Blue to form a larger element with which to conduct a subsequent company attack.

Crusader Attacks

On arrival at Martyrs' Monument, I mounted my tank with my crew and proceeded to the DAC using the same route as Crusader Blue. A section of two tanks from Crusader Red also arrived, bringing the company's strength to seven tanks. Both ra-



dios on my tank were not working, so I jumped to Blue 1's tank, which had communications on both company and battalion nets. Blue 1 became my loader and Blue 1L went to my tank. I knew Comanche Red had been isolated for almost an hour and wanted to start the attack immediately. After Blue 1 explained the situation, the company was organized into a staggered combat column, which I led on the left and Red 1 led on the right. I organized the platoon sergeants to follow with their tanks to bring up the rear of the six-tank staggered combat column. Crusader Blue 3 remained at the DAC to secure the site, which had a number of 2-5 CAV soldiers there with one of their HMMWVs destroyed. I called Lancer 6 and gave him my capabilities concerning vehicles, weapons, and ammunition and requested permission to attack. Lancer 6 gave the order to attack northeast up route DELTA. We attacked immediately.



"Gunners on the forward four tanks killed at least 15 enemy soldiers, all at ranges under 100 meters. Blue 1 and I engaged attackers in the south with carbines as close as 20 to 30 meters, while the infantry platoon readied to load on our tanks. Duke 6 arrived with his tank and distributed ammo to our tanks as we were going black on both 7.62mm and .50-caliber ammo. I remained on the ground and went back to the infantry platoon and supervised as casualties were loaded onto my tank. Comanche Red had three HMMWVs; one had been destroyed and burnt to its frame."

We came under intense small-arms contact 300 meters north of the DAC from both sides of the road, just as Crusader Blue had experienced earlier. We fired coax and .50-caliber to kill and suppress the enemy and continued to move. Two to three hundred meters south of route GOLD, we received RPG fire, and small-arms fire began to accurately hit our tanks. Red 1G returned fire with 120mm high explosive antitank (HEAT) rounds at RPG positions on the southeast side of DELTA, 500 meters to our front.

The hydraulic servo valve (Delta P) went out on my tank and I was forced to fight in emergency mode, which meant stopping to stabilize the main gun and coax machine gun for the gunner. Given the constricted terrain and better position for command and control at the front, I was not willing to send another tank to assume the lead of the left file. After we passed GOLD, fire intensified with the company receiving more than a dozen RPGs, none of which hit. All of them seemed to hit short and the overwhelming majority of them came from ground level. There was an attempted top attack on my tank from the southeast that missed long.

The enemy primarily concentrated on using alleyways, shop windows, and low roofs of one-story buildings to assault. They were very persistent and were very difficult to suppress. Many of them had good tactical patience and waited until we were within 150 meters to fire. Their fires were more effective, but their close proximity meant they usually could not escape down alleyways or through shops before we engaged with either .50-caliber or coax fire. We fired three HEAT rounds during this portion of the fight. They almost always engaged from the front flanks in the more open terrain southwest of the Sadr Bureau.

This changed as we approached the Meredi market area and the large traffic circle with the large al-Sadr mural north of the Sadr Bureau. In this area, there are a large number of kiosks and commercial stands that encroach on the street, providing cover and concealment for the enemy. I fought open hatch the whole way and ordered Red 1 to do the same, as we were very vulnerable from the flanks as we approached the market and could not traverse our turrets well there. Blue 2 also went open hatch because he was ordered to bypass on the left and establish a support-by-fire (SBF) position on the company's left flank to facilitate left flank security as we inclined to the right up DELTA toward the mural.

The dense shop stands forced our company into a file on the northeast side of DELTA as we proceeded to the northeast. The market area was the scene of very heavy fighting with coax, .50-caliber, M4 carbines from turrets, M240 loader machine guns, and M9 pistols. We received heavy small-arms fire and engaged and destroyed the enemy as close as 20 meters on our flanks as we broke out of the market to the northeast. Blue 2's SBF allowed Red 1 to take the lead from the right and I followed through the canalized section of DELTA at the Meredi market. Blue 2, Red 4, Blue 4, and Crusader 6G followed in file until we could break out to the northeast and resume a staggered combat column.

During this time, we received confirmation of Comanche Red's location in a section of buildings northwest of DELTA. I coordinated with Comanche Red 1 on the battalion command net for our arrival and he updated me on the situation. We coordinated nonstandard casualty evacuation, which would be done on our tank turrets, and prepared his platoon for our arrival. We continued the attack to Comanche Red's position under intense fire. The sun had started to go down when we began the Meredi market fighting and it was very near end evening nautical twilight (EENT) when we arrived at Comanche Red's location. The fight through the market near the Al Thawra Iraqi police station was brutal and very close to a great number of barriers and burning barricades.

The company attack from the DAC to Comanche Red's location was four kilometers and it took us over an hour and a half to fight. My primary concern was to preserve my force and remain focused on killing the enemy and clearing the route for any additional casualty evacuation or recovery efforts. Comanche Red 1 confirmed that none of his four wounded were urgent. Additionally, DELTA had very poor trafficability with dozens of burning roadblocks and roadblocks consisting of large metal objects such as air conditioners and refrigerators. These obstructions caused us to set multiple SBFs along the route to allow either Red 1 or me to maneuver on the obstacle and attempt to reduce it with our tracks. The roads and alleyways that ran perpendicular to DELTA all had to be cleared by gunners before the column could advance because we identified early that the primary RPG threat was to the flanks.

On arriving at Comanche Red's location, I set far side security with four tanks and two of my tanks provided center sector and

rear security. Fire at this location remained intense for several minutes. The enemy assailed us from windows and rooftops. Our most effective weapons were carbines and loader's M240 machine guns in the center and to the south. I dismounted and ran down the alleyway where Comanche Red Platoon was defending.

I assessed the situation and informed Comanche Red 1 to account for his men and equipment, and I would load the casualties onto my tank and lead the way out. My tank was also in closest proximity to the alleyway where they had established a platoon defense. Contact remained constant and intense to the northeast. After I dismounted my tank to coordinate with Comanche Red, Blue 1 reappportioned our defense, relocating Blue 4 to cover an exposed alley across the street on DELTA from the alleyway in which Comanche Red was defending. Blue 4 killed many enemies in this alley that had been firing down the alley at Comanche Red and me.

Gunners on the forward four tanks killed at least 15 enemy soldiers, all at ranges under 100 meters. Blue 1 and I engaged attackers in the south with carbines as close as 20 to 30 meters, while the infantry platoon readied to load on our tanks. Duke 6 arrived with his tank and distributed ammo to our tanks as we were going black on both 7.62mm and .50-caliber ammo. I remained on the ground and went back to the infantry platoon and

supervised as casualties were loaded onto my tank. Comanche Red had three HMMWVs; one had been destroyed and burnt to its frame.

The enemy continued to attack from the north as we were stationary. They attacked three times using cars or vans, all of which were destroyed and their occupants killed. The enemy attempted drive-by shootings with their lights off, but they did not drive quickly and were easy targets for coax engagements. Civilian cars blocked Comanche Red's path from the alleyway. They had to use their HMMWVs to push these cars out of the alleyway, which took a long time. It took us about 30 minutes at this location to develop and brief the plan, conduct casualty evacuation, and clear the alleyway to get the HMMWVs. We were in contact with the enemy the entire time.

After we accounted for all friendly personnel and equipment, we continued to attack northeast up DELTA to turn southeast down SILVER to return with casualties to Camp War Eagle. Route SILVER is very narrow, so I ordered the company to close to a file and follow. I attacked with Blue 2, Red 1, and Red 4 behind me. Two of the 2-5 CAV HMMWVs followed the four lead tanks. Blue 4, the third 2-5 CAV HMMWV, and then Crusader 6G was in the rear. Contact on SILVER was as intense as it was on DELTA. On the northeast (left, given direction of attack) of SILVER is a canal with generally open fields of fire.

"API was penetrating too far and there was too much of a risk of killing innocents. HEAT causes a great deal more structural damage, but dissipates after one or two rooms, killing everybody at the point of impact. We need to think of collateral damage more in terms of innocent civilians being killed, rather than reconstructing buildings used by the enemy. Using 120mm HEAT has more of a decisive tactical advantage and limits unnecessary deaths."



To the southwest (right) there are a row of houses and shops. We had heavy contact at the intermittent shops, but little from the houses.

B Troop, 2-37 AR (Battlecat) had set a defensive position at the intersection of routes SILVER and AEROS, which was to our front, so we could only engage with coax once we were fairly close to their position. Carbine engagements from tank commanders' hatches on the right side of the tank turrets proved most effective. The first five tanks and two HMMWVs fought all the way to Camp War Eagle using this method.

The infantry fought amazingly with multiple tires shot out on their HMMWVs. It was a great help to have the infantry on the turrets; they easily and effectively engaged the enemy. The last HMMWV broke down and Crusader 6G pushed the HMMWV with his tank at speeds of about five miles per hour for two kilometers to Camp War Eagle. About two-thirds of this distance was along SILVER where contact persisted. Crusader 6G engaged enemy on roofs and in alleyways with his M9, M16, M203, and .50 caliber, while commanding the tank and instructing the driver on how to safely push the HMMWV. Blue 4 returned to provide security to Crusader 6G and Duke 6 followed our march element to provide rear security.

When we arrived at Camp War Eagle, we downloaded the casualties from Comanche Red and entered Camp War Eagle to refuel and rearm. We also received some equipment that White 1 had brought to us, including more night-vision devices and a .50-caliber machine gun to replace the one that had been destroyed during the fight. I proceeded to the tactical operations center and debriefed Lancer 6 as my men refueled and rearmed. I then conducted adjacent unit coordination with Comanche Blue Platoon for a subsequent mission to move in and secure the Al Thawra Iraqi police station. This would begin the sixth day of constant intense night defenses of Iraqi police stations in Sadr City.

The Power of Experience

The company attack, relief of Comanche Red, and attack to Camp War Eagle lasted over three hours. We were in constant contact the entire time. There were many salient lessons learned from this attack:

Reconnaissance by fire is very effective against strong dismounted opposition in urban terrain. The Mahdi army fought very courageously and demonstrated good tactical patience waiting to engage until we were within effective range of their weapons systems. However, the Mahdi army was not disciplined once engagements began. They rarely waited for flank shots with their RPGs, electing instead to fire at our oblique fronts so that they still had time to escape. Their positions offered little or no mutual support and they had a tendency to break contact or relocate when we conducted recon by fire. This was especially critical at the Meredi market where both main gun and coax machine gun fire flushed many of the enemy out of the cover and concealment they took in the dense market stands. The enemy usually tried to exfiltrate away down alleyways, but often had to run from positions of concealment to these exfiltration routes,



"Naturally, there are terrain considerations in Iraq that would affect this, but even when surrounded by buildings three or four stories tall, it proves to be most effective, as you can fire rifles and carbines out of your turret hatches without exposing the loader and tank commander. The enemy fought primarily from ground level."

so it was easy for us to anticipate where to kill the enemy. Tanks in second positions of the combat column could cover these exfiltration routes as lead tanks flushed these enemy elements out of concealment and cover.

During military operations in urban terrain (MOUT), tank units without infantry support need to fight open hatch. Naturally, there are terrain considerations in Iraq that would affect this, but even when surrounded by buildings three or four stories tall, it proves to be most effective, as you can fire rifles and carbines out of your turret hatches without exposing the loader and tank commander. The enemy fought primarily from ground level. We killed a number of enemy on rooftops, but constant fire from our coax machine guns and .50-caliber machine guns kept them from putting together cohesive attacks from two- and three-story building rooftops. Reflexive fire from loaders and tank commanders with carbines accounted for a substantial number of enemy casualties on rooftops at ranges under 50 meters. During this and subsequent battles, the enemy fired almost constantly from the hip. They all fired on automatic and did not appear to aim their shots. Our loaders and commanders were exposed from the shoulders up, but could deliver very accurate fires at close range and showed the discipline to do so.

The close proximity of light poles, vending stands and buildings severely limited our ability to traverse the turret. The only way to cover our exposed flanks in this congested terrain was to fight out of hatch. Tank commanders and loaders were somewhat protected from the most common threat, which was ground-level fire. Tank units unsupported by infantry in MOUT need to assume the risk of tank destroying systems in constricted terrain. Tank commanders and loaders can also positively identify enemy and noncombatants if they can see them from the turret, thus limiting unnecessary deaths.

Once battle is joined, Mahdi army elements demonstrated incredible commitment to recover their casualties and equipment. Once we inflicted casualties on the enemy, continuous coverage of the location where their soldiers were down proved

key. Mahdi army soldiers would often try to assist their comrades and expose themselves to our fire when they tried to conduct casualty evacuation or recover weapons. This is specifically effective at night because the enemy often fought in squad-sized elements. If a crew only identified a few enemy troops, there were very likely more troops close by in cover or concealment.

Mahdi army elements are inexperienced with the RPG. There was a very high dud rate on our tanks and many of the near misses were duds as well. One RPG dud bent the lip of the turret ring on my tank, but that was all. Who knows whether they failed to properly arm the RPG or if it was just poor ammunition.

I saw three RPGs launched at my tank that initially appeared to be coming right at the front of the tank, but they all dropped short, one skipped under the tank, one exploded short, and one failed to explode as it skipped into our right track and deflected across the line of march of my right file of tanks.

Mahdi army elements set many burning roadblocks that had to be destroyed immediately. After contact, Mahdi army personnel continued to roll tires and combustible objects into roadblocks. Red 1's gunner killed at least one enemy improving a roadblock just 400 meters north of the DAC at the outset of our company attack. Construction or maintenance of such roadblocks during combat operations in a hostile combat environment constitutes hostile enemy intent. After the initial fusillade of RPGs from behind the thermal concealment of roadblocks, I ordered my company to destroy any enemy who was building or reinforcing obstacles, whether or not they had observable weapons. Reconnaissance by fire at these locations is critical.

Mahdi army elements are intimidated by 120mm main gun engagements. As soon as we began destroying the enemy with 120mm main guns, the enemy broke and ran. These engagements were often at short ranges where the concussive effect of the cannon was lethal, even if the enemy was not directly hit by the rounds. This proved to be the case during the nights of continuous Iraqi police station defenses.

120mm HEAT is better than .50-caliber for limiting collateral damage. Commanders at all levels need to understand this. Tanks engaged snipers firing from windows with .50-calibers, and dust was flying from windows, six windows down from the point of impact. This was particularly true of tanks firing armor piercing incendiary (API).

We need .50-caliber ball with tracer. API was penetrating too far and there was too much of a risk of killing innocents. HEAT causes a great deal more structural damage, but dissipates after one or two rooms, killing everybody at the point of impact. We need to think of collateral damage more in terms of innocent civilians being killed, rather than reconstructing buildings used by the enemy. Using 120mm HEAT has more of a decisive tactical advantage and limits unnecessary deaths.

All tanks require two radios. Leaders need to be able to fight from any tank with dual-net capability. We have driven our tanks a fleet average of over 4,000 kilometers during this tour and maintenance is always intensive. The mileage requirements during a year of combat operations in Iraq are eight times the average annual mileage allotment. Tanks will be down for maintenance at a higher rate than usual. The decentralized nature of combat in urban terrain requires several units to operate on the



"Lancer 3B told me when a Bradley QRF would be visible in the vicinity of Route GOLD, which enabled me to warn my unit that we would have friendly vehicles and potentially dismounted infantry to our right flank as we attacked northeast up DELTA. Lancer told us precisely where Comanche Red was isolated so we could adjust our fire-control measures to mitigate the risk of friendly fire casualties."

battalion command net. Tanks need the ability to have one radio on the most relevant command net for combat action and one for internal coordination. This would not be expensive and would facilitate command and control.

Air ground integration (AGI) during company-level attacks is critical. Lancer Battalion (and particularly Lancer 3B) did a great job with AGI. Comanche Red was isolated, had casualties, and insufficient vehicles to exfiltrate. The intelligence received from the aero scouts on the battalion command net was essential for gauging whether we could remain force oriented in our attack northeast up DELTA. If it appeared that Comanche Red was in danger of being overrun, we would have to bypass very stiff resistance at great risk to relieve them immediately. Although Comanche Red was unable to move from its position, it was very defensible, and the aero scouts told me they did not appear to be in danger of being overrun, despite continued contact at very close quarters.

Communications net selection in MOUT must remain flexible. We fought the entire attack on the company command net. This was necessary as the compartmentalized terrain caused us to change formations frequently, making it impossible to keep platoons in set piece formations without fragmenting the attack's tempo. Also, given the proximity of the enemy with RPGs, we all needed to hear crews calling out new threats, if we could not kill the enemy immediately. There was not time for relaying information from platoon net to company.

The company executive officer listened to one net at our command post and determined what we needed to continue combat. This allowed me to take consolidated reports on company command regarding battle damage, as well as make class V requests without having to stop fighting. Crews cannot crowd this net. Tank crews fought and reported, but always cleared the net, just in case I had something critical. The tempo of close quarters urban fighting is too fast to relay traffic from wing tanks to platoon leaders/platoon sergeants and then to the commander or XO.

The battalion staff must constantly update maneuver commanders on the fluid friendly situation in urban terrain. Lancer Battalion's staff gave us advanced warning of each of the three times we gained visual contact with friendly forces in Sadr City. Lancer 3B told me when a Bradley QRF would be visible in the vicinity of Route GOLD, which enabled me to warn my unit that we would have friendly vehicles and potentially dismounted infantry to our right flank as we attacked northeast up DELTA. Lancer told us precisely where Comanche Red was isolated so we could adjust our fire-control measures to mitigate the risk of friendly fire casualties. We inflicted no friendly fire casualties and sustained none despite the intensity of this three-hour fight.

Commanders must constantly update their crews on rules of engagement (ROE) as the fight develops. Many of the situations we faced demanded the subjective decision to fire or not to fire. There was a large volume of civilians in the battlespace as this combat zone was a densely populated urban area. It is not always intuitive when to shoot or not shoot, and commanders need to assume the responsibility of ordering which targets are engaged and which ones are not.

The commander must constantly update fire-control measures in urban terrain. Frequent formation changes, shaped by both the enemy and terrain, forced the commander to con-

stantly reapportion fires to facilitate security. Tanks at the front of the march column must concentrate on the front, but threats from alleyways meant tanks had to handoff as they passed alleyways to ensure the enemy did not use them to assail our flanks. In these concealed locations, the enemy detected us as we passed, but usually did not engage lead tanks. The enemy moved to attack after our forward element passed, meaning the trailing tanks took the brunt of flank attacks. The enemy remained focused on approaching tanks and failed to realize the threat imposed by tanks that had already passed. The loaders and tank commanders on tanks that had already passed by the enemy took the enemy by fire as the enemy exposed their flanks to these tanks.

Commanders and platoon leaders should lead from the front of attack formation even when in file or column when fighting in urban terrain. Doctrine places leaders in the middle of the formation to facilitate command and control in most cases. But in urban terrain, where combat is all close quarters and only leader tanks have the ability to talk to higher headquarters, these tanks are the logical choices to lead from the front. This technique also inspires confidence in the men. This is especially the case during unplanned operations, such as quick reaction force missions during which subordinates may have a limited understanding of the situation as it evolves. During six task force attacks in An Najaf and Kufa in subsequent months, this also facilitated better adjacent unit coordination with sister companies and troops, as leader tanks with two radios could drop to the adjacent unit net or contact the adjacent unit on battalion command to establish that we had gained visual contact with them or audio contact of their fight.

Combat in urban terrain is very fast. Besides, the enemy gets to vote much quicker and it is not often possible to fight in accordance with the plan. A unit can accomplish any mission if everyone understands the task, purpose, and desired end state. Flexibility is the key to success. Commanders must cultivate a command climate where the most junior enlisted soldiers feel comfortable reporting on the company net. Given the tempo of the close quarters fight, commanders must also trust subordinates and empower them to act within the constraints of the commander's intent even before reporting to the commander what actions the element is taking. A challenge for commanders and leaders in the urban armored fight is to develop innovative techniques and ensure that soldiers understand them. Commanders must explain the necessity for adaptation to subordinates so that they clearly understand how the commander wants to fight.

This article is dedicated to the heroic actions and memory of three Crusaders: Staff Sergeant Mike Mitchell, Specialist Nick Zimmer, and First Lieutenant Ken Ballard.



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Major Tank Developments 1960-2004

by Lieutenant Colonel Teddy H. Sanford Jr., Retired and Lieutenant Colonel Burton S. Boudinot, Retired

For most armies during the 20th century, tank development was a slow process. When compared to the aircraft industry, the United States came out of World War II and Korea with tanks of marginal firepower and mobility. It was apparent that something had to be done.

In 1959, the United States Department of Defense convened a Blue Ribbon Panel that reviewed tank development and other weapons systems. The panel found that Russia was very concerned with tactical nuclear weapons, which the United States had deployed in Europe, and fully expected the United States to use them if Soviet forces were to attack. To counter the nuclear threat, the Russians planned to attack in mass and “hug” North Atlantic Treaty Organization (NATO) forces, thus making it difficult to use nuclear weapons. This was called the “bear hug” tactic by the Soviet Union. Once in close, Russia would have the advantage of numbers and could simply overwhelm allied forces. The panel also found that with the tremendous advantage the Russians had in tank numbers, the United States needed to engage them at maximum range to reduce their numbers before they could get in close. These findings led to developing the MBT 70, the M60A2, and the M551, all of which were armed with the 152mm

M162 gun/Shillelagh missile launcher. The 152mm gun optimized the missile to penetrate enemy armor at very long ranges, although little thought was given to how this would effect conventional ammunition. In fact, it denied the possibility of developing a kinetic energy round, and the only round available for most of its service life was a very slow M409 high explosive antitank (HEAT) round that was very inaccurate at longer ranges and took a toll on the fire control system when it was fired.

All of the 152mm systems suffered from electrical problems throughout their service life because of the M409. This was especially true in the very light M551 Sheridan. The gunner would often receive a bruised forehead and nose if he did not pull back from the sight when he pulled the trigger. An interesting note is that someone on the Department of the Army staff looked at all of these “coming” 152mm systems and convinced decisionmakers that it would be very cost effective to buy out the full acquisition objective for the Shillelagh missile. This was done, and when the MBT 70 and subsequent XM803 effort died, and the M60A2 was withdrawn from service after a very short period, the Army was stuck with a huge inventory of Shillelagh missiles that were never used.

During 1969 and 1970, the M551 was eventually deployed in significant numbers to Vietnam because General Creighton Abrams, then the Commander of the U.S. Military Assistance Command — Vietnam wanted to learn more about its weapons system. Abrams was not a light armor vehicle advocate; in fact, he called the V-100 “a five-ton rice cooker.” At the time, the Sheridan still had some 52 major deficiencies, but it was type classified so it could be deployed. There was some concern that the guidance system for the Shillelagh missile might become compromised, so it was removed prior to deployment. Other changes included adding a gun shield for the tank commander, a searchlight, an antipersonnel round, and belly armor for the driver that extended from the lower front glacis to about the middle of the vehicle. Tests at Aberdeen Proving Grounds, Maryland, showed that the driver would be wounded or killed if the vehicle hit a mine. After the changes were applied, the vehicles were deployed.

The M551 also developed another problem in Vietnam: the M409 had a combustible case, which often swelled in the dampness making it difficult to load. If the case was hit with a rocket-propelled grenade (RPG), the results were usually catastrophic. Several hundred M551s

were knocked out in Vietnam, mostly from mines.

It is interesting to note that Russia took a different approach toward tank missiles. Rather than opting for the missile, they used conventional ammunition and developed missiles that would fire through the tank gun. This started with the 125mm 2A26 gun on the T-64 series tank. The first missile firing tank was the T-64B that looked just like the T-64A, a non-missile version, but had the fire control components to fire the AT-8 Songster missile (the Russian designation was Kobra) with a range of 4,000 meters. All systems developed since then have had a missile capability, including the T-72, T-80, and T-90. These systems use the Refleks missile, which has a range of 5,000 meters, and is beyond any round fielded for the Abrams. This will not be corrected until the medium range munition (MRM) is fielded late this decade.

In late 1971, both the U.S. Congress and U.S. Army were disgusted with the German/American MBT 70 venture, the XM 803 program, and the disappointing performance of both the M551 and M60A2 weapons systems. Congress decreed that enough was enough. In February 1972, a main battle tank (MBT) task force was convened at Fort Knox, Kentucky. The task force was not without guidance. The Fort Knox Armor Center Team had produced a white paper outlining what armor branch wanted in a new tank. Nothing super technical; it should weigh about 55 tons, mount a 105mm high velocity gun system, and have a high-mobility chassis. Ballistic Research Laboratories (BRL), Aberdeen Proving Grounds, told the task force that the new "XM-1" was not tough enough against the threat.

In the summer of 1972, Britain asked the United States to

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look at a new armor protection array. As a result, the Chief of Staff, Army ordered the new armor be added to the XM-1 materiel needs requirement. The XM-1 had grown in length, width, and weight. When the task force finished, it had the base concept of what was to become the world's best tank.

When the MBT task force was doing its work from February to August of 1972, the threat was the T-62 tank, which was fitted with the 115mm 2A20 Rapira smoothbore gun. This tank had an armor-piercing, fin-stabilized discarding sabot (APFSDS) kinetic energy round that had a very flat trajectory and, with the tanks stadia range finder, was very effective out to about 1,600 meters. It was a good tank for its day, but nothing earthshaking, and the M68 105mm rifled gun appeared to be the appropriate gun to take on the threat. That gun had previously been applied to late versions of the old Patton-series tank, the M48A5. The big surprise came in 1974 when, in a very short time, Russia fielded its forces in the Group of Soviet Forces Germany (GSFG) with the T-64A. This tank, with its 125mm smoothbore gun, automatic loader, and what was later to be determined unconventional armor, was a wake-up call.

For the rest of the 1970s and the early 1980s, considerable emphasis was put on determining what Russia was doing with tanks. When the T-72 was introduced in the late 1970s, it took some time to real-

ize that it was really a low-tech tank, rather than a tank that could top the high-tech T-64A. The T-72 was really built to replace the many T-55 tanks in Russia's inventory and could be manufactured in large numbers from the tank factory at Nizhny Tagil.

During this time, there was considerable discussion about the 105mm M68 gun's adequacy as gathered intelligence and target development by BRL all seemed to suggest that Russia's tanks were very tough targets. Further, the tank's 125mm gun fired more accurately at longer distances than the M68 gun. Tougher targets and a need for a longer range capability combined to bring forth the 120mm smoothbore gun.

The need for a better gun was confirmed by the user's 120mm M1E1 Tank Armament Review Group that met at Fort Knox from September of 1982 to January 1983. While not a part of this group, BRL had a major impact on the decision regarding the work they had done in translating intelligence data and analysis from the Defense Intelligence Agency and the American Committee for Inoperable Systems into target arrays representative of Soviet tanks. Conclusions and recommendations all favored going forward with the 120mm, which was subsequently used on the M1A1 tank.

The Germans had been developing a 120mm smoothbore system and it was





"When the MBT task force was doing its work from February to August of 1972, the threat was the T-62 tank, which was fitted with the 115mm 2A20 Rapira smoothbore gun. This tank had an armor-piercing, fin-stabilized discarding sabot (APFSDS) kinetic energy round that had a very flat trajectory and, with the tanks stadia range finder, was very effective out to about 1,600 meters. It was a good tank for its day, but nothing earthshaking, and the M68 105mm rifled gun appeared to be the appropriate gun to take on the threat."

adopted by the United States. The idea that it was done as an offset to the E3 advanced warning and control system (AWACS) is not true, and it was not yielding to foreign pressure. It would have taken too long and been too costly to go through a development cycle with the gun and its associated ammunition, and it was logical to adopt the German gun. There may have been some offset credits, but the user community at Fort Knox came up with the requirements for the new gun. This was validated by concurring decisions by the U.S. Army Armor Center, Training and Doctrine Command (TRADOC), and Chief of Staff, Army. The Germans also had developed some excellent ammunition for the new gun, and this was the subject of a technology transfer to the United States where Honeywell Defense began producing the ammunition. Simply stating, "The Abrams with the 120mm gun, the M1A1 tank, has been a success," is an understatement. It performed well in both the Gulf War of 1991 and the Iraqi War of 2003 where it remains in combat to this day.

As to whether a 105mm gun could have done the job, the answer is, "no!" Modern tanks have great base armor, but also enjoy the protection of explosive reactive armor (ERA). These externally applied "boxes" explode to change the path of incoming kinetic-energy or chemical-energy rounds. By changing the direction of the round's path, it significantly reduces

the amount of armor that it can penetrate. The old M900 KE round for the 105mm gun would have very little capability against such a threat. The threat also continues to evolve.

One of the most interesting developments is the new Chinese type-98 main battle tank that just entered production. This tank appears to have received a great deal of its technology from Europe, and it is threatening. It is certainly possible that this tank could find its way to export market places, such as Iran or Syria, and must be considered as a probable future opponent.

As to process, there are many players and the discussion never ends but remains in a constant state of investigation. Current discussions over manned combat systems for the future combat system (FCS) are every bit as spirited as past discussions. The Unit of Action Maneuver Battle Lab (UAMBL), Fort Knox, is carrying out many of the functions that were performed by the MBT task force in the 1970s, but in this case, it is examining the entire U.S. Army structure and equipment needs, rather than a single system.

As a descendent of the tank, the proposed mounted combat system (MCS) is once more examining armament options. Can a light system equipped with a 105mm gun and joint and network fires get the job done in the 21st century or will a larger gun be required to take care of

emerging threats? TRADOC determines what field soldiers need to be successful; program managers determine how best to meet these needs; and industry produces the final product. There is always a degree of tension between the three as programs progress, but only through this give-and-take process do we get a product that will benefit the service and the Nation.

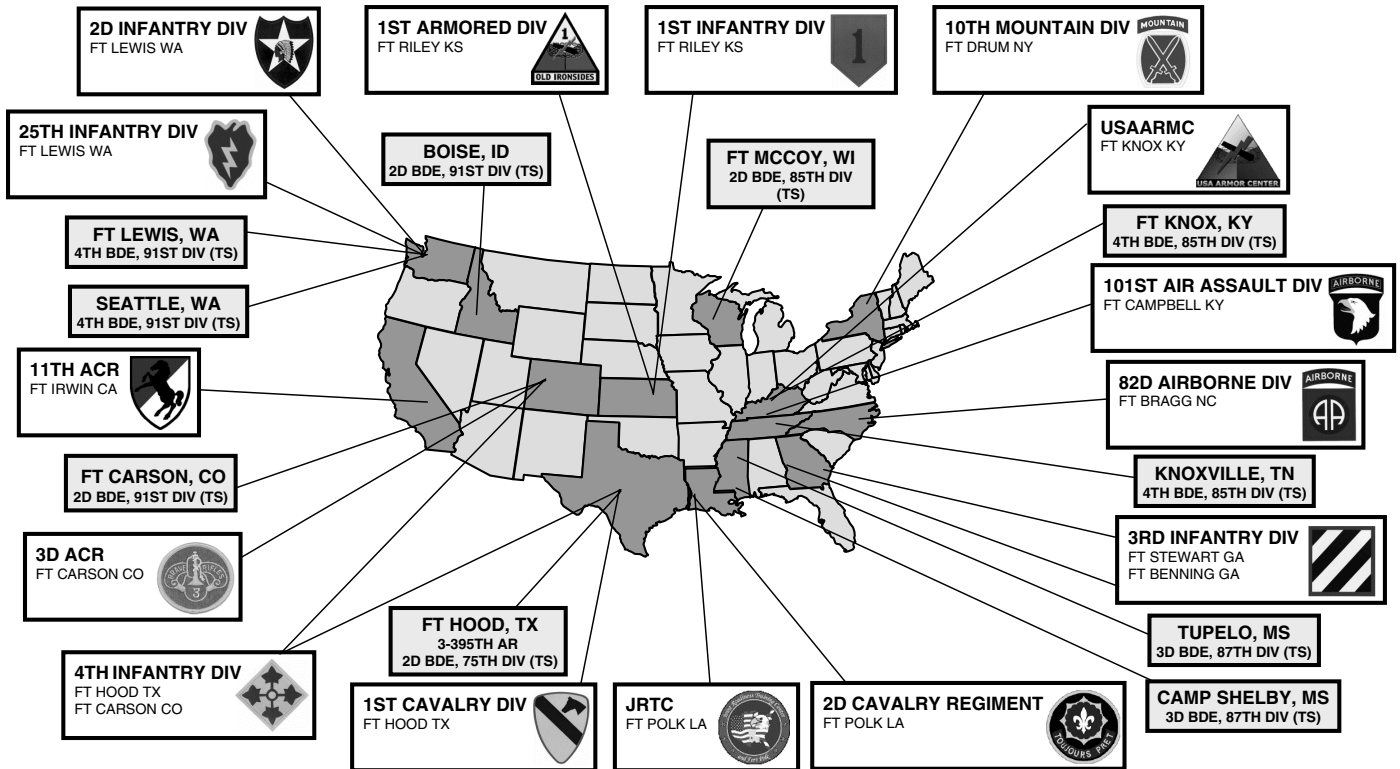


Retired Lieutenant Colonel Burton S. Boudinot is a combat veteran of both the Korean War and Vietnam. He devoted several years of his career to researching, developing, testing, and evaluating armor and cavalry systems. He was a member of the main battle tank task force, which established the original requirement for the Abrams main battle tank. He served in various command and staff positions throughout his career, to include chief, Armor Test Division, U.S. Army Armor and Engineer Board, Fort Knox, KY; and editor in chief, *ARMOR* Magazine, Fort Knox.

Retired Lieutenant Colonel Teddy H. Sanford Jr. served two combat tours in Vietnam. He dedicated many years of his career to the research, development, testing, and evaluation of armor and cavalry systems. He assisted in the development of the combat mission profile for the XM-1 in support of the main battle tank task force. During his distinguished career, he also served on the tank desk in the Ground Weapons Systems Branch, Assistant Vice Directorate for Scientific and Technical Intelligence, Defense Intelligence Agency.

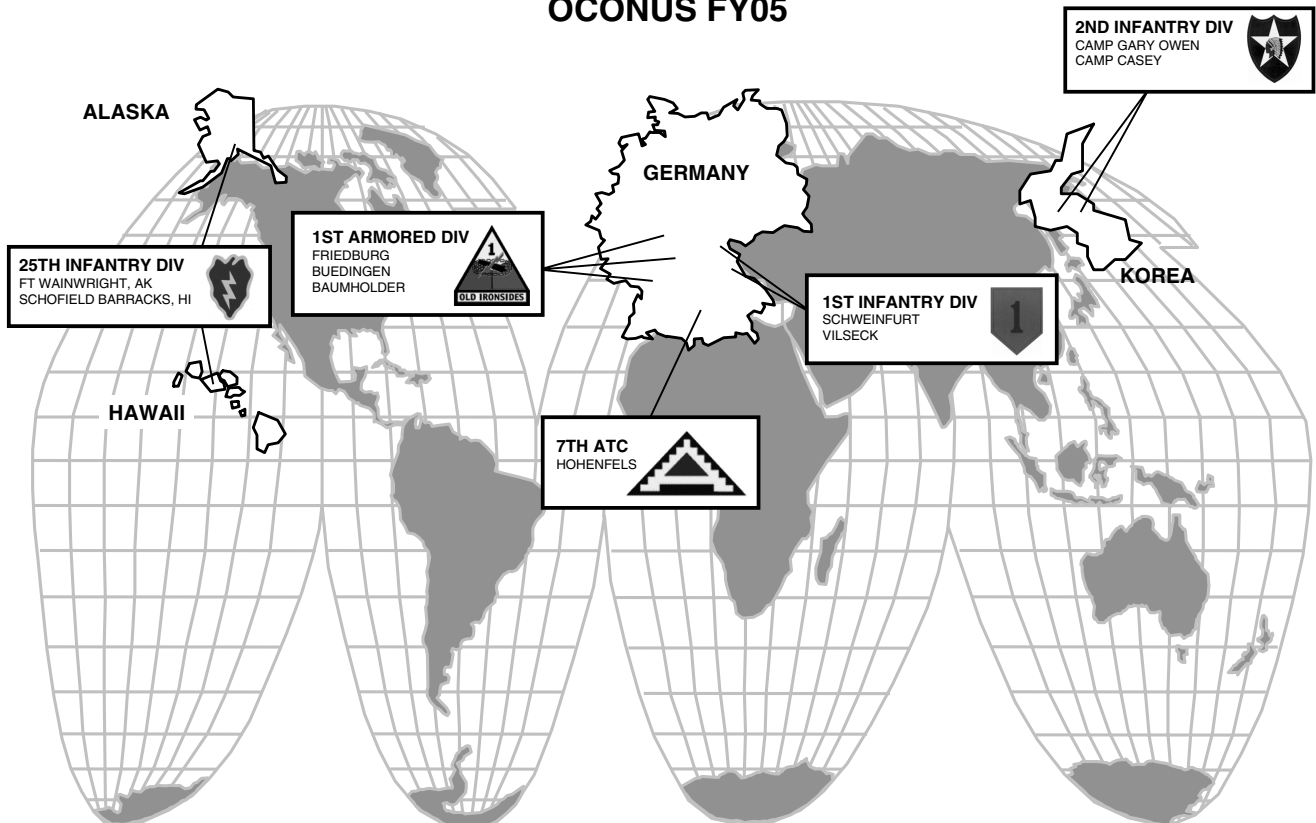
Active Component Armor/Cavalry Geographical Locations

CONUS FY05



Note: Gray boxes indicate Active Component support to Reserve Component units (AC/RC Commands).

OCONUS FY05



Active Component Units

Source: Office, Chief of Armor, Proponency Division

Unit	Location/APO/ZIP	Phone/DSN	Equipment	CDR/CSM
1st Armored Division (Wiesbaden, FRG)	1 Brigade	Friedberg, FRG 09074	324-3821	COL P. R. Mansoor CSM R.R. Houston
	1-37 Armor	Friedberg, FRG 09074	324-3072/3071	M1A1/HMMWV LTC G.P. Bishop CSM G.R. Schindler
	2-37 Armor	Friedberg, FRG 09074	324-3080/3206	M1A1/HMMWV LTC J.K. Tien Jr. CSM G.L. Williams
	F Troop/1 Cavalry	Friedberg, FRG 09074	324-2053	HMMWV
	2 Brigade	Baumholder, FRG 09034	485-7290	(IN CSL) COL R.O. Baker CSM J.A. Santosacruz
	1-35 Armor	Baumholder, FRG 09034	485-6368	M1A1/HMMWV LTC R.C. Lane CSM R. Delgado
	G Troop/1 Cavalry	Baumholder, FRG 09034	485-8710	HMMWV
	3 Brigade	Ft. Riley, KS 66442	856-5014	COL D.J. Bishop CSM P.S. Johndrow
	1-13 Armor	Ft. Riley, KS 66442	856-4511/5899/1878	M1A1/HMMWV LTC E.J. Wesley CSM C.J. Alers-Millan
	2-70 Armor	Ft. Riley, KS 66442	856-5820/1036	M1A1/HMMWV LTC L.A. Quintas Jr. CSM A. Poppert
	H Troop/1 Cavalry	Ft. Riley, KS 66442	856-5231	HMMWV
	1-1 Cavalry	Buedingen, FRG 09076	321-4884/4805/4755	M1A1/M3A2 3 GND x 2 AIR LTC J.A. Peeler CSM D.S. Davenport
1st Cavalry Division (Ft. Hood, TX)	1 Brigade	Ft. Hood, TX 76546	737-0831	COL R.B. Abrams CSM S.D. Small
	1/12 Cavalry	Ft. Hood, TX 76546	737-0823	M1A2/HMMWV LTC T.E. Meredith CSM D.L. Battle
	2/8 Cavalry	Ft. Hood, TX 76546	737-3516/4178	M1A2/HMMWV LTC F.L. Carter CSM P.H. Squiabro
	C Troop/10 Cavalry	Ft. Hood, TX 76546	737-0831	HMMWV
	2 Brigade	Ft. Hood, TX 76546	737-6560/0702	COL M.D. Formica CSM J.F. Lee
	1/8 Cavalry	Ft. Hood, TX 76546	737-0431/7659	M1A2/HMMWV LTC J.W. Allen CSM H. Gilbert
	2/12 Cavalry	Ft. Hood, TX 76546	737-0683	M1A2/HMMWV LTC J.T. Ryan CSM R. Booker
	D Troop/9 Cavalry	Ft. Hood, TX 76546	737-6560/0702	HMMWV
	3 Brigade	Ft. Hood, TX 76546	738-6701/3930	(IN CSL) COL J.M. Murray CSM C.A. Sellards
	3/8 Cavalry	Ft. Hood, TX 76546	738-1968/1552/7404	M1A2/HMMWV LTC R.J. Campbell CSM R.E. Glenister
	F Troop/9 Cavalry	Ft. Hood, TX 76546	738-6701/3930	HMMWV
	1/7 Cavalry	Ft. Hood, TX 76546	738-2711/9063/3394	M1A1/M3A2 3 GND x 3 AIR LTC W.R. Salter CSM R.F. Chandler
1st Infantry Division (Wuerzburg, FRG)	1 Brigade	Ft. Riley, KS 66442	856-4014	COL A.W. Conner Jr. CSM R.A. Moore
	1-34 Armor	Ft. Riley, KS 66442	856-1703	M1A1/HMMWV LTC J.B. Swisher CSM P.D. Burrowes
	2-34 Armor	Ft. Riley, KS 66442	856-9068	M1A1/HMMWV LTC O.J. Hall IV CSM D. Falkner
	D Troop/4 Cavalry	Ft. Riley, KS 66442	856-1373	HMMWV

Unit		Location/APO/ZIP	Phone/DSN	Equipment	CDR/CSM
1st Infantry Division (continued)	2 Brigade	Schweinfurt, FRG 09226	353-8648/8679	(IN CSL)	COL R.A. Dragon CSM J. Calpena
	1-77 Armor	Schweinfurt, FRG 09226	353-8648/8646	M1A1/HMMWV	LTC D.B. Hubner CSM J.W. Fortune
	E Troop/4 Cavalry	Schweinfurt, FRG 09226	353-8704/8602	HMMWV	
	3 Brigade	Vilseck, FRG 09112	476-2431		COL D.J.H. Pittard CSM J. Fourhman
	1-63 Armor	Vilseck, FRG 09112	476-2748/2850/2450	M1A1/HMMWV	LTC M.A. Todd CSM A. Harris
	2-63 Armor	Vilseck, FRG 09112	476-2748/2850/2450	M1A1/HMMWV	LTC J.J. Kulp CSM T.A. Bartoszek
	F Troop/4 Cavalry	Vilseck, FRG 09112	476-3697	HMMWV	
	1-4 Cavalry	Schweinfurt, FRG 09226	353-8602/8258	M1A1/M3A2 3 GND x 2 AIR	LTC J. Chevallier CSM R.I. Rose
2d Infantry Division (Wuerzburg, FRG)	1 Brigade	Camp Casey, Korea 96224	730-2770		COL M.W. Feil CSM J. Williams
	1-72 Armor	Camp Casey, Korea 96224	730-4991/6229	M1A1/HMMWV	LTC P.J. Laughlin II CSM R. Zinger
	2-72 Armor	Camp Casey, Korea 96224	730-2939	M1A1/HMMWV	LTC J.L. Salvetti CSM J.P. Daniels
	4-7 Cavalry	Camp Gary Owen, Korea 96224	734-2403	M1A1/M3A2 3 GND x 2 AIR	LTC B.J. Preler CSM J.P. Norman
3d Infantry Division (Ft. Stewart, GA)	1 Brigade	Ft. Stewart, GA 31313	870-7033	(IN CSL)	COL M.E. McKnight CSM R. Gallagher
	3-69 Armor	Ft. Stewart, GA 31313	870-2355	M1A1/M2A2 M3A2/HMMWV	LTC M.D. Wald CSM P.W. Muskevitch
	5-7 Cavalry	Ft. Stewart, GA 31313	870-4167	M3A2/HMMWV	LTC J. Petery CSM D. Webster
	2 Brigade	Ft. Stewart, GA 31313	870-8106		COL J.P. Disalvo CSM G. Berhane
	1-64 Armor	Ft. Stewart, GA 31313	870-7728/7730	M1A1/M2A2 M3A2/HMMWV	LTC K.W. Farrell CSM R. Callender
	3-7 Cavalry	Ft. Stewart, GA 31313	870-7420/7428/7328	M3A2/HMMWV	LTC A. Fowler CSM J. Kennedy
	3 Brigade	Ft. Benning, GA 31905	784-4111	(IN CSL)	COL S.L. Salazar CSM J.L. Andrews Jr.
	2-69 Armor	Ft. Benning, GA 31905	784-2211	M1A1/M2A2 M3A2/HMMWV	LTC R.R. Roggeman CSM G. Proft
	4-73 Cavalry	Ft. Benning, GA 31905		M3A2/HMMWV	
	4 Brigade	Ft. Stewart, GA 31313	870-1180	(IN CSL)	COL E. Cardon CSM G.J. Coker
	4-64 Armor	Ft. Stewart, GA 31313	870-7690/7600	M1A1/M2A2 M3A2/HMMWV	LTC R.M. Roth CSM C. Stanley
	6-8 Cavalry	Ft. Stewart, GA 31313	870-6885	M3A2/HMMWV	LTC M.J. Harris CSM R. Taylor
4th Infantry Division (Ft. Hood, TX)	1 Brigade	Ft. Hood, TX 76546	737-4887		COL J.B. Hickey CSM R.J. Wells
	1-66 Armor	Ft. Hood, TX 76546	737-7882/8028	M1A1/HMMWV	LTC R.J. Kmiecik CSM J. Moody
	3-66 Armor	Ft. Hood, TX 76546	737-3464	M1A1/HMMWV	LTC D.E. Thompson II CSM W. Keeler
	G Troop/10 Cavalry	Ft. Hood, TX 76546	738-3170	HMMWV	
	2 Brigade	Ft. Hood, TX 76546	738-7509		COL D.R. Hogg CSM J. Zettlemoyer
	1-67 Armor	Ft. Hood, TX 76546	738-6590	M1A1/HMMWV	LTC J.M. Martin CSM E. Barnett

Unit		Location/APO/ZIP	Phone/DSN	Equipment	CDR/CSM
4th Infantry Division (continued)	3-67 Armor	Ft. Hood, TX 76546	737-3435	M1A1/HMMWV	LTC M.A. Bertolini CSM D. Roberson
	H Troop/10 Cavalry	Ft. Hood, TX 76546	736-5163	HMMWV	
	3 Brigade	Ft. Carson, CO 80911	691-2346	(IN CSL)	COL B.D. Jones CSM D. List
	1-68 Armor	Ft. Carson, CO 80911	691-5570/9563/9571	M1A1/HMMWV	LTC A.L. Garner CSM G. Rimpley
	B Troop/9 Cavalry	Ft. Carson, CO 80911	691-5820/1036	HMMWV	
	1-10 Cavalry	Ft. Hood, TX 76546	663-0673	M1A1/M3A2 3 GND x 2 AIR	LTC R.E. Allen CSM R. Moffet
10th Mountain Division	3-17 Cavalry	Ft. Drum, NY 13602	772-3114	HMMWV	LTC Mason CSM M. Greene
25th Infantry (Light) (Ft. Shaffner, HI)	2 Brigade	Schofield Barracks, HI 96857			COL L. Miles CSM J.L. Taylor
	3-4 Cavalry	Schofield Barracks, HI 96857	351-456-9340	HMMWV 1 GND x 2 AIR	LTC M.J. McMahon CSM C. Taylor
2d Cavalry Regiment (Ft. Polk, LA)	2 CR	Ft. Polk, LA 71459	863-0509/2060/1701		COL B.W. May CSM J.W. Troxell
	1st Squadron	Ft. Polk, LA 71459	863-4585/2502/4412	HMMWV	LTC W.W. Prior CSM Pitch
	2d Squadron	Ft. Polk, LA 71459	863-8206/8204/8210	HMMWV	LTC C.K. Hoffman
	3d Squadron	Ft. Polk, LA 71459	861-0884	HMMWV	LTC R.A. Burns CSM R.L. Griego
	RSTA	Ft. Polk, LA 71459			LTC M.K. Daugherty Jr. SGM P. Pandey
3d Armored Cavalry Regiment (Ft. Carson, CO)	3 ACR	Ft. Carson, CO 80911	691-6292		COL H.R. McMaster CSM J.D. Caldwell
	1st Squadron	Ft. Carson, CO 80911	691-9669	M1A2/M3A2	LTC G.D. Reilly CSM R. Gonzales
	2d Squadron	Ft. Carson, CO 80911	691-2675	M1A2/M3A2	LTC C.M. Hickey CSM L.E. Teel
	3d Squadron	Ft. Carson, CO 80911	691-5034	M1A2/M3A2	LTC R.E. Price CSM Dailey
	SUP/3 ACR	Ft. Carson, CO 80911	883-3414		LTC O. Conner CSM F. Thompson

Stryker Brigade Combat Teams

2d Infantry Division	3 Brigade	Ft. Lewis, WA 98433	347-3565	(IN CSL)	COL M. Rounds CSM Du
	1-14 Cavalry	Ft. Lewis, WA 98433	357-3033	IAV	LTC D. Carman Jr. CSM Shover
25th Infantry Division	1 Brigade	Ft. Lewis, WA 98433	357-7504	(IN CSL)	COL R.B. Brown CSM J.L. Taylor
	2-14 Cavalry	Ft. Lewis, WA 98433	357-2492/4241	IAV	LTC M.A. Davis CSM A. Walden
172 Separate Infantry Brigade	172 SIB	Ft. Wainwright, AK 99703	317-353-9781	(IN CSL)	COL J. Palsha CSM Ulibarri
	4-14 Cavalry	Ft. Wainwright, AK 99703	353-4013	IAV	LTC R.G. Williams CSM D.W. Dunham

Training and Doctrine Command (TRADOC)

16th Cavalry Regiment (2 ATB) (Ft. Knox, KY)	16 Cavalry	Ft. Knox, KY 40121	464-7848		COL M.W. Alexander CSM R. Ashley
	1st Squadron	Ft. Knox, KY 40121	464-7965/4072	M1A1/M3A2	LTC E.J. Winkie CSM A. Gongoraberro
	2d Squadron	Ft. Knox, KY 40121	464-6654/7481	AOB	LTC S.W. Duke CSM L. Hester
	3d Squadron	Ft. Knox, KY 40121	464-5855	ACCC	LTC J.W. Adams CSM W.E. Jenks

TRADOC (continued)

Unit	Location/APO/ZIP	Phone/DSN	Equipment	CDR/CSM
1st Armor Training Brigade (Ft. Knox, KY)	1 ATB	Ft. Knox, KY 40121	464-6843	COL J.K. Greer CSM D.L. Morris
	1-81 Armor	Ft. Knox, KY 40121	464-6345/7910	M1A1 LTC C.F. Dymek III CSM N. English
	2-81 Armor	Ft. Knox, KY 40121	464-2645	M1A1 LTC J.D. Dowdy CSM S.C. Wilson
	3-81 Armor	Ft. Knox, KY 40121	464-1313	LTC D.C. Cogdall CSM C. Waters
	5-15 Cavalry	Ft. Knox, KY 40121	464-8286/8226	M3A2/HMMWV LTC M.S. Gavula CSM W. Burns

Combat Training Centers

Training Center OPFOR	11 ACR	Ft. Irwin, CA 92310	470-3499	COL P.C. Bayer Jr. CSM R. Pring
	1-11 ACR	Ft. Irwin, CA 92310	470-3706	LTC J. Blackburn CSM E. Washington Jr.
JRTC	D/109 Infantry	Ft. Polk, LA 71459	863-0484	
CMTC	D/1-4 Infantry	Hohenfels, FRG 09183	466-2191	

Training Support Brigade Commands

Unit	Location/APO/ZIP	Phone/DSN	CDR/CSM
First Army	2d Brigade, 85th Div (TS)	Ft. McCoy, WI 54656	280-2235/2234 COL J.B. Henderson CSM Rakow
	4th Brigade, 85th Div (TS)	Ft. Knox, KY 40121	464-2119/2106 COL D.C. Penn
	3d Brigade, 87th Div (TS)	Camp Shelby, MS 39407	921-3000, ext. 3036 COL D.L. Zajac CSM C.M. Keithley
	2d Brigade, 91st Div (TS)	Ft. Carson, CO 80911	691-5725 (Com. 719-526) COL K.F. Fisk CSM C. Bilodeau
	2d Brigade, 87th Div (TS)	Patrick AFB, FL 32941	854-2420/6631 CSM J. Cochrane

Training Support Battalion Commands

Unit	Location/APO/ZIP	Phone/DSN	CDR/CSM
3d Battalion, 395th Regiment (AR)	2d Brigade, 75th Division (TS) Ft. Hood, TX 76546	(254) 286-6982 DSN 566	LTC M.S. Creviston III SGM Hales
1st Battalion, 409th Regiment (CAV)	4th Brigade, 85th Division (TS) Ft. Knox, KY 40121	(502) 626-2142 DSN 531	LTC E. Monk SGM Burdine
2d Battalion, 409th Regiment (CAV)	4th Brigade, 85th Division (TS) Knoxville, TN	(865) 582-3219	LTC M.A. Porter MSG J. Baggett
1st Battalion, 305th Regiment (AR)	3d Brigade, 87th Division (TS) Camp Shelby, MS 39407	(601) 554-5606 286-4000 ext. 5606	LTC W.M. Wolfarth SGM Grubb
3d Battalion, 305th Regiment (AR)	3d Brigade, 87th Division (TS) Tupelo, MS	(662) 891-9746	LTC R.S. Grant
1st Battalion, 358th Regiment (IN)	4th Brigade, 91st Division (TS) Seattle, WA	(253) 512-7531 DSN 323	LTC S.M. Schenk SGM Woodley-Tyehimba
2d Battalion, 358th Regiment (IN)	4th Brigade, 91st Division (TS) Ft. Lewis, WA 98433	(253) 967-4960 DSN 357	LTC W.M. Perry SGM L. Thomas
3d Battalion, 362d Regiment (AR)	2d Brigade, 91st Division (TS) Ft. Carson, CO 80920	(719) 524-1601 DSN 883	LTC T.J. Russell SGM Sanders
1-359th Resident Training Battalion	2d Brigade, 91st Division (TS) Boise, ID 83205	(208) 422-4684 DSN 531	LTC E.R. Booth Jr.

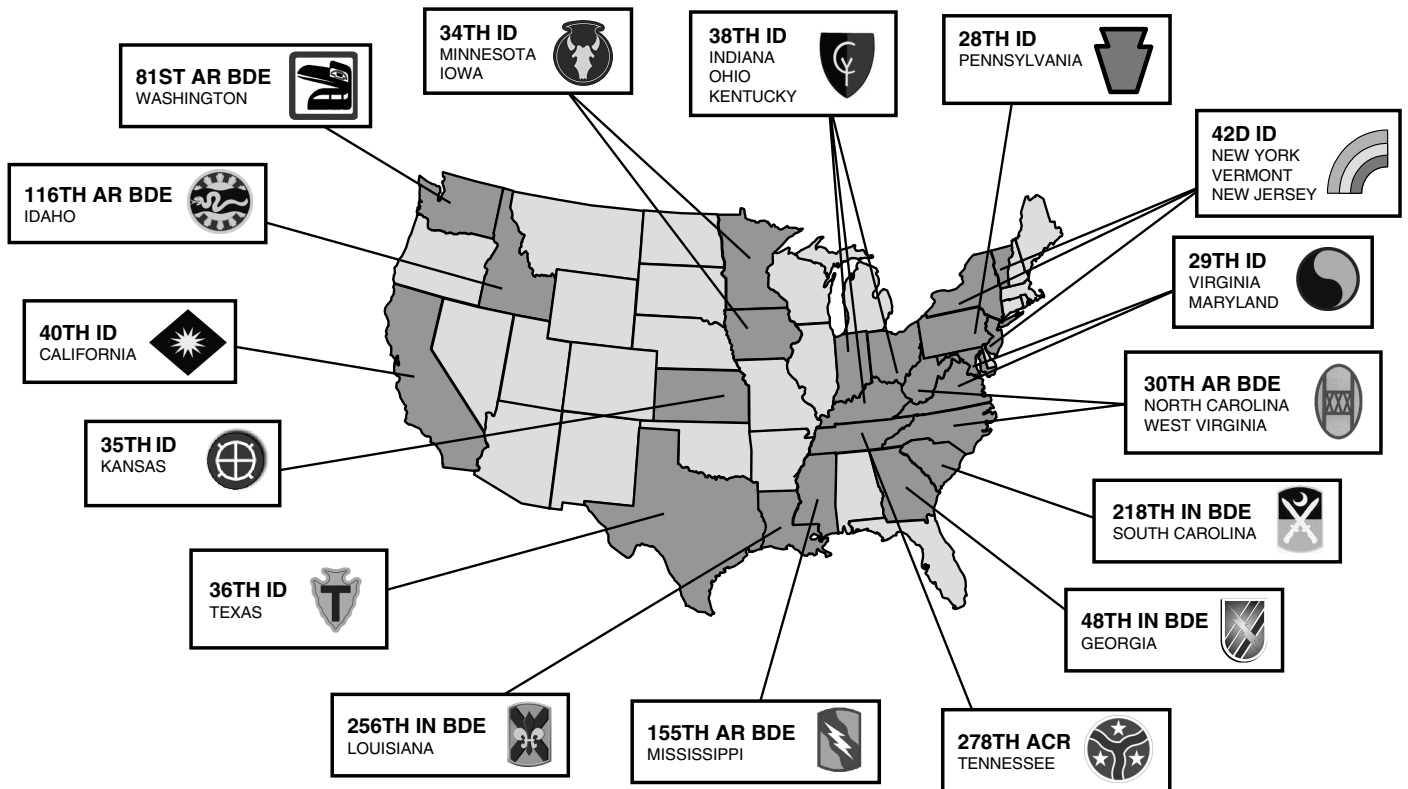
Marine Corps Tank Battalions

Source: U.S. Marine Corps Detachment – Fort Knox

Unit	Parent Unit	Location	Phone/DSN	CDR
1st Tank Battalion	1st Marine Div	MCAGCC, Box 788260, 29 Palms, CA 92277	957-6793	LtCol A.T. Slaughter
2d Tank Battalion	2d Marine Div	Box 20091, Camp LeJeune, NC 28542	751-1851	LtCol D.C. Morse
4th Tank Battalion (Reserve)	4th Marine Div	9955 Pomerabo Rd., San Diego, CA 92145-5295	577-8109	LtCol J.A. Brush I&I LtCol J.F. McDonough
8th Tank Battalion (Reserve)	4th Marine Div	439 Paul Rd., Rochester, NY 14624-4790	(716) 247-3330	LtCol S.P. Williams I&I Col D.N. Gill
Marine Detachment Fort Knox		Garry Owen Regt. Rd., Bldg 2372, Fort Knox, KY 40121	464-5950	LtCol P.A. Kuckuk

Army National Guard Armor/Cavalry Geographical Locations

CONUS FY05



Army National Guard Units

Source: Office of the Special Assistant to the Commanding General (ARNG), Fort Knox

Divisional Brigades				
	Unit	Address	Phone/Fax	CDR / CSM/OPS SGM
1st Army	2d Brigade, 28th Infantry Division	125 Goodrich Lane Washington, PA 15301	(724) 223-4570 (724) 223-4426	COL H. Coulter CSM T. Honkus
	55th Brigade, 28th Infantry Division	900 Adams Avenue Scranton, PA 18510	(570) 963-4558 (570) 963-3139	COL J. Gronski CSM V. Conti
	56th Brigade, 28th Infantry Division	2700 Southampton Road Philadelphia, PA 19154	(215) 560-6010 (215) 560-6036	LTC J. Wierenga CSM M. Jones
	1st Brigade, 34th Infantry Division	107 E. Chestnut Street Stillwater, MN 55085	(651) 275-4334 (651) 282-4540	COL J.P. Kelly CSM D. Julin
	37th Brigade, 38th Infantry Division	3990 E. Broad Street Columbus, OH 43216	(614) 336-6040 (614) 734-7542	LTC J. Lee CSM T. Dillon
	46th Brigade, 38th Infantry Division	1200 44th Street SW Wyoming, MI 49509	(616) 249-2741 (616) 249-2470	COL W. Ewald CSM J.M. Shipley
	3d Brigade, 42d Infantry Division	27 Masten Avenue Buffalo, NY 14204	(716) 888-5641 (716) 888-5672	COL J. Luthringer CSM R. Rivera
	50th Brigade, 42d Infantry Division	151 Eggert Crossing Road Lawrence, NJ 08648	(609) 671-6610 (609) 671-6635	COL F. Caruso CSM R.F. Trainor
	86th Brigade, 42d Infantry Division	161 University Drive Northfield, VT 05663	(802) 485-1802 (802) 485-1850	COL M. McCoy CSM K. White

Divisional Brigades (continued)

Unit		Address	Phone/Fax	CDR / CSM/OPS SGM
5th Army	149th Brigade, 35th Infantry Division	2729 Crittenden Drive Louisville, KY 40209	(502) 637-1250 (502) 637-2650	LTC C.T. Jones CSM J. Butler
	2d Brigade, 40th Infantry Division	7401 Mesa College Drive San Diego, CA 92111	(858) 573-7043 (858) 573-7019	COL L. Haskins CSM S. Hallman
	3d Brigade, 40th Infantry Division	933 Kansas Avenue Modesto, CA 95351	(209) 550-0339 (209) 527-7907	COL C. Bradfield CSM W. Clark
	56th Brigade, 36th Infantry Division	5104 Sandage Avenue Fort Worth, TX 76115	(817) 923-1010 (817) 924-7018	COL J.K. Brown CSM E. Chamblis
	71st Brigade, 36th Infantry Division	1775 California Crossings Dallas, TX 75220	(972) 556-0350 (972) 401-0610	COL D.N. Blackorby CSM B. Hendry
	36th Brigade, 49th Infantry Division	15150 Westheimer Parkway Houston, TX 77082	(281) 558-1742, ext. 3811 (281) 558-6206	COL E. Spurgin CSM H.T. Rigsby III

Separate Brigades

Brigade	Associated Division/Corps	Address	Phone/Fax	CDR / CSM/OPS SGM	
1st Army	30th Separate Infantry Brigade	24th Infantry Division, XVIII Corps	101 Armory Drive Clinton, NC 28328	(910) 251-7225 (910) 251-5108	BG D.H. Hickman CSM L.D. Morgan
	48th Separate Infantry Brigade	24th Infantry Division, XVIII Corps	475 Shurling Drive Macon, GA 31211	(478) 464-3104 (478) 464-3194	BG C.S. Rodeheaver CSM J. Nelson
	155th Separate Armor Brigade	III Corps	P.O. Box 2057 Tupelo, MS 38803	(662) 891-9707 (662) 891-3721	COL A. Collins CSM S. Booker
	218th Separate Infantry Brigade	24th Infantry Division, XVIII Corps	275 General Henderson Road Newberry, SC 29108	(803) 806-2018 (803) 806-2040	BG H.L. Newton CSM S. Cooper
	278th Armored Cavalry Regiment	V Corps	P.O. Box 10167 Knoxville, TN 37939	(865) 582-3278 (865) 582-3208	LTC(P) D. Adams CSM J.T. Pippin
5th Army	81st Brigade Combat Team	I Corps	1601 W. Armory Way Seattle, WA 98119	(253) 512-8389 (253) 512-8049	BG O. Hilman CSM R.J. Barr
	116th Separate Armor Brigade	I Corps	4650 W. Ellsworth Street Boise, ID 83705	(208) 422-4664 DSN 422-4659	BG A. Gayhart CSM L. Lewis
	256th Separate Infantry Brigade	V Corps	1806 Surrey Street Lafayette, LA 70508	(337) 593-2065 (337) 262-1422	BG J.P. Basilica CSM J. Mays

Units by State

State	Unit	Parent Unit	Address	Phone/Fax	CDR / CSM/OPS SGM
Alabama	1st Battalion, 131st Armor	149th Brigade, 35th Infantry Division	3971 US 231 S. Ozark, AL 36360	(334) 774-8075 (334) 774-2858	LTC J. Barnard CSM L.E. Powell
Arkansas	E Troop, 151st Cavalry	39th Separate Infantry Brigade	591 Hwy 243 Marianna, AR 72360	(870) 295-3355 (501) 212-7858	CPT J. Pfisher 1SG G. Bradshaw
California	1st Battalion, 185th Armor	81st Brigade Combat Team	266 E. 3rd Street San Bernadino, CA 92410	(909) 383-4532 (909) 884-7753	LTC B. Sayers CSM A. Hines
California	2d Battalion, 185th Armor	2d Brigade, 40th Infantry Division	7401 Mesa College Drive San Diego, CA 92111	(858) 573-7011 (858) 573-7040	LTC T.J. Swann CSM C. Mitchell
California	1st Battalion, 149th Armor	3d Brigade, 40th Infantry Division	140 Colonel Durham Street Seaside, CA 93955	(831) 393-8407 (831) 393-8406	LTC M. Malanka CSM S. Waterhouse
California	1st Squadron, 18th Cavalry	40th Infantry Division	950 N. Cucamonga Ontario, CA 91764	(909) 983-5998 (909) 983-1174	LTC P.M. Summers CSM E. Hackney
Florida	E Troop, 153d Cavalry	53d Separate Infantry Brigade	900-1 SW 20th Street Ocala, FL 34474	(352) 732-1210 (352) 732-1211	CPT Schupay 1SG V. Robinson
Georgia	E Troop, 108th Cavalry	48th Separate Infantry Brigade	1015 S. Hill Street Griffin, GA 30223	(770) 229-3281 (770) 229-3282	CPT J. Alderman 1SG S. Jones
Georgia	1st Battalion, 108th Armor	48th Separate Infantry Brigade	P.O. Box 36 Calhoun, GA 30703	(706) 624-1340 (706) 624-1341	LTC J. King CSM D. Knowles
Idaho	2d Squadron, 116th Cavalry	116th Separate Armor Brigade	1069 Frontier Road Twin Falls, ID 83301	(208) 422-7000 (208) 422-7003	LTC M. Woods CSM H. Chin
Indiana	E Troop, 238th Cavalry	76th Separate Infantry Brigade	500 E. Spring Street Bluffton, IN 46714	(260) 824-3328 (260) 824-3199	CPT D.J. Tschida 1SG R. Spade
Iowa	1st Squadron, 113th Cavalry	34th Infantry Division	3200 2d Mech Drive Sioux City, IA 51111	(712) 252-4347 (712) 252-4348	LTC R.A. Johnson CSM W. McCarty
Kansas	1st Battalion, 635th Armor	1st Brigade, 40th Infantry Division	1709 S. Airport Road Manhattan, KS 66503	(785) 539-0241 (785) 539-3487	LTC M.A. Raney CSM J.C. Romans
Kentucky	2d Battalion, 123d Armor	149th Brigade, 35th Infantry Division	920 Morgantown Road Bowling Green, KY 42101	(270) 607-2214 (270) 607-2250	LTC D.M. Farley CSM R. Bogle

Units by State (continued)

State	Unit	Parent Unit	Address	Phone/Fax	CDR / CSM/OPS SGM
Louisiana	1st Battalion, 156th Armor	256th Brigade Combat Team	400 E. Stoner Avenue Shreveport, LA 71101	(318) 676-7614 (318) 676-7616	LTC T.B. Plunkett III CSM G. Sonnier
Louisiana	A Troop, 108th Cavalry	256th Brigade Combat Team	500 Fairgrounds Road Natchitoches, LA 71457	(318) 357-3195 (318) 357-3195	CPT M. Williams 1SG E. Reliford
Maryland	1st Squadron, 158th Cavalry	29th Infantry Division	18 Willow Street Annapolis, MD 21401	(410) 974-7400 (410) 974-7304	LTC D.W. Carey CSM O'Connell
Michigan	1st Battalion, 126th Armor	46th Infantry Brigade, 38th Infantry Division	1200 44th Street SW Wyoming, MI 49509	(616) 249-2756 (616) 249-2751	LTC D. Leatherman CSM L. Ott
Minnesota	1st Battalion, 194th Armor	1st Brigade, 34th Infantry Division	1115 Wright Street Brainerd, MN 56401	(218) 828-2572 (651) 268-8111	LTC E.B. Kerska CSM E. Mills
Minnesota	2d Battalion, 194th Armor	1st Brigade, 34th Infantry Division	4015 Airpark Boulevard Duluth, MN 55811	(218) 723-4769 (218) 723-4876	LTC J. McCombs CSM E. Keppeler
Mississippi	A Troop, 98th Cavalry	155th Separate Armor Brigade	P.O. Box 70 Hernando, MS 38632	(662) 429-6333 (662) 429-1280	CPT R.D. Ferguson 1SG R.L. Wiggington
Mississippi	1st Battalion, 198th Armor	155th Separate Armor Brigade	P.O. Box 158 Amory, MS 38821	(662) 256-3741 (662) 256-5066	LTC J. Oliver SGM J. Melin
Mississippi	2d Battalion, 198th Armor	155th Separate Armor Brigade	P.O. Box 278 Senatobia, MS 38668	(662) 562-4494 (662) 562-9470	LTC J. Butler CSM G. Davis
Montana	E Troop, 163d Cavalry	11th Armored Cavalry Regiment	P.O. Box 4789 Helena, MT 59604	(406) 324-3655 (406) 324-3658	CPT M. Boardman 1SG R. Wood
Nebraska	1st Squadron, 167th Cavalry	35th Infantry Division	2400 NW 24th Street Lincoln, NE 68524	(402) 309-1750 (402) 309-1783	LTC M. Apprich CSM T. Eyler
Nevada	1st Battalion, 221st Cavalry	11th Armored Cavalry Regiment	6400 N. Range Road Las Vegas, NV 89115	(702) 632-0506 (702) 632-0540	LTC J. Isaak CSM J. Haynes
New Jersey	5th Squadron, 117th Cavalry	42d Infantry Division	2560 S. Delsea Drive Vineland, NJ 08360	(856) 696-6799 (856) 696-6798	LTC K.R. Austin CSM D.P. Kenna
New Jersey	2d Battalion, 102d Armor	50th Brigade, 42d Infantry Division	550 Route 57 Port Murray, NJ 07865	(908) 689-1068 (908) 689-0403	LTC J.M. Manfre CSM W. Kryscnski
New York	E Troop, 101st Cavalry	27th Separate Infantry Brigade	300 Main Street Geneva, NY 14456	(315) 789-0134 (315) 789-0229	CPT D. Bauer 1SG J. LeBlanc
New York	1st Squadron, 101st Cavalry	3d Brigade, 42d Infantry Division	321 Manor Road Staten Island, NY 10314	(718) 442-8728 (718) 442-8607	MAJ E. Durr CSM K. Church
New York	1st Battalion, 127th Armor	3d Brigade, 42d Infantry Division	27 Masten Avenue Buffalo, NY 14204	(716) 888-5616 (716) 888-5668	LTC D. Zysk CSM W. Hutley
North Carolina	E Troop, 196th Cavalry	30th Separate Infantry Brigade	P.O. Box 265 Elizabethtown, NC 28337	(910) 862-3242 (910) 862-3407	CPT R. Bumgardner 1SG J. White
North Carolina	1st Battalion, 252d Armor	30th Separate Infantry Brigade	P.O. Box 64158 Fayetteville, NC 28306	(910) 484-1849 (910) 484-5132	LTC G. Thompson CSM D. Schawb
Ohio	1st Battalion, 107th Armor	2d Brigade, 28th Infantry Division	4630 Allen Road Stow, OH 44224	(614) 336-6778 (614) 336-3782	LTC R. T. Curry CSM A. Whatmough
Ohio	2d Battalion, 107th Cavalry	38th Infantry Division	2555 Countyline Road Kettering, OH 45430	(614) 336-6694 (614) 336-6698	LTC J. Harris CSM W. Belding
Oklahoma	E Troop, 145th Cavalry	45th Separate Infantry Brigade	309 E. Polk McAlester, OK 74501	(918) 421-3270 (918) 421-3298	CPT J.A. Junkins 1SG M. Ridley
Oregon	G Troop, 82d Cavalry	116th Separate Armor Brigade	822 W. Highland Avenue Redmond, OR 97756	(541) 548-3213 (541) 548-1456	CPT T. Chinen 1SG D. Walz
Oregon	3d Battalion, 116th Armor	116th Separate Armor Brigade	404 12th Street La Grande, OR 97850	(541) 963-4221 (541) 963-7865	LTC C.M. McCabe CSM J. Brooks
Oregon	E Troop, 82d Cavalry	41st Separate Infantry Brigade	1630 Park Avenue Woodburn, OR 97071	(503) 982-1811 (503) 981-8523	CPT Bragg 1SG Bentz
Oregon	F Troop, 82d Cavalry	29th Separate Infantry Brigade	350 W. Maple Lebanon, OR 97355	(541) 451-5758 (541) 451-7602	CPT D. Minor 1SG L. Burk
Pennsylvania	1st Squadron, 104th Cavalry	28th Infantry Division	5350 Ogontz Avenue Philadelphia, PA 19141	(215) 329-2622 (215) 967-5474	LTC H. Redditt CSM T. Zaengle
Pennsylvania	1st Battalion, 103d Armor	2d Brigade, 28th Infantry Division	565 Walters Avenue Johnstown, PA 15904	(814) 533-2443 (814) 533-2611	LTC P. Logan CSM T. Wieczorek
Pennsylvania	2d Battalion, 103d Armor	55th Brigade, 28th Infantry Division	900 Adams Avenue Scranton, PA 18510	(570) 963-4644 (570) 963-3121	LTC A. Stankins CSM R. Schimelfenig
Pennsylvania	3d Battalion, 103d Armor	55th Brigade, 28th Infantry Division	580 US Route 15S Lewisburg, PA 17837	(570) 523-3468 (570) 522-0560	LTC A. Schafer CSM M. Moretz
Puerto Rico	E Troop, 192d Cavalry	92d Separate Infantry Brigade	P.O. Box 1152, Camp Santiago, Salinas, PR 00751	(787) 824-7467	CPT D. Davila 1SG W. Borges
South Carolina	B Trp, 202d Cavalry	218th Separate Infantry Brigade	1 Cavalry Lane Beaufort, SC 29901	(843) 524-4929 (843) 524-0720	CPT D. Mixon 1SG J. McCrackin
South Carolina	1st Battalion, 263d Armor	218th Separate Infantry Brigade	1018 Gilchrist Road Mullins, SC 29574	(803) 806-1073 (803) 806-1036	LTC S.A. Wright CSM J.E. Wiggins
Tennessee	1st Squadron, 278th ACR	278th Armored Cavalry Regiment	413 County Road 554 Athens, TN 37303	(423) 744-2807 (423) 744-8304	LTC M. Hart CSM E. Ridgell
Tennessee	2d Squadron, 278th ACR	278th Armored Cavalry Regiment	4401 W. Stone Drive Kingsport, TN 37660	(423) 247-2278 (423) 247-2399	LTC F. McCauley Jr. CSM G. Peck
Tennessee	3d Squadron, 278th ACR	278th Armored Cavalry Regiment	505 Gould Avenue Cookeville, TN 38502	(931) 432-4117 (931) 432-6252	LTC J. Holmes CSM J. Kyle

Units by State (continued)

State	Unit	Parent Unit	Address	Phone/Fax	CDR / CSM/OPS SGM
Texas	1st Battalion, 112th Armor	72d Brigade, 36th Infantry Division	700 N. Spring Creek Parkway Wylie, TX 75098	(972) 442-4679 (972) 442-4858	LTC D. Madden CSM R. Godfrey
Texas	2d Battalion, 112th Armor	56th Brigade, 36th Infantry Division	2101 Cobb Park Drive Fort Worth, TX 76105	(817) 531-8737 (817) 531-3463	LTC W.A. Hall CSM W.F. Brown
Texas	3d Battalion, 112th Armor	56th Brigade, 36th Infantry Division	5601 FM 45 S. Brownwood, TX 76801	(325) 646-0159 (325) 646-0340	LTC R.F. Neal CSM P.D. Callaway
Texas	4th Battalion, 112th Armor	36th Brigade, 49th Armored Division	1700 E. 25th Street Bryan, TX 77802	(979) 822-9059 (979) 823-2995	LTC M. Alayon CSM Brown
Texas	5th Battalion, 112th Armor	72d Brigade, 36th Infantry Division	2109 Warren Drive Marshall, TX 75672	(903) 938-4613 (903) 935-2428	LTC R. Woodmansee CSM J.T. Merrill
Texas	1st Squadron, 124th Cavalry	36th Infantry Division	2120 N. New Road Waco, TX 76707	(254) 776-1402 (254) 776-5829	MAJ(P) L.D. Schnell VACANT
Vermont	1st Battalion, 172d Armor	86th Brigade, 42d Infantry Division	18 Fairfield Street St. Albans, VT 05478	(802) 524-7903 (802) 524-7906	LTC M. Lovejoy CSM M. Larose
Vermont	2d Battalion, 172d Armor	86th Brigade, 42d Infantry Division	15 West Street Rutland, VT 05701	(802) 786-8800 (802) 786-8017	LTC T. Williams CSM J. Goodrich
Washington	E Troop, 303d Cavalry	81st Enhanced Separate Brigade	622 4th Avenue SE Puyallup, WA 98372	(253) 840-4670 (253) 840-4587	CPT A. Lonsdale 1SG C. Lia
Washington	1st Battalion, 303d Armor	81st Separate Infantry Brigade	24410 Military Road Kent, WA 98032	(253) 945-1831 (253) 945-1800	LTC R. Kapral CSM K. May
West Virginia	1st Battalion, 150th Armor	30th Separate Infantry Brigade	2915 Old Bramwell Road Bluefield, WV 24701	(304) 589-3361 (304) 561-6143	LTC G. Wilcoxin CSM L. Vance
Wisconsin	E Troop, 105th Cavalry	32d Separate Infantry Brigade	106 Memorial Drive Merrill, WI 54452	(715) 536-6323 (715) 536-6863	CPT D. Ellenbecker 1SG C. Clay

TASS Armor Battalions

Region	Unit	Address	Phone/Fax	CDR / CSM/OPS SGM
A	1st Armor Battalion, 254th Regiment	P.O. Box 277 Sea Girt, NJ 08750	(732) 974-5988 (732) 974-5975	MAJ D. Mahon MSG M. Beierschmitt
B	1st Armor Battalion, 166th Regiment	Building 8-80 Fort Indiantown Gap, PA 17003	(717) 491-2809 DSN 491-8401	LTC J. Jahnke MSG S. Mosholder
C	1st Armor Battalion, 218th Regiment	5411 Leesburg Road Eastover, SC 29044	(803) 806-2401 DSN 583-2332	LTC D. West MSG J. Long
D	2d Armor Battalion, 117th Regiment	Building 638, TN ARNG Smyrna, TN 37161	(615) 355-3794 DSN 683-3797	LTC J. Gentry SFC D. Knight
E	1st Armor Battalion, 145th Regiment	8208 S. Perimeter Road Columbus, OH 43217	(614) 336-6443 (614) 336-6447	MAJ J. Kane MSG J. Fouch
F	1st Armor Battalion, 136th Regiment	P.O. Box 5218 Austin, TX 78763	(512) 782-5552 DSN 954-5980	LTC F. Rodriguez SFC J. Sullivan
G	1st Armor Battalion, 204th Regiment	Building 810, 5050 S. Junker Street Boise, ID 83705	(208) 422-4848 DSN 422-4863	LTC T. Kelly MSG J. Sexton

Army Reserve Units
100th Division (Institutional Training)

Unit	Parent Unit	Address	Phone	CDR / CSM
	1st Brigade	1051 Russell Cave Pike Lexington, KY 40505-3494	(859) 281-2200	COL J. Swarts CSM L. Owens
1st Squadron, 397th Cavalry	1st Brigade	P.O. Box 147 Richmond, KY 40475-2729	(859) 623-3589	LTC J. Karas CSM S. Alley
2d Squadron, 397th Cavalry	1st Brigade	1051 Russell Cave Pike Lexington, KY 40505-3494	(859) 281-2211	LTC C. Hulsewede CSM J. Golver
3d Squadron, 397th Cavalry	1st Brigade	1840 Cumberlandfalls Highway Corbin, KY 40701-2729	(859) 528-5765	LTC T. Sherdakoff CSM C. Douglas
	2d Brigade	7 Dublin Lane Owensboro, KY 42301-0546	(270) 686-3960	COL G. Russell CSM D. Thomas
1st Battalion, 398th Brigade Combat Team	2d Brigade	7 Dublin Lane Owensboro, KY 42301-0546	(270) 686-3944	LTC J. Bonner CSM C. Ashby
2d Battalion, 398th Armor	2d Brigade	1600 Woodson Drive Hopkinsville, KY 42241	(270) 885-3660	LTC R. Kilburn CSM M. Bacon
3d Battalion, 398th Armor	2d Brigade	2956 Park Avenue Paducah, KY 42001	(270) 442-8284	LTC K. Abner CSM J. McGuire
4th Battalion, 398th Brigade Combat Team	2d Brigade	Building 1511, 745 McDonald Street Maxwell AFB, AL 36114-3110	(334) 416-3328	MAJ R. Comer CSM D. Grace
HQ	7th Brigade	Building 2373, Hell on Wheels Avenue Fort Knox, KY 40121	(502) 624-5367	COL C.A. Borsavage CSM L. Willis
1st Battalion, 399th REC (Reception)	7th Brigade	Building 2373, Hell on Wheels Avenue Fort Knox, KY 40121	(502) 624-5534	LTC W. Cavender CSM M.S. Meredith
2d Battalion, 399th CMTE (Committee Group)	7th Brigade	Building 2373, Hell on Wheels Avenue Fort Knox, KY 40121	(502) 624-4310	LTC D. Miller CSM D.M. Robinson

LETTERS *continued from Page 3*

focus on conducting dismounted operations with the capability of conducting mounted maneuver as well. Armored cavalry regiments would provide the heavy maneuver element of the Army and focus on mounted operations, yet possess the capability of conducting dismounted maneuver, if required. Brainstorming envisions the partial (and obviously) incomplete tables of organization as described below.

Common features to both types of regiment would include an organic sapper/pioneer platoon at the battalion/squadron level for mobility, countermobility, and survivability tasks. Regiments would have an organic six-gun artillery battery and a reconnaissance troop. The battalion headquarters and headquarters company (squadron headquarters and headquarters) would be comprised of medical, scout, mortar, and sapper platoons. The service company would provide logistics and maintenance support.

Stryker infantry regiments will have three battalions of four companies each. Companies would be lettered sequentially, such as 1st Battalion would include A Company, B Company, C Company, and D Company; 2d Battalion would include E Company, F Company, G Company, and H Company; and 3d Battalion would include I Company, K Company, L Company, and M Company. Companies D, H, and M would be assault gun companies. Armored cavalry regiments would have three squadrons of four troops each, lettered sequentially, such as 1st Squadron, which would include A Troop, B Troop, C Troop, and D Troop; 2d Squadron, which would include E Troop, F Troop, G Troop, and H Troop; and 3d Squadron, which would include I Troop, K Troop, L Troop, and M Troop. Troops D, H, and M would be an artillery battery. Each maneuver troop would have four platoons: two tank and two mechanized infantry.

Let's cease with the nutroll. Reorganizing maneuver units can be easy and simple if we stop overthinking the problem. Such is my contribution to the discussion.

THOMAS A. REBUCK
1LT, U.S. Army

Case Yellow: Making a Good Plan Successful

Dear *ARMOR*,

As a long time reader and professional armor officer, I truly enjoyed Captain Samuel Cook's article, "The German Breakthrough at Sedan," in the September-October 2004 issue of *ARMOR*. However, there are a couple of key critical points concerning the planning phase of what would be known as "Case Yellow" that I would like to address.

My first point is to elaborate Captain Cook's comment that the development of a workable Case Yellow took place over 8 months, largely because of extensive wargaming conducted by the Oberkommando des Heeres (OKH), which was Germany's army high command from 1936 to 1945. OKH at Zossen failed to yield a plan with which everyone was happy, which eventually led to OKH adopting General Manstein's "concept" of a single armored strike through the Ardennes (which was no easy task).

Manstein's first look at the original Case Yellow occurred in his capacity as Rundstedt's chief of staff, Army Group A, when stopping at Zossen on his way back from the Polish front. Manstein commented that it would be a crime to use such an unimaginative and unworkable plan for a "partial victory" — a headlong collision with the allies in Belgium.

Simultaneously, on 25 October 1939, Hitler's generals informed him that the originally conceived Case Yellow had little or no chance of being successful. This was further confirmed by wargaming exercises directed by OKH at Zossen. There, Colonel Ulrich Liss, a staff officer assigned to Foreign Armies West, played the role of General Gamelin all too well — in nearly every exercise he fought the Germans (role played by General Stulpnagel) to a draw. OKH's exacerbation over Case Yellow was further aggravated by its compromise in what is known as the "Mechelon-sur-Meuse incident."

On 10 January 1940, a plane carrying Luftwaffe Major Hellmuth Reinberger, a paratroop officer based in Münster, crash-landed near the town of Mechelon-sur-Meuse, just inside the Belgium border. Reinberger, on his way to a staff meeting in Berlin, was carrying a portfolio of documents regarding details for paratroopers entailed to the most recent version of Case Yellow. Despite his hasty attempts to burn the documents, sufficient details of the plan fell into Belgian, and subsequently, allied hands. Case Yellow was sufficiently compromised to warrant a thorough revision. Again, enter Manstein.

Tensions between General Halder (chief of staff, OKH) and Manstein over his behind-the-scenes ideas to change the strategy of Case Yellow warranted a "promotion" on 27 January 1940 to the new commander of the 38th Infantry Corps, hoping he would conveniently disappear, placing him out of the picture and

the planning process. However, fate would work against Halder.

On 17 February, Manstein, along with other newly appointed corps commanders, was summoned to Berlin to meet with Hitler for a luncheon. As fate would have it, Manstein got the opportunity to discuss his ideas about Case Yellow with Hitler in a private audience. No surprise, Hitler quickly grasped Manstein's points (he was still moody over the Mechelon-sur-Meuse fiasco), and the very next day, in response to Hitler's orders, OKH issued new directives that reflected Manstein's proposals!

Case Yellow, in its final version, was still a high-risk venture. Two wargames conducted at Zossen during March 1940 convinced Halder and General Bock that an Ardennes offensive would have little to no chance of success. Liss (in his role as Gamelin) needed only a few days to recognize the German *Schwerpunkt* in the Ardennes, successfully cut it off, and annihilate it. For the Germans to be successful, they had to have substantial forces west of the Meuse in less than five days. If that could be achieved, the allied counteroffensive would fail. As history would reveal, not only did the Germans meet the five-day minimum, but Gamelin reacted slower than Liss gave him credit for, which ensured German success at Sedan.

Wargaming the plan and understanding your enemy and how he will react goes a long way in making a good plan "successful." In my opinion, during the development of Case Yellow, General Manstein may have been "the hammer," but Colonel Ulrich Liss in his portrayal of (an effective) General Gamelin made the perfect "anvil." If ever it was true the saying, "success has many fathers."

JOHN M. MENTER
COL, U.S. Army, Retired

Pages From the Past

Maneuver Damage

Ament the autumn maneuvers, which are gaining ground in our Army, an important factor not brought out in the official reports is the subject of a report to the *Chicago Times* of 4 February 1904:

"From the Smoky Hill basin to the Republican River, and up and down the Kansas River banks, there is rejoicing in Kansas. Congress has appropriated money to pay the farmers for their pullets and old hens.

"When the Army maneuvers ended October 27th, this section of the State was eggless and chickenless. The casualties of the campaign of the Blues against the Browns had been 84,000 hens and late autumn 'spring fries.'

"Now hope springs anew in the agricultural breast, since Congress has appropriated \$2,100 to pay for the damage done last year by soldiers and \$5,900 for additional loss which will be sustained (it is hoped) by the farmers at the next maneuvers.

"Everybody is preparing to raise chickens. Incubator agents are arriving at Junction

City on every train. Farmers are preparing to fill their fields with chicken coops, built without doors. Every opportunity will be given the soldiers next summer to rob hen roosts without trouble.

"In the annals of the Fort Riley engagement as officially recorded, it will not be mentioned that the decisive engagement of the Browns against the Blues was lost because of chickens. The twenty-eighth mountain battery had been ordered to the support of the First Kansas, then hard pressed, and in taking position the battery came across an untouched chicken farm.

"The First Kansas was left to its fate, and Major William H. Coffin, commanding the divisional artillery from the timberland back of the Smoky Hill, saw through his field glasses a carnage he could not stop.

"These chickens were accountable for the decimation of Colonel Metcalf's fine regiment of Kansas infantry, and the day was lost."

— *Cavalry Journal*, February 1904

REVIEWS

Road to Baghdad Behind Enemy Lines: The Adventures of an American Soldier in the Gulf War by Martin Stanton, Ballantine Books, New York, 2003, 300 pp., \$24.95 (hardback)

Colonel Marty Stanton is a brave man. Marty will deny this, but he is a brave man. This is not only a great story, but it is a tale of courage in the face of uncertainty. It is not a self-aggrandizing book; Marty Stanton is brutally honest with himself and his readers. Indeed, in the moment we learn he is told to remain at his post and continue to report the situation in Kuwait City during that August 13 years ago, Stanton writes: "After all those years wondering how I would be in a crisis, it was daunting to discover that when all was said and done, I was not nearly as brave as I had expected."

Part travelogue, part thriller, Marty Stanton relates a story of an ordinary man thrust into an extraordinary situation. He tells the story of his assignment to Saudi Arabia and the Office of the Project Manager-Saudi Arabian National Guard (OPM-SANG) project. We can all relate to the assignment process and his droll description of the assignment officer schtick. He tells of getting acclimated to Saudi Arabia and the life of an advisor. He tells of how he met his wife. These mundane details set the stage for the rest of the story. There are two parts, his experience as a guest of Saddam and his return to Operation Desert Storm.

In the second section in his book, he tells of his adventures during the Iraqi invasion of Kuwait. Stanton decides to widen his regional experiences and take leave in Kuwait City on 1 August 1990. Before departing, he checked with the OPM-SANG intelligence section and was told all was okay, just Saddam rattling his saber. Arriving in Kuwait City in the late afternoon, he checks into his hotel, walks around Kuwait City, and then goes to bed. Awakened by gunfire in the early morning of 2 August 1990, Stanton finds that he has a ringside seat to the invasion of Kuwait City. He observes the movement of forces inside the city and reports by telephone to OPM-SANG. Stanton wanders about the lobby of his Kuwait City hotel, gazing in on the operations maps of the Iraqi corps headquarters that is established there, and is never challenged. He reports to OPM-SANG as long as he is can. His reports go all the way to the National Security Council. Finally, as he likely knew it would, the scouting mission comes to an end as the Iraqis round up the Western hotel guests and move them into Iraq.

Stanton's story describes the ill discipline in the Iraqi army. His captors get lost en route to Basrah. The customs police interrogate him, not because he is an Army officer but because he is from Florida and they want to know about Disney World. Stanton recounts how he kept the spirits of his fellow "guests" up, and how they in turn sustained him. As I read, I found myself turning the pages without regard to time.

The Iraqis held Stanton for 124 days. He was finally released and flew from Baghdad to

Frankfurt on an Iraqi airline 747. He describes his arrival, a short leave to get married, and then his return to Germany. He also "goes AWOL" from some other government agency handlers to fly back to Saudi Arabia to join his Saudi National Guard brigade. Stanton arrives in time for the battle of Khafji and the role his brigade played in that battle.

This is not only a memoir; it is also a tale of duty. Marty Stanton performs his duty in harrowing, uncertain conditions. He said he was a guest of Saddam but also relates that the Iraqis clearly knew how to "do police state" very well. He never knew when his condition would change, or if he would return to our Army.

I have the privilege of calling Marty Stanton my friend. We served as principal staff officers on the Third U.S. Army staff during Operation Iraqi Freedom. We also rode and walked the streets of Baghdad together, after U.S. forces took that fabled city. It was an amazing time.

This is a cracking good story, funny, sad, thrilling, and thought provoking. Could I have done what Marty did...I certainly hope so. Marty Stanton clearly marches to the beat of a different drum, but he also marches to the sound of the guns. So should we all.

KEVIN C.M. BENSON
COL, U.S. Army

All Quiet on the Eastern Front: Israel's National Security Doctrine After the Fall of Saddam by Gal Luft, Analysis Paper, Number 2, The Saban Center for Middle East Policy at the Brookings Institution, Washington DC, online at www.brookings.edu, or write to 1775 Massachusetts Avenue, NW, Washington, DC, 20036

The Saban Center of the Brookings Institution produces a series of analysis papers on the Middle East, competing for the attention of policymakers and legislators with other think-tanks such as RAND, the American Enterprise Institute, and the Washington Institute for Near East Studies, all located in Washington DC. Military intelligence personnel, foreign area officers, U.S. Army policy shops, joint staff members, and the Office of the Secretary of Defense can benefit from skimming the short monographs and analysis papers that offer new ways of viewing problems.

This analysis paper by Israeli reserve Lieutenant Colonel Gal Luft, looks into a rarely discussed benefit of Operation Iraqi Freedom (OIF), the securing of Israel's eastern front characterized by its border with Jordan and portions of Syria. Luft discusses a pivotal Israeli national security doctrine of a nightmare scenario involving a combined Syrian and Jordanian attack reinforced by several divisions from Iraq. Jordan has been at peace with Israel since 1994, but if an Islamist government were to take power through violent means, that treaty could be dissolved in a wave of emotion. Luft writes that Israel therefore had always planned to engage these combined divisions before they reached Israel and even

before they reached Jordan through air and rapid armor strikes.

The paper contains tables that assess the balance of forces between Israel and its eastern neighbors, and goes into the quantitative and qualitative factors between those forces. By bringing about regime change in Iraq, a hostile and reactionary regime that could project an expeditionary force in another Arab-Israeli conflict has been neutralized. In the quantitative calculus of war, this means that instead of 39 combined army divisions of Syria, Jordan, and Iraq versus 16 Israeli divisions, OIF has taken out of the equation 23 potential Iraqi divisions. This balances the quantitative edge Arabs have always enjoyed to 16 divisions each (12 Syria and 4 Jordan). The author uses Brom and Shapir's *Middle East Military Balance* (Oxford University Press, 2003) for his calculations.

Luft also devotes a section to how Israeli military leaders are considering the restructuring and transformation of their armed forces now that its eastern border is more secure with the removal of the hostile Baathists. This debate includes assessing the need for standing armored forces, the utility and drawbacks of a reserve force, and discussions on making the Israeli Defense Forces more mobile and counterterrorism oriented. Luft's short paper is an excellent read and aside from the discussions on Middle East political transformation and the disarming of Libya, represents a clear positive external effect of Operation Iraqi Freedom.

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A Ranger Born: A Memoir of Combat and Valor from Korea to Vietnam by Colonel Robert W. Black, Ballantine Books, July 2002, 336 pp., \$24.95

A Ranger Born: A Memoir of Combat and Valor from Korea to Vietnam is Colonel Robert Black's story. He tells of his combat experiences in Korea and later in Vietnam. Black's writing style tells it like it was.

Black was an enlisted soldier in the Korean War. He recounts the battles that were fought and how the North Koreans would tie up and then execute American soldiers. The myth that Chinese were poor soldiers is disputed by Black. Chinese soldiers fought against the Japanese in World War II and were very good soldiers. Black poses the question, "Why did the Korean War end the same place it started?" South Korea did not gain any additional ground. He also questions why the South Koreans and Americans gave the enemy safe areas to rearm and regroup. This unfortunately foreshadows our involvement in the Vietnam War.

Black briefly describes the years between the Korean and Vietnam Wars. He hits his stride when he writes about his service in Vietnam. Black was an advisor to a rural district in Vietnam. As a Ranger, Black knew about fighting and how to set up defensive perimeter. He immediately set up a defensive perimeter and fortified his area.

During his tour of duty, Black was ordered to stop the spread of venereal disease. In typical Army fashion, no instructions were given on how to accomplish that task. He set up locations where prostitutes would be checked by medics and certified that they were disease free. This cut down venereal disease and was against Army regulations. Not too surprising, no one asked how he curtailed the disease.

I often wondered why the North Vietnamese picked Tet to launch an offensive. Black explains that the Vietnamese Tet was the equivalent of rolling all U.S. holidays into one day. Prior to Tet, intelligence reported that the North Vietnamese were going to launch an offensive and Black tried to warn his Vietnamese counterparts, but they were more interested in going home for the holiday. The Americans and South Vietnamese, at great cost, turned back the North's offensive. North Vietnam was not able to mount another major offensive during the war. It was a victory for the Americans and the South, but the media incorrectly reported the North Vietnamese as victors.

This book covers the Vietnamese people and their very different culture. Toward the end of Black's tour, he noticed a profound change in American soldiers. Most soldiers knew the war was a lost cause and the American people were not supporting the war effort.

Black concludes the book with his return to the states and how poorly he was treated. Vietnam veterans were not considered real veterans by some of the World War II veterans. The civilian population failed to understand the hardship and loss of life that soldiers witnessed. Civilians often forgot that the military does not make policy but carries out the wishes of our freely elected government.

Black points out the same mistakes made during both Vietnam and Korea were allowing the enemy safe areas in other countries, not having the American people behind the war, and underestimating the enemy.

A Ranger Born concentrates on the Vietnam War. The chapters of Black's experience in Vietnam are very detailed and make for some excellent reading — *A Ranger Born* is a well-done memoir.

ERIC SHULER
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West Point: A Bicentennial History by Theodore J. Crackel, University Press of Kansas, Lawrence, KS, 2002, 382 pp., \$34.95

In celebration of the bicentennial of the United States Military Academy, there has been a flood of books on the august institution's history. This is the cream of the crop so far. In fact, Crackel's *West Point* is the best available general history of the USMA.

The difficulty in capturing the story of West Point in a single volume is its multifaceted nature. West Point is an educational institution, a military post, a political football, and an architectural treasure; it has influenced the course of our national development; it both reflects and resists changes in social, professional, and pedagogical fashions. Crackel has done an admirable job in compressing all these themes into one book.

Crackel's structure adheres to the generally accepted historiography — the foundation and early growth of the Academy, the establishment of basic principles under Sylvanus Thayer, followed

by alternating periods of institutional change, smug ossification, and renewed turmoil. He tracks the changing physical plant, the evolution of cadet life, and the perennial debate over the proper role of West Point graduates in American society. There is adequate coverage of the incorporation of minorities and women into the corps of cadets, and scandals over hazing and cheating that have periodically plagued the Academy.

What sets this work apart, however, is Crackel's central thesis — that West Point's excellence derived from the creative tension between the superintendents and the academic board, a tension now broken. For most of West Point's history, the superintendent required the approval of the academic board, consisting of the faculty's permanent (tenured) professors, to implement even minor changes in the curriculum. While a source of frustration for activist superintendents, Crackel maintains that the conservatism of the professors ensured a steady evolution of the institution that has, in the long run, served West Point well. Over the past two decades, however, the professors have been defeated and the power of the academic board reduced to a shadow of its former glory — a development that fills Crackel with foreboding.

West Point is not without flaws. A great deal of space, perhaps too much, is devoted to the formative years of the academy, reflecting Crackel's own background as an historian of the early republic. Moreover, the academy's modern influence on leadership theory, military history, and the Army as a whole remains unexplored. Yet if it is not the definitive history of West Point, it surely will be the standard text on the subject for years to come.

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3d Battalion, 81st Armor Regiment: A New Source of 19D Cavalry Scouts

Commander
COL James K. Greer

As the 1st Armor Training Brigade (ATB) transforms to meet the needs of the force, so do the units within it. None exemplify this spirit of change more than 3d Battalion, 81st Armor (3-81), the “Royal Lions,” who have a long and proud history of service to our Army in times of peace and war. From World War II campaigns in central Europe and northern France, to the present day support of initial entry training, the soldiers and civilians assigned to the unit have responded with resolute commitment.

The Royal Lions provide training support, instruction, and heavy lift transportation required to execute the mission of the U.S. Army Armor School and 1st ATB. However, today the battalion has a new look and an even more significant role — 19D cavalry scout one station unit training (OSUT).

With the assistance of the U.S. Army Reserve’s 100th Division (Institutional Training), the mission of 3-81 Armor has evolved in response to the Army’s growing requirement for cavalry scouts. With three newly formed cavalry troops, 3d Battalion is now responsible for training one-third of all 19D scouts entering the force. Both tactically and technically competent upon graduation, these soldiers are among the Army’s finest and are prepared to contribute to units already at war. The first cycle of these new units is scheduled to graduate by mid-October 2004. The success of this mission, however, is not solely attributed to 3-81 Armor, but also to its Army Reserve counterparts.

Based on the need for more scouts, Training Base Expansion (TBE) 4 directed the mobilization of three 19D OSUT cavalry troops and a support package of instructors, staff, and cadre. The Army Reserve’s 100th Division mobilized 134 soldiers from its 1st and 7th Brigades to support this mission. The soldiers mobilized in three phases, each phase corresponding to a troop’s respective first “fill” date.

The majority of the mobilized soldiers came from two battalions: 2d Squad-



ron, 397th (2-397) Cavalry Regiment, 1st Brigade, 100th Division, located at Lexington, Kentucky; and 2d Battalion, 399th (2-399) Regiment, 7th Brigade, 100th Division, located at Fort Knox, Kentucky. Over time, the two battalions developed close working relationships with their 1st ATB counterparts, which accounts for the mission’s success. As a result, when the Army expanded the 19D cavalry scout OSUT mission from five troops to nine troops, the 100th Division was ready to execute.

One of only two 19D OSUT squadrons in the Army Reserve, the 2-297 Cavalry worked in fiscal years (FY) 03 and 04 with 5th Squadron, 15th (5-15) Cavalry, 1st ATB, to maintain technical proficiency by training on weapons systems, Javelin, long range advanced scout surveillance system (LRAS3), and single channel ground and airborne radio system (SINGCARS).

The 100th Division’s committee battalion, the 2-399 Regiment, like its 1st ATB counterpart, 3-81 Armor, has the mission of providing land navigation; tank driver training; basic rifle marksmanship; first aid; nuclear, biological and chemical; and other tactical instruction to armor and cavalry soldiers. The battalion already had more than 40 soldiers mobilized in support of 3-81 Armor and the 1st ATB for more than 18 months, and had been working with 3-81 Armor to sustain certification of its remaining instructors to prepare for the TBE 4 mission.

Command Sergeant Major
CSM David L. Morris

Equipment to support TBE 4 presented a much greater challenge to the expansion troops. The first challenge was determining the baseline equipment requirements for an OSUT cavalry troop. There was simply no standard blueprint for fielding the equipment necessary to stand up a 19D OSUT troop. The 5-15 Cavalry had a plan, but it was based on their unique need to add an additional troop to an existing OSUT squadron structure. The 3-81 Armor had no such existing organizational structure and learned as they went along precisely what equipment was needed.

The second challenge was presented by a lack of operational equipment. The capacity of Fort Knox to support existing units was already being stretched by current combat operations, and adding units only aggravated the problem. As a result, the brigade staff, in conjunction with the cavalry organizations conducted extensive analysis on synchronizing 19D training to minimize resource conflicts and stress on the fleet. This lack of resources forces us to work smarter, coordinating first within the brigade to identify chokepoints, and after identifying shortfalls, to coordinate with external agencies.

Currently, the first 19D OSUT expansion troop, G Troop, 6th Squadron, 15th Cavalry, is scheduled to graduate in October. The graduating scouts will be technically proficient, tactically competent, and immediately ready to contribute to an Army at war. They will be ready because of the successful integration of 100th Division Reserve Component soldiers into the existing active component battalion structure of 3-81 Armor and the hard work of all parties involved. Here, challenges presented by lack of training time and resources are not unique to the 19D mission and as a result, they are being overcome by the dedicated soldiers of 3-81 Armor and the 1st ATB.

Please continue to send comments to 1ATB at:

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