

# Infantry

May-June 1993



# Infantry

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# Commandant's NOTE

MAJOR GENERAL JERRY A. WHITE Chief of Infantry

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## TOMORROW'S WEAPONS—TODAY'S CHALLENGE

In the March–April 1993 issue of *INFANTRY*, I discussed the history and current initiatives of the Infantry in its role as the centerpiece of a force projection Army, and the doctrinal and materiel issues we will need to address as we move into the 21st Century. In this issue, I want to talk about the importance of maintaining the technological edge and describe how the Small Arms Master Plan will help us sustain our dominance of the modern battlefield.

Meeting the challenge of providing the force with the best possible weapons and equipment has never been easy, and changing doctrine and tactics to keep pace with weapons technology can be even more difficult. Throughout history, in those instances where weapons development has out-stripped tactical evolution, the results have been catastrophic. The staggering number of men killed and wounded in the American Civil War demonstrated, in many cases, the weakness of Napoleonic-era formations and maneuver against advanced weapons.

At Gettysburg, the comparatively long-range, massed fire of the Springfield rifled musket and the Parrott rifled gun destroyed assaulting Confederate formations before they could reach Union positions. Similar tactics proved equally costly two months later at Chickamauga, where Benning's Georgia Brigade was mauled by the double-shotted canister of Lilly's Battery and the rapid fire of Wilder's Brigade at Viniard Farm. On a far worse scale, during World War I British forces sustained more than 19,000 killed on the first day of the Battle of the Somme, when commanders ordered a frontal assault by massed Infantry against German barbed wire, machineguns, and artillery. In four months, British and French forces sustained over 600,000 killed and wounded. Similarly, Germany lost over 330,000 killed and wounded in ten months' fighting at Verdun. By the time the U.S. entered the war, tactics had changed in favor of fire and maneuver by smaller units, and the carnage of the Somme and Verdun were not repeated.

Although mass assaults against U.S. positions were common in the Pacific in World War II, in the Korean War, and

later to a lesser degree in Vietnam, our own doctrine and tactics favored fire and maneuver to seize objectives. The futility and waste of mass attacks were again illustrated in the war between Iran and Iraq, but the value of dispersion and combined arms operations as postulated in Army operations doctrine proved themselves in the Gulf War, in which we saw the full potential of training and doctrine commensurate with state-of-the-art weapon systems.

During the past two decades, technological advances in target acquisition, night observation, communications, munitions, ground positioning systems, and laser target designation have given us the ability to locate the enemy and deliver effective fire on him faster than ever before. But Infantry small arms have changed little since the Vietnam War, and today a state of approximate parity exists between our family of small arms and those of potential adversaries. Unless we are able to achieve a quantum leap forward, the U.S. soldier of the future may well find himself outgunned. We cannot afford to let that happen.

In the past, small arms development has been largely reactive in nature, with opponents responding to the innovations and improvements of other nations by introducing their own design changes. In the late 1950s, U.S. planners began looking at the military applications of a lighter, faster bullet to replace the service round then in use. By 1967, the United States had fielded the M-16 rifle, and within seven years the Soviet Union had produced and fielded their own AK-74 assault rifle, which fired a 5.45mm bullet comparable to that of the M-16, but at a somewhat lower velocity. The speed with which the AK-74 was designed, tested, and issued to field units illustrates the capability of today's industry to respond to an opponent's momentary advantage. In order to ensure that U.S. Infantry would continue to enjoy its technological edge, the Chief of Staff, Army approved the concept of the Small Arms Master Plan in May of 1988 as a blueprint for the research, development, and procurement of small arms into and beyond the 1990's.

The plan is not a fixed schedule, but is instead intended to be a living document which can incorporate the latest changes to threat capabilities, input from the field, and ideas from the developers to design an Objective Family of Small Arms. The development and fielding plan will take place in two phases: Phase I will focus on improvements to existing weapons while identifying and refining the technology which, in Phase II, will yield a family of three small arms which will finally replace the existing small arms systems.

The Objective Family of Small Arms will include: the Objective Crew-Served Weapon; the Objective Individual Combat Weapon; and the Objective Personal Defense Weapon. These weapons will eventually replace, respectively, the MK19 MOD3 grenade machinegun/M249 machinegun; the M16 series rifle, the M4 carbine and the M203 grenade launcher; and the M9 pistol.

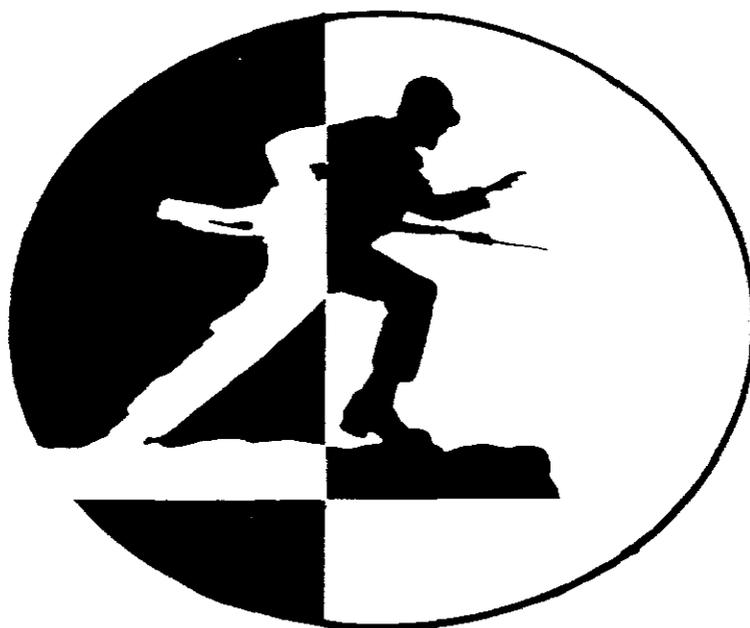
The Small Arms Master Plan represents a developmental approach to the challenge of putting the best weapons possible into the hands of the Infantryman. It is a joint effort of the Training and Doctrine Command (TRADOC) and Army Materiel Command (AMC) that will provide direction and focus for Department of the Army planners, TRADOC combat developers, AMC research and development agencies, and training developers. The end result will be the best possible mix of weapons and munitions, procured in the most cost efficient manner, and capable of effectively dealing with the latest technological advances of any adversary. That is an ambitious goal; now let me tell you how we're going to get there.

The starting point will be a thorough analysis of the threat, not just the current world-level threats, but an array of localized and emerging threats as well. The analysis will include potential adversaries' munitions, acquisition and fire control systems, and personal protection systems, as well as

our vulnerabilities in light of his capabilities. This will be reviewed through various scenarios to develop as many contingencies as possible. We will then examine the threat in the context of Army operations doctrine to determine what type of small arms can best respond to each scenario, while remaining consistent with current and future force structure constraints.

Once the optimal type and mix of weapons have been determined, the data gained will be reviewed to design an acquisition strategy for all of the weapon systems and munitions, which will then be communicated to the agencies responsible for procurement. The Small Arms Master Plan blueprint will include a number of technology-based activities intended to provide input for the ultimate decision as to which weapons and systems will comprise the ultimate family of small arms. These base activities include the Advanced Combat Rifle Program, Leap Ahead Technology, Bursting Munitions, Modular Fire Control, and the Advanced Crew-Served Weapon. The decision point for selection of the best technology for the family of small arms has been set for September, 1993.

This is an overview of the Small Arms Master Plan. For the first time in the history of the U.S. Army, it represents an effort to combine a detailed threat assessment, Army operations doctrine, user input from the field, the perspective of the developers, battlefield dynamics, and a concept-based requirements system to ensure that the U.S. Infantryman is the best trained and best equipped fighter on the future battlefield. As we move toward a leaner Army and the prospect of increasingly austere resources, it is imperative that our fighting force be able to move fast, strike hard, and win decisively the first time out. Our training base is producing soldiers and leaders with the will and the skill to do just that, and the Small Arms Master Plan will give them the tools to do the job.



# INFANTRY LETTERS



## MORTAR SMART MUNITIONS

I want to comment on Mr. Earl W. Rubright's letter (INFANTRY, September-October 1992, page 3) in response to Major Christopher A. Collins' article, "Mortar Employment" (March-April 1992, pages 15-19) concerning the "smart" and "guided" mortar rounds proposed for a contingency force.

Mr. Rubright contradicts the doctrine on the employment of mortars to "defeat dismounted forces... [and] for suppression of combat vehicles" (Field Manual 6-20). The current heavy and medium mortars are not optimized for the close fight (0-500 meters) due to weapon system errors. The U.S. Central Command's goal of reducing airlift tonnage is admirable, but adding an antiarmor capability changes the wrong part of the effectiveness equation and may not achieve the desired results. Providing a "smart" ammunition is not as effective a solution as it appears. The "guided" element adds to system cost, could adversely affect operations, and implies a weight burden that is not noted in Mr. Rubright's letter. The unit cost alone would be prohibitive.

A better way to add effectiveness is to improve weapon accuracy; this could indirectly result in reduced ammunition lift tonnage. Colonel Robert Stiles, former chief of staff at the Field Artillery Center at Fort Sill, noted after the Gulf War that "the greatest advantage possessed by the U.S. artillery [in that war] was the ability to achieve a first-round kill at great ranges with conventional 'dumb' artillery projectiles."

There are improvements in Phase 1 of the program plan for weapon position/location and fire control computation (as noted in INFANTRY, May-June 1992, p. 5). Target location and kill radius need fixing to maximize conventional ammunition. Phase 2 of the plan in-

cludes improvements in munition accuracy, effectiveness, range, and lethality.

The writer of the letter is advocating putting "old wine in a new bottle." Similar approaches were considered in the mid-1980s to strengthen the light forces in a "forced entry" scenario. Then a need for "attack of armor formations... beyond the FLOT, at higher rates of engagement, and with better accuracy and lethality" was stated. (See *Organizational and Operational Plan, Guided Antiarmor Mortar Projectile (GAMP)*). For reasons that are even more valid now, the smart-GAMP was terminated in 1985. (Like the rounds now being looked at, GAMP was also a fire and forget round.) The principal motive for ending GAMP in 1985, and for ending a "smart" mortar projectile now, are the same—affordability. If we stopped work on a "smart" mortar round during a time of relatively big budgets—a round that was for use against masses of Warsaw Pact armor—how can such a round be judged cost effective now?

Concerns over fratricide and the proliferation of other antiarmor killers weighed in the decision. In 1985 we didn't have the benefit of the advanced smart or precision ammunition we now have, such as TOW IIA/B, Copperhead, sense and destroy armor (SADARM) antitank submunition system, and AT-4+ or Javelin. There are several other funded antiarmor items that will better add to a light force deterrence and that should be fielded well ahead of a "smart" mortar round. These include the armored gun system (AGS), extended range rocket for the multiple launch rocket system (MLRS), fiber optic guidance (FOG), 105mm rocket assisted projectile (RAP), and dual-purpose improved conventional munition (DPICM). Should we take funds from these projects for a "smart" mortar round?

It will take ten years to field a "smart"

or "guided" mortar round and the necessary life cycle support elements. The Army's plan for a foreign comparative test of the seeker/sensors supported by Central Command is a good first step to baseline performance and data for future use. This test, however, should be amended to include other available improved rounds for evaluation and comparison.

ROBERT F. GAUDET  
Fairfax Station, Virginia

## TENTH PRINCIPLE OF WAR: LEADERSHIP OR MORALE?

I wish to respond to Captain Richard A. Turner's article on leadership (INFANTRY, January-February 1993, page 7-8).

This article would certainly interest Colonel Thomas B. Vaughn (U.S. Army Retired). His article "MORALE: The 10th Principle of War?" appears in *Military Review*, May 1983.

Captain Turner concludes that leadership is the tenth and most important principle of war. Colonel Vaughn also argues forcefully that morale is the tenth principle. Both find that their prospective tenth principle is an essential element of combat power. If we agree that combat power decides the outcome of battles, from squad contacts to campaigns, then Captain Turner has resurrected an interesting argument.

Field Manual 100-1, *Leadership* (page 9), tells us that the Army has distilled the nine principles of war through long experience while recognizing the continuing challenge to maintain appropriate doctrine. The U.S. Joint Staff Officers Guide 1991, AFSC PUB 1, pages 1-3, lists 12 principles, adding *timing and tempo, logistics, and cohesion*.

The existing nine principles of war

detailed in FM 100-5 are therefore not immutable—unless Army doctrine is to be at variance with joint service doctrine.

U.S. Army doctrine is leadership intensive. Along with FM 100-5, FM series 22-100, 22-101, 22-102, 22-103 and FM 25-100 testify to this. Whether we argue for *morale* as a function of leadership or for *leadership* itself, it appears there is justification for one more principle.

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### OPERATIONS RESEARCH SYMPOSIUM

The U.S. Army Materiel Systems Analysis Activity is sponsoring the Thirty-Second Annual U.S. Army Operations Research Symposium to be held at Fort Lee, Virginia, on 13 and 14 October 1993. Attendance will be limited to invited observers and participants.

The theme of this year's symposium is "The Expanding Role of Modeling and Simulation in Military Operations Research." Papers are being solicited that address this theme; selected papers and presentations will be published in the proceedings.

Anyone who wants additional information should write to Director, U.S. Army Materiel Systems Analysis Activity, ATTN: AMXSU-DA, Aberdeen Proving Ground, MD 21005-5071; or call DSN 298-6576, commercial (410) 278-3580.

### KEITH A. MYERS

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### LRSD ISOLATION BRIEFBACK PROCEDURE

I would like to respond to Captain John A. Schatzel's excellent article "LRSD: Adapt, Improvise, and Overcome" (INFANTRY, January-February 1993, pages 38-41). I take exception to one point he makes concerning briefbacks.

When I served as the S-3 for plans and later as the isolation area director for the 10th Special Forces Group, then consisting of 54 teams, we used an isolation briefback procedure that Captain Schatzel and other LRSD commanders may wish to consider.

At the briefback, we required every team member to brief the group commander without notes. (Each had a specific area of responsibility, as the captain recommends). Everything was memorized. The map used for the briefing was blank, and such details as the infiltra-

tion point, hide site, routes, and exfiltration point were briefed from memory.

Also, the group commander might call on any team member to brief any other member's area of responsibility. As a result, all members knew *all* phases of the team's operation—everything was cross-walked and coordinated—and not just their own areas. Impossible, you say? Not at all. Each man on the team *should* have his area of expertise, but he *must* know all portions of the operations order.

This idea was not original with us. We got it from our British Allies.

WILLIAM M. SHAW II  
MAJ, USA, Retired  
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### REUNION OF 1st DIVISION

The Society of the First Division (Big Red One) will hold its 75th annual reunion 28 July to 1 August 1993 in Pittsburgh, Pennsylvania. The society is composed of soldiers who served in World War I, World War II, Vietnam, Desert Storm, and in peacetime.

For further information, anyone who is interested may write to me at 5 Montgomery Avenue, Philadelphia, PA 19118, or call (215) 836-4841.

ARTHUR L. CHAITT  
Executive Director



# INFANTRY NEWS



THE NEW JOINT SERVICE Software (JSS) for military pay brings with it a new scope of responsibility for Army leaders. A soldier's pay has always been the dual responsibility of unit leaders (squad leader, platoon sergeant/platoon leader, first sergeant, and company commander) and the local finance office. The unit initiates the paperwork to authorize or change the soldier's pay, and sends it through the personnel and administration center (PAC) to the servicing finance and accounting office (FAO).

Usually, the pay account change is made without further action by the unit, PAC, or FAO. Unfortunately, though, and in some cases all too often, something happens that keeps the soldier's pay from being changed, or causes the change to be made incorrectly. No matter what the cause, the error has to be resolved by the unit, the PAC, and the FAO working together.

The JSS, however, brings with it a new philosophy. It offers many benefits—improved automation, fewer duplicate personnel in the FAO headquarters, and improved support to the service member, among others. With the reduction of overhead positions, the JSS brings with it the theory that a service member's pay is his own responsibility. A soldier must be able to read his leave and earnings statement (LES), know whether it is correct with all appropriate entitlements and collections, and, if the LES is wrong, take the appropriate corrective action.

This corrective action may range from resubmitting the appropriate document or order to the finance office for processing, or going to the PAC to receive an

answer or explanation. The unstated change in this process is that the finance office no longer maintains transmittal letters or logs, and does not log in a document received from the unit or PAC. This change makes it necessary for the soldier to maintain a copy of any documents sent to the finance office to effect a change in his pay—a small change, but with a big effect on him and his unit. The responsibility for correcting the problem is now the soldier's, not that of the chain of command or the FAO.

This means that leaders at all levels must assert themselves for the good of the soldier. Making the soldier responsible for his own pay is a drastic departure from the usual "top-down" type of care that many soldiers have come to depend upon.

Soldiers will be responsible for correcting problems with their pay account, and leaders must see that their soldiers know the *hows* and *whys* of the JSS. They can accomplish this task only through an expanded training program with the local finance unit.

In addition to training, the FAO offers some tools that help both the unit commander and the PAC ensure that finance transactions have been made as submitted:

- Commanders receive, through the PAC, the Unit Commander's Finance Report and review it with their subordinate leaders. Many of the current finance problems occur when the PAC does not send a report to the commander, or when the commander receives the report but ignores its contents. Experience has shown, however, that a Unit

Commander's Finance Report is most effective when it gets down to the platoon sergeant or platoon leader.

- S-1s and PACs receive the Daily Register of Transactions, which they can use to track documents sent to the FAO and their status. This register shows the S-1 whether documents are being batched and whether they are being sent to the FAO in a timely manner.

The period of the Army's drawdown is bringing about many changes, and some may see JSS as one of the negative aspects. But the Finance Corps views it as another way to support and serve the soldiers of today and tomorrow.

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THE OFFICER CANDIDATE School (OCS) at Fort Benning has presented its 1992 Robert P. Patterson Award to Second Lieutenant Mark A. Jackson. This prestigious award is given each year in memory of Judge Patterson, who was commissioned a second lieutenant from the World War I equivalent of OCS. He attained the rank of major and was recognized for his acts of gallantry and bravery by award of the Distinguished Service Cross, the Silver Star, and the Purple Heart.

The award is presented each year to the outstanding infantry graduate of OCS and the Infantry Officer Basic Course. The selection is made on the basis of leadership, academic effectiveness, aptitude, and character.

Lieutenant Jackson is now assigned to the 2d Battalion, 325th Infantry, 82d Airborne Division, Fort Bragg, North Carolina.



# PROFESSIONAL FORUM



## Rule for Court-Martial 306 A Commander's Road Map

CAPTAIN KENNETH J. TOZZI

The Uniform Code of Military Justice (UCMJ) allows a military commander to dispose of cases of misconduct in several different ways. His options range from taking no action at all to recommending a general court-martial. But how does a commander decide which option to choose in a case involving a member of his unit?

Rule for Court-Martial (RCM) 306 in the *Manual for Courts-Martial* lists a number of factors for a commander to consider before deciding upon a disposition option. These factors provide the commander with a road map he can follow in making decisions that are critical to the soldier involved and also to the unit's welfare.

In carrying out the RCM 306 mandate that "allegations of offenses should be disposed of at the lowest appropriate level," a commander must understand that no two cases are alike; he must therefore conduct a thorough investigation in each case. Although professional law enforcement officials often handle the essentials of an investigation, the decision as to a case's ultimate disposition is the commander's. A proper investigation will help the commander avoid the obvious pitfalls of relying upon incomplete or inaccurate information, assumptions, or

stereotypes. Proper investigation will ensure that the option chosen is warranted, appropriate, and fair.

The discussion section of Rule for Court-Martial 306(b) lists several factors that can help a commander choose an option in a particular case. The following factors—"to the extent that they are known"—act as a practical checklist for a commander, while also forcing him to confront issues that he may have overlooked or considered unimportant to the case:

**The character and military service of the accused.** Character has been defined as "the combined moral or ethical structure of a person or a group." The armed forces obviously depend upon people of strong character to carry out their missions successfully. Since the character of the accused is ultimately defined by the commander's subjective view, the commander should try to find out as much as possible about him. Obviously, he should use the chain of command in this effort. The commander should be able to determine whether the accused acted "out of character" in the case at hand, because the answer to that question may weigh heavily in his choice of a disposition option.

In evaluating the military service of the

accused, the commander must closely examine the soldier's military files. Past disciplinary problems or any evidence of negative counseling without subsequent improvement may weigh against options that are favorable to the accused. On the other hand, evidence of favorable counseling, a strong service record, and the perception of the accused as a "good soldier" normally weigh in his favor. The commander must be particularly sensitive to the manner in which he disposes of cases involving perceived "good performers" and "poor performers," because the handling of such cases can have a great effect on the morale and discipline of the rest of the soldiers in the unit.

**Consider the nature and circumstances surrounding the offense.** Some offenses, obviously, are more serious than others. Offenses against persons—such as assaults, sexual offenses, and homicides—are treated differently from such minor property offenses as larceny and wrongful appropriation. But some property offenses should also be considered serious. A "barracks larceny," for instance, can seriously affect a unit and should be treated accordingly.

The circumstances surrounding an offense that a commander should consider include such things as personal problems

the accused could be having and recent events in his life that could explain any aberrant behavior. Mental and physical stress or such problems as a death in the family can cause a soldier to do some unusual things.

The commander must also consider the effect of the offense on the unit's morale, health, safety, welfare, and discipline (as he should consider the effect of all actions on the unit). Some offenses—such as barracks larceny, disrespect, disobedience, absence, and any offense in which the victim is a unit member—require the utmost consideration, because these types of cases can have a deep, long-lasting effect on the unit.

**The appropriateness of the authorized punishment to the case.** Before making a decision, a commander should consult the *Manual for Courts-Martial*, Appendix 12, Maximum Punishment Chart. Some offenses carry fairly heavy punishment. If the potential maximum punishment for an offense is out of line with the commander's sense of justice in the case, an option other than general court-martial may be warranted. Command legal advisors are always available to advise a commander on the range of potential punishments available under the various options. Making the potential punishment fit the crime is often a function of disposing of a case at the appropriate level.

**Possible improper motives of the accuser.** The accuser's motives can be a factor in some cases. In the famous example of a thief who steals a loaf of bread to feed his family, for example, obviously, his punishment will not be severe, and the motive of the accuser can then be an *important consideration*. Does the accuser hold a personal grudge against the accused? Would the accuser benefit by his punishment? Is the accuser a believable person? A commander who thinks improper motives could be a factor should ask himself similar questions.

**The reluctance of the victim or others to testify.** This factor is important because the failure of victims or witnesses to testify could make it impossible to prove that a crime has been committed. A commander should look for this possibility in cases involving sexual

offenses, particularly when children are the victims. A consultation with mental health professionals is often necessary in cases of child abuse, and counselors can be helpful in determining the willingness of the victim to testify, as well as the potential effectiveness of the testimony. In addition, the concept of *privilege* could come into play. For instance, a wife cannot be compelled to testify against her husband. This is important if the key witness is the spouse of the accused.

Logistical problems can also develop when rounding up witnesses for a trial. A commander in the continental United States must consider the cost of summoning witnesses from overseas to fly in and testify at a court-martial. In serious cases,



any cost may be warranted; for borderline cases, however, options other than convening a court-martial should be considered.

**The cooperation of the accused in the apprehension or conviction of others.** This factor usually works in favor of the accused. For example, a young soldier who is accused of smoking marijuana, as detected by a random urinalysis, agrees to work with law enforcement authorities to infiltrate the drug scene on his installation. The soldier then makes numerous controlled-drug purchases from several higher-ranking soldiers, including leaders in his unit. This soldier then testifies against the other soldiers, and several narcotic dealers are convicted. These facts will probably be considered positive factors in deciding what to do with the young soldier. While some punishment may still be appropriate, the fact that the soldier took risks in working with law enforcement authorities,

resulting in the conviction of illegal drug distributors, should be considered favorably. In these situations, input from law enforcement personnel can be valuable in determining the amount of cooperation the accused provided.

**The availability and likelihood of prosecution of the same or similar and related charges against the accused by another jurisdiction.** A soldier may be apprehended by civilian authorities for conduct off post in a local community, and the local authorities may want to bring the soldier to trial. In these situations, a commander is not absolutely precluded from taking action under the UCMJ for the same conduct; this would *not* amount to double jeopardy. Quite often, however, commanders choose to allow the civilian court case to run its course and then take some administrative action against the soldier later. Commanders must check with their legal advisors to see whether there is some working agreement with local prosecutors that may govern the handling of these situations. Commanders overseas must also check with their legal advisors regarding the existence and applicability of a Status of Forces Agreement with the host country.

**The availability and admissibility of evidence.** Although this requirement appears obvious, it can involve some complex issues. Commanders must consider everything from the logistics of obtaining witnesses for trial to such legal issues as the admissibility of evidence seized during a search or an administrative inspection. The admissibility of evidence seized from a soldier could well determine whether the government can even charge him with an offense under the UCMJ. A commander should discuss such complex legal issues with his servicing judge advocate.

**The existence of jurisdiction over the accused and the offense.** This determination is no longer much of a problem, since the U.S. Supreme Court ruled in 1984 that the government no longer has to show a "service connection" with the offense. So long as the soldier is on active duty, however, the government does have jurisdiction over him under the UCMJ.

**Likely issues.** Finally, RCM 306 directs the commander to consider any other "likely issues." This catch-all requirement is entirely appropriate since no two cases are alike, and new issues in military justice come to light every day. Considerations ranging from "gut feelings" about a soldier's character to complex legal issues are all important to the fair administration of justice.

The military justice system is run by commanders. Decisions regarding the

disposition of criminal cases and the fate of individual soldiers fall directly upon the men and women who lead these soldiers. The decisions commanders make can affect not only individual soldiers but the entire unit.

Rule for Court-Martial 306 provides a commander with a valuable checklist that will help him organize the factors that he must consider. It also alerts him to some extremely important factors that may not be readily apparent. A working knowl-

edge of the RCM 306 factors is a valuable tool that commanders at all levels can use to ensure that military justice is fairly administered.

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# Company Family Support Groups As Combat Multipliers

CAPTAIN EDWARD A. SBROCCO

During my command of a light infantry rifle company and a battalion headquarters company, I heard many comments about company family support groups (FSGs). A common question was, "Why is a company FSG needed if the battalion has one?" But ask anyone who had the misfortune to be assigned to the unit devastated by the 1986 air tragedy at Gander, Newfoundland, or whose unit deployed during Operations DESERT SHIELD and DESERT STORM or for other extended periods. These soldiers and their family members will tell you how important well-prepared and active company FSGs are. (*For a discussion of battalion family support groups, see "Family Support Program," by Lieutenant Colonel Marshall L. Helena, INFANTRY, July-August 1990, pages 16-17.*)

A company FSG should not be just a "check-the-block" requirement. All company commanders and first sergeants must understand that FSGs are essential to successful company command. More

important, they are not only essential, they are the right thing to do. An active, effective, and caring family support group (FSG) is essential to successful company command because it helps married soldiers focus on their mission. It also builds unit cohesion.

An FSG is an informal, *voluntary* group of soldiers' spouses who maintain an information network in a unit, provide a social forum spouses can use to share their mutual concerns, and organize various company activities. Soldiers whose families are cared for by the company support group can better focus their attention on their jobs and their missions. Additionally, when company FSGs keep the families informed, the soldiers know their commanders care about them, and this builds unit morale. There are several ways to establish a good FSG.

**Leaders.** The first step is the careful selection of an FSG leader. Before making this critical selection, the commander should evaluate his sources of information—first sergeant, platoon leaders, pla-

toon sergeants. An FSG leader must have the desire and the time to care for all the soldiers' family members. This is not to say that the leader must be personally responsible for all of them. On the contrary, the FSG leader should use voluntary subordinate leaders to allow information to flow in both directions to all levels of the company. The leader should also have good communicative, diplomatic, and organizational skills. These skills are required for effective company representation within the battalion FSG and for credibility among the company's family members. For instance, some of the spouses of the young, junior enlisted soldiers in my companies were reluctant to participate in the FSG if they were initially contacted by an FSG member who, in their view, "wore her spouse's rank." Rather, they preferred to join a group of people with whom they could identify and socialize.

Finally, the company FSG leader does not have to be the spouse of either the commander or the first sergeant. Our

company FSG leader simply maintained a candid and communicative relationship with the first sergeant or me.

**News.** Disseminating information is most important, and the FSG leader can use different techniques to do this. We established voluntary platoon and section points of contact (POCs) to even out the tasks of disseminating information. Again, the platoon and section leaders' spouses did not have to be the POCs. In both of my companies, specialists' and privates' wives who had the desire and the time served effectively as POCs. We maintained the family members' privacy by asking them whether they wanted to receive notice of all company activities or of formal notifications only.

Our FSG leader held periodic FSG meetings that kept all the members informed about company activities, welcomed incoming members, honored outgoing members, and encouraged spouses to socialize with others who shared similar family and career concerns.

My first sergeant and I attended these meetings, at least the opening minutes in some cases, to inform family members of upcoming company events and to show them we cared about them. The group produced a sense of belonging among the family members by distributing monthly company FSG newsletters. These newsletters complemented the meetings, especially for any family members who could not attend.

We found that when the first sergeant handed out these newsletters in formation, the soldiers frequently failed to deliver them to their wives. We overcame this problem by mailing the newsletters directly to the wives, paying the postal costs from our company FSG fund. This greatly increased the probability that the wives would receive their newsletters.

**Funds.** The company FSG fund is maintained to provide money for selected and approved company activities. Each post has its own regulations that govern FSG funds, but the offices of the inspector general and the staff judge advocate usually serve as official fund advisors. Our company FSG leader organized bake sales, hot dog sales, and car washes to earn money for our company

FSG fund, and let meeting participants decide whether or not to allot funds for selected company activities.

The battalion FSG treasurer handled our administrative company FSG fund procedures (deposits, withdrawals, checking account maintenance, and the like). This meant our FSG members did not have to devote precious time to these functions.

**Friends.** Company FSG activities provide the opportunity for soldiers and their family members to make new friends. We included all soldiers in our company activities, regardless of their marital status. These activities included sendoffs and receptions for extended unit deployments and training exercises. The chain



of command coordinated with the FSG leader so these activities would affect the largest possible number of soldiers at the most opportune times.

Our FSG also decorated the company's barracks for holiday seasons. The FSG leader coordinated for the members to bring home-cooked food to the company and deliver it to the dayroom for soldiers who could not take holiday leave.

We encouraged our soldiers and their families to socialize with each other by having company parties at times when the most people could attend. We used various incentives to increase the probability of their attendance. For our soldiers

and their families, time off was a valuable incentive, and we usually gave soldiers the afternoon off preceding an evening FSG activity. This allowed the soldiers and their families to prepare for the event. Unit deployments were also strong incentives for family participation; others included babysitting services, offering chances to meet new people, staying informed of the soldiers' future deployments, and having fun at FSG events.

FSGs are sometimes approached to provide other services, such as long-term babysitting, providing spouse abuse shelters, counseling spouse abuse victims, and lending money. Although FSGs may be sympathetic to family members with such needs, other post organizations are better able to deal with these situations on a daily basis. Every post in the Army has installation organizations that are responsible for these activities (Army Community Service, Family Advocacy Program, Army Emergency Relief, and Child Care Centers).

Some may say that all of this concentration on soldiers and their families takes time away from valuable training. But I found that active, caring FSGs contributed to my company command, because they enabled the soldiers to focus their attention on mission accomplishment instead of worrying about their loved ones. I have observed deployed units, for example, that had to redeploy key soldiers because of minor family problems that had needlessly escalated into apparent emergencies. Effective communication throughout their FSGs could easily have solved many of these problems.

Our company spouses were thankful for FSGs that kept them informed of their husbands' jobs, presented opportunities to make new friends, and strengthened overall unit morale.

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# Area Reconnaissance Techniques

CAPTAIN KEVIN J. DOUGHERTY

A scout platoon or any other unit conducting an area reconnaissance faces a difficult task. This operation must be planned and executed so the scouts see the enemy without the enemy seeing them. This can be accomplished by involving a dedicated security element in the reconnaissance; by having a "best guess" idea of what the objective looks like before even crossing the line of departure (LD); and by approaching the objective slowly, deliberately, and patiently, allowing the enemy to disclose himself through his routine activities.

ARTEP 7-92-MTP, *Infantry Scout Platoon/Squad and Sniper Team*, and other references identify two techniques for conducting an area reconnaissance: Using separate reconnaissance and security (R&S) elements (Figure 1) and combining them (Figure 2).

Although most infantrymen have heard references to "the R&S team," many assume that this means reconnaissance and *surveillance*, which it does sometimes, but not when describing area reconnaissance techniques. This inattention to the security aspects of an area reconnaissance often results in the patrol's compromise or destruction.

A patrol's decision on whether to use separate or combined R&S elements depends upon an analysis of METT-T (mission, enemy, terrain, troops available, and time). If the objective is very restrictive and clearly defined, and if it has specific avenues of approach, separate R&S elements may be appropriate. The security teams are positioned along the avenues of approach to seal off the objective for the reconnaissance element. This allows the reconnaissance

element to focus its attention on reconnoitering the objective with a fair degree of assurance that the security teams will

provide early warning of any enemy approach. But rarely is the objective this clearly defined and its avenues of ap-

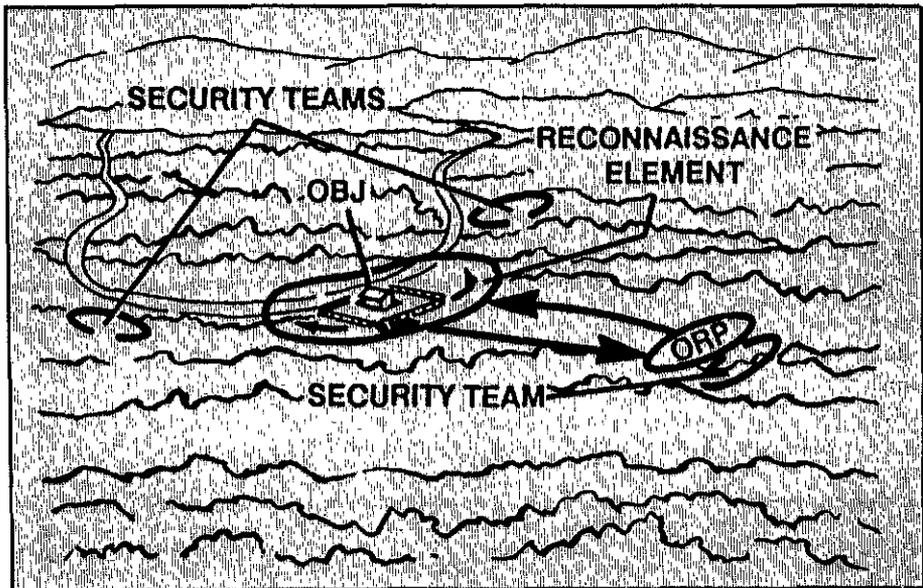


Figure 1. Separate reconnaissance and security elements.

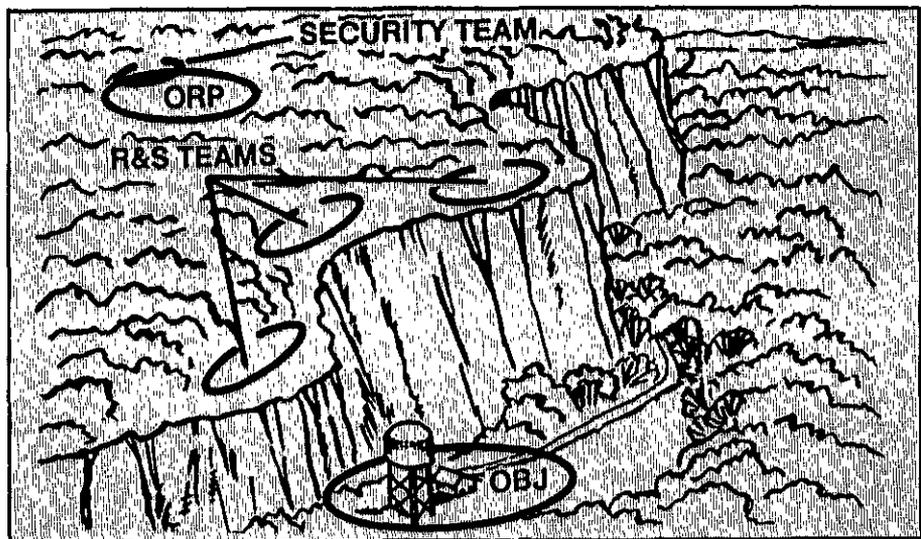


Figure 2. Combined reconnaissance and security elements.

proach this restricted. Therefore, scouts and other patrols conducting area reconnaissance are most likely to be driven by METT-T to use combined R&S elements.

In the combined R&S technique, the patrol is responsible for both the reconnaissance and the security functions. A five-man scout squad might therefore organize into a two-man reconnaissance team and a three-man security team. (As part of the backbrief process, the platoon leader should ask the squad leaders to name the members of each team.)

As the squad nears the objective, it will probably use the bounding overwatch technique. Once the reconnaissance team reaches its surveillance/vantage point (S/VP), the security team takes up an overwatch position to provide security. This pattern continues through subsequent S/VPs.

The common complaint against this technique is that moving five people in the vicinity of the objective invariably leads to compromise, but this need not be the case if the patrol moves with patience and stealth. ARTEP 7-92-MTP states, "By moving only one or two team members at once, a team of three to five men can move as quietly as a team of two men."

Even after the patrol is properly organized into either separate or combined R&S elements, it is still far from ready to begin its reconnaissance. The patrol must first have a scheme of maneuver or, even better, a "scheme of reconnaissance." The development of this scheme begins with a situational template, which is the part of the intelligence preparation of the battlefield (IPB) that portrays the most probable disposition and location of enemy forces (based on enemy doctrine) within the constraints imposed by weather and terrain. If the patrol begins the area reconnaissance without first studying the situational template, it reduces its chances of success.

The situational template gives the patrol some specific things to look for. Figure 3 shows a rudimentary template that portrays obstacles, key weapons, observation points, and counterattack and main supply routes. Of course, the situational template can and should be as

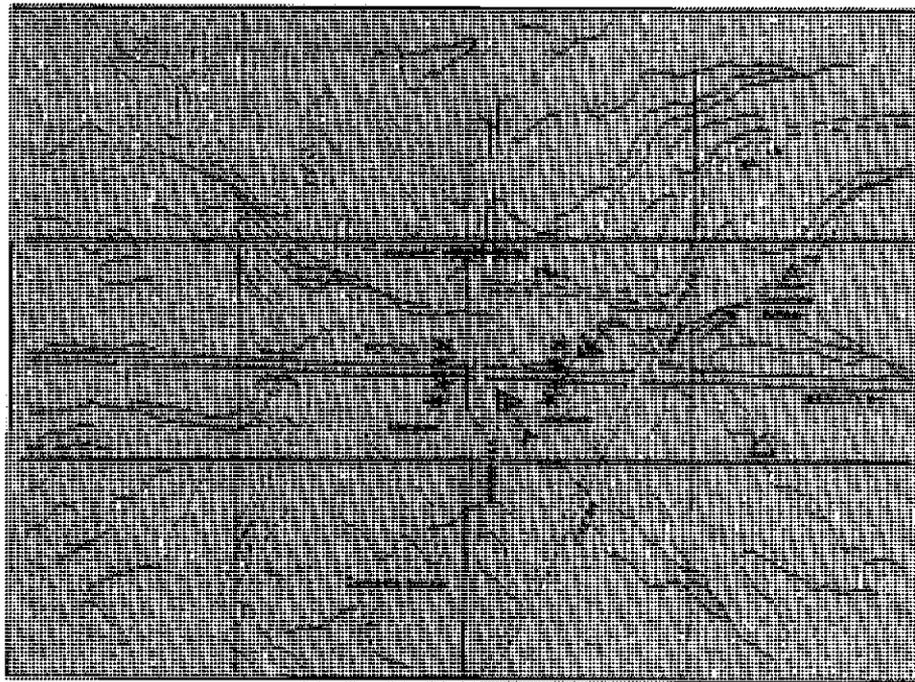


Figure 3. Situational template.

detailed as time and intelligence allow.

Based on this projection, the patrol can identify S/VPs from which to observe the suspected enemy activity. Activity observed at these points often provides valuable indications of what the rest of the objective looks like. For example, vehicles entering the objective along the suspected main supply route (MSR) will probably drive close to the center of the objective to unload troops or to an obstacle or fighting position site to unload Class IV supplies (construction and barrier materials). Much information can be gained simply by confirming or denying the situational template.

The situational template more than likely depicts suspected enemy activity all around the objective—not just at the suspected center-of-mass grid identified in the operations order. The scheme of reconnaissance must exploit these peripheral locations by using long- and short-range surveillance, instead of just making a beeline for the suspected center.

A sample scheme of reconnaissance technique uses a series of concentric circles around the objective to serve as control measures. Ideally, these circles are not circles at all but irregular graphics drawn along recognizable pieces of terrain. Although this is sometimes possible, more often it is not. Even if

the circles do not correspond to the terrain, they will accomplish the same intent of controlling the approach to the objective, but navigation will have to rely more on pace count than on terrain association.

To use the concentric circle technique (Figure 4), first draw the outside circle so that it encompasses the templated locations farthest from the suspected center of the objective. Draw subsequent circles that work inward to the center-of-mass area. Then use the reverse planning process, beginning with the time the report of the reconnaissance must be sent to higher headquarters. On the basis of this time, determine how long the patrol can spend in each circle to gather the required information in time for the report. Ideally, more time is spent on the outer circles, where there is less risk of compromise. After the area is divided into sectors, each subordinate leader can select S/VPs from which to observe suspected activity in his sector.

In this example, the scout platoon leader must make his report to the S-3 no later than 1900. Backing off from that time, he requires his squad leaders to report their information to him no later than 1800. This gives him an hour to compile and send his report. He de-

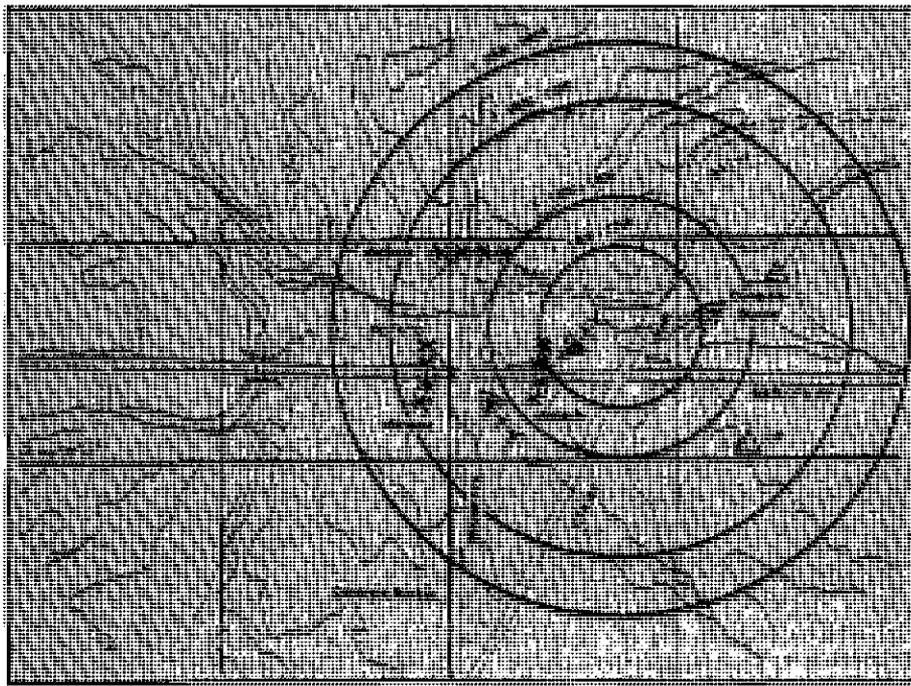


Figure 4. Concentric circle technique.

cides to give his squads an hour to compile and send their reports also. Thus the squad reconnaissances must be completed by 1700. From that time, he reverse-plans a schedule for each circle. The squads will not cross into the next circle until the designated time.

This circle technique forces the platoon to be patient. The enemy, given enough time, will always reveal him-

self, particularly if he is involved in an inherently noisy operation such as constructing a defense. By slowly working from the outside toward the center of the objective, the patrol reduces its risk of compromise. Often, the patrol will be able to gather the required information without advancing to the innermost circle.

Another benefit of this technique is

its function as a control measure to eliminate conflict between the reconnaissance and the battalions' harassing and interdictory fires. For example, when the scouts are outside circle 4, the battalion is clear to fire within circle 2. When the scouts are within circle 1, the battalion is clear to fire outside circle 3.

An area reconnaissance is probably the most dangerous mission for the scouts, because it usually requires them to get so close to the enemy. The mission therefore requires planning considerations that allow for security, exploitation of enemy indicators, and patience. These considerations can be gained through the use of the doctrinal R&S techniques, a scheme of reconnaissance that is based on the situational template, and the concentric circle method of controlling the approach to the objective.

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# Antiarmor

## What To Do With a Delta Company

CAPTAIN MICHAEL P. LERARIO

When I was assigned to command a Delta Company in the 82d Airborne Division, I was not very happy about it. Like most infantry captains, I wanted to command a "real" infantry company. After a few weeks in command, how-

ever, when I realized what a great opportunity commanding an antiarmor company really is, I changed my mind.

Compared to its counterpart, an Echo Company in a mechanized infantry battalion, the antiarmor company of an air-

borne or air assault battalion has more mobility, firepower, and protection than the rifle company it supports. When its resources and capabilities are at their best, Delta Company is the most versatile and possibly most important com-

pany in the battalion. At the beginning, though, many commanders do not know where to start or what route to take to get the most out of their Delta companies.

Achieving success with Delta Company depends on three factors: the proper command climate, the proper mission essential task list (METL), and the proper training. Together, these factors provide an answer to the question of what to do with a Delta Company.

#### Assess the Command Climate

Ideally, light antiarmor companies operate in environments where they are valued members of a battalion task force. Unfortunately, though, in many infantry units the antiarmor infantrymen (MOS 11H) are looked upon as second-class citizens. Rifle company soldiers often see the 11H soldiers as less tough, both physically and mentally, than other infantrymen because they have vehicles (high-mobility multipurpose wheeled vehicles—HMMWVs). In my case, everyone in the battalion seemed to think of Delta Company as the "detail" company—HMMWVs for hire. Changing these attitudes was the first step toward an effective organization.

The solution to this type of command climate involves two key points. The first point is that soldiers with MOS 11H are infantrymen with an antiarmor specialty, not TOW gunners with an infantry secondary MOS. The second point is that many people need to be educated on the capabilities and limitations of Delta Company.

In my company, the first step was to enforce the standards outlined in the battle drill manuals and the mission training plan (MTP). Because our vehicles set us apart from the rifle companies, I focused primarily on the drills and tasks that involved the HMMWV. Topping my list were local security at halts, not running the heaters during tactical operations, and dismounting to clear danger areas in the absence of rifle infantrymen. (We reorganized the company into four platoons with five vehicles each instead of the MTOE of five platoons with six vehicles. This allowed us to assign four men to each vehicle and to make the platoon leader a fighter

instead of a command and control link. The new configuration also allowed us to be more effective by dismounting two soldiers from each vehicle, if necessary.) Standards in the company improved as the soldiers became a more active part of the battalion. Their attitudes about themselves improved, and the battalion's attitude about them improved as well.

We reinforced our role as infantrymen in the battalion. We reminded everyone of two important facts: Nearly one-fifth of the infantrymen in the battalion come from the antiarmor company, and Delta Company is a line company, not a combat support company. Later that first year, the company achieved the highest percentage of Expert Infantrymen Badges awarded in the battalion. All mention of "detail" company stopped, but our HMMWVs were still in great demand. Now, however, the other companies wanted the crews and platoons, not just a driver and a vehicle.

#### Assess the METL

Designed originally to give the light battalion better tank-killing capability, Delta Company has evolved into much more. The addition of heavy machine-guns, the M-2 caliber .50, and the MK-19 40mm grenade launcher has given Delta Company the same characteristics as the light cavalry troop. As a result, the antiarmor company has become more versatile. Although its primary focus is still to kill enemy armor, Delta

Company is now capable of conducting reconnaissance, counterreconnaissance, and security missions. In light of this improved capability, the following missions and roles are recommended for Delta Company:

**Offensive Operations.** The *movement to contact* and the *hasty attack* are the primary missions of airborne and air assault battalions once they are deployed. During these operations, Delta Company can screen to the front, flank, or rear; overwatch and support by fire; or serve as the battalion reserve. The company accomplishes these missions in general support to the rifle companies either with Delta Company largely intact, or with its platoons attached to the rifle companies. Keeping Delta Company intact allows it to cover a larger area under the control of a single commander, while attaching platoons to the rifle companies makes the battalion's heavy anti-tank assets more responsive to a company in contact.

During a deliberate attack, Delta Company's role is almost identical to its role in a movement to contact, but its assets are more effective in overwatch and support-by-fire missions. The TOW systems' thermal sights, used in conjunction with the M-2 and the MK-19, ensure that the objective is isolated, that fires are accurately adjusted and shifted, and that the likelihood of fratricide is reduced.

Our maintenance shop fabricated traversing bars and attached them to the



roofs of the vehicles to improve the accuracy of the HMMWV-mounted M-2. This allowed us to use a traversing and elevation mechanism without dismounting the weapons from their vehicles. The maximum effective range of our mounted M-2s increased from 700 meters to more than 1,500 meters. We provided the rifle companies with greater range, accuracy, and lethality in a mobile support-by-fire position.

Either before or in conjunction with the hasty attack and movement to contact, Delta Company can augment the battalion's intelligence collection by conducting zone and route reconnaissance. This relieves the battalion scouts of these missions, which are difficult to execute dismounted, and allows them to concentrate on area reconnaissance. Delta Company's mobility and firepower allow it to develop the situation better upon contact and either fix the enemy or break contact with him.

One zone reconnaissance technique is to establish a screen along some identifiable terrain feature with a portion of the company, while the rest conducts the reconnaissance behind the screen. Once the zone is reconnoitered to the screen line, a new screen line is established and the reconnaissance continues in this fashion until it is complete.

**Defensive Operations.** In the defense, the antiarmor company can either operate as a whole, detach its platoons to support rifle company sectors or engagement areas, or form a fourth maneuver element in the battalion by cross-attaching its platoons with the rifle companies. Regardless of the task organization, Delta Company can defend in sector or from a battle position, serve as the counterattack force, or operate in the security zone conducting counterreconnaissance or security operations.

Occupying positions in the main battle area, the antiarmor company's assets serve as the main direct-fire weapons against enemy vehicles. The enemy order of battle will dictate the weapon mix within the company. (With 20 TOW systems, ten MK-19s, and ten M-2 heavy machineguns, Delta Company owns more weapons than it can employ at one time.) Yet the TOW will remain the most

important weapon in the main battle area. This is due as much to the TOW's thermal sight as it is to the missile's range and lethality. Since most threat forces employ tanks and infantry together as we do, complementing TOW fires with heavy machineguns makes good sense.

Outside the main battle area, where the attachment of rifle infantrymen becomes critical, Delta Company has an important role. Dismounted patrols between the stationary observation posts (OPs) are necessary for an effective screen. Also, because authorized crew strength is three men per vehicle (a squad in an antiarmor company), OPs should be occupied by sections whenever conducting continuous, 24-hour operations. In counterreconnaissance operations, rifle infantry are effective in establishing ambushes along choke points and natural lines of drift. The trade-off for the antiarmor company comes in providing cargo HMMWVs to transport the riflemen.

### BENEFITS

Many infantrymen may resist using the antiarmor company in such a "cavalry-like" manner, but the benefits of doing so often outweigh the risks. The first point to consider is that with the fielding of the Javelin medium antitank weapon, the rifle companies will assume much greater capability and responsibility for killing armor in the main battle area. This can free some, if not most, of the company's TOW assets to perform other missions. (See "Javelin: A Leap Forward," by Captain John T. Davis, *INFANTRY*, January-February 1992, pages 14-15.)

A second point to consider is the depth of the information coming out of the National Training Center (NTC) on the use of the antiarmor company in offensive and defensive operations. Two articles in *INFANTRY* in recent years discuss in great detail the use of antiarmor assets for missions other than long-range antiarmor fires in the defense. (See "Team Eagle," by Captain Mark J. Perry and Lieutenant Marc A. Sierra, November-December 1989, pages 11-13; and "Echo Company in

a Heavy Task Force," by Captain Edward G. Gibbons, Jr., January-February 1992, pages 28-32).

Most revealing of all for the HMMWV-equipped units is *TOW Missile System Utilization at the National Training Center* (Rand Corporation Notes, October 1990), which highlights the successes of the opposing force (OPFOR) using TOW HMMWVs to simulate AT-5-equipped BRDM reconnaissance vehicles. The common lesson in all of these sources is the importance of counterreconnaissance to the success of any operation.

Other missions that Delta Company can expect to perform include main supply route (MSR) security and counterattack. With its heavy machineguns and organic M249 machineguns, Delta Company is the ideal force to provide MSR security. Although the HMMWV is not an assault vehicle, it is still the best organic means of displacing combat power in the light battalion. During search and attack missions, Delta Company can provide MSR security and also counterattack enemy elements fixed by the rifle companies.

### Training to Standard

ARTEP 7-91 MTP, *Mission Training Plan for the Antiarmor Company/Platoon/Section*, covers performance standards for the traditional antiarmor missions, but the 17 series cavalry platoon and squad manuals provide better insight into the reconnaissance and security missions. Although these references can be used as a starting point for training and evaluation, commanding a Delta Company also requires imagination and initiative to make the most of training opportunities.

Delta Company should use MILES equipment as often as possible to conduct gunnery and execute battle drills. Two drills in particular that require MILES and an OPFOR to evaluate properly are *react to direct fire/ATGM* and *react to ambush*. Setting up battle drill lanes is an easy way to accomplish many tasks with limited time and OPFOR resources.

Since opportunities to fire live missiles are limited, maximum effect from

each missile is critical. Units often conduct missile live fires in a vacuum to ensure target hits, but this does not train gunners for the realities of the battlefield. The heavy machineguns should be used to engage targets during missile flight, and demolitions should be used to simulate enemy attempts to suppress the TOW gunner. All live mis-

sile shots should be conducted during limited visibility, either at night or with smoke and obscurants down range.

These suggestions are by no means a complete guide to commanding an antiarmor company; they represent the salient points of my 31 months commanding one of these units. Although I took command with many doubts and

regrets, I gave it up thankful for a rewarding experience and regretful only that my turn was over.

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**Captain Michael P. Lerario** commanded Company D, 2d Battalion, 325 Infantry, 82d Airborne Division, during the Gulf War. A 1983 graduate of the United States Military Academy, he is now a graduate student at the academy on an Eisenhower Fellowship.

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# The Two-Round Zero

CAPTAIN CHES H. GARNER

The current procedure for zeroing an M16A2 rifle wastes time and ammunition and allows such variables as trigger squeeze, breathing, and stock weld to affect the zero. We now use a three-round shot group to minimize the effects of these variables.

We can streamline these zeroing procedures by borrowing some techniques from hunters, who use only two rounds of ammunition to zero a hunting rifle. This method works, whether zeroing iron sights or scopes, and it will also work with the M16A2 rifle.

The shooter places his mechanically zeroed weapon securely in a bench rest

and uses the adjustments on the rest to put his rifle sights directly over the center of a 25-meter zero target, or the desired point of aim (Figure 1), and fires a round at the target. Using the bench rest adjustments, he then moves his rifle sights back over the desired point of impact (Figure 2), which compensates for the weapon's recoil.

The shooting coach then goes to the 25-meter zero target and tapes an E-type silhouette (cut from the center of a zero target) directly over the round's entry hole. The firer carefully moves his sight picture directly over the taped-on target. To do this, he raises or lowers the front

sight post for elevation corrections and turns the windage knob for left or right corrections (Figure 3). The coach may help the firer by relaying to him the approximate number of elevation and windage clicks needed based upon the strike of the round on the zero target.

The firer now has his sights aligned precisely over the actual point of impact on the target. If the rifle has not slipped in the bench rest during the sight adjustments, it is zeroed. To confirm the zero, the firer simply moves his sights back over the desired point of impact—the original zero target—using the adjustments on the bench rest and fires a



Figure 1

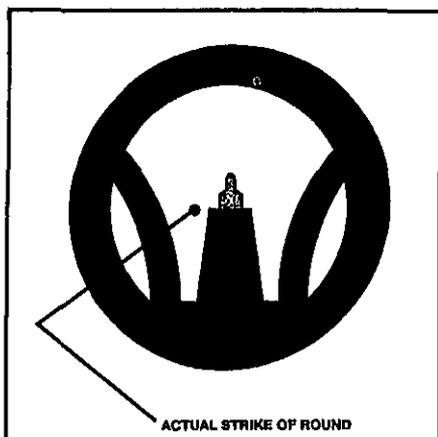


Figure 2

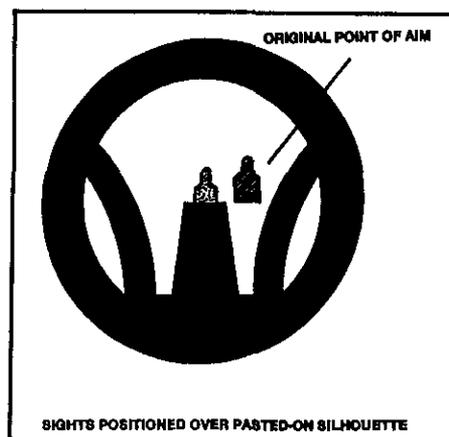


Figure 3

second round to confirm it. If the rifle is zeroed, this round will hit the desired point of impact. If it is not, the firer simply repeats the procedure from the second round's point of impact on the zero target. He then fires one round at a target, moves the rifle's sights directly over the bullet hole in the target, and finally fires a confirmation round at the original target. This simple procedure allows him to zero the rifle quickly by moving the point of aim to the point of impact.

Tank gunners use a similar process in zeroing their main guns. After bore-sighting, a gunner aims at a known-distance target's center of mass and shoots. If the round hits the target, he simply moves (or indexes) the reticle pattern of his integrated thermal sight over the hole in the target, and the main gun is zeroed.

An important factor in marksmanship that many leaders fail to recognize is eye dominance. The M16A2 is designed to be fired by a right-handed person using his right eye to aim with, or by a left-handed person using his left eye. But many right-handed people are left-eye dominant, and many left-handed people are right-eye dominant. This difference can be a problem for a shooter who is not aware of it. An effective solution is for each shooter to identify his dominant eye and fire from the shoulder that corresponds to that eye.

Before zeroing, range personnel should administer an eye-dominance test to each soldier who will be firing. This ensures that leaders identify soldiers with eye dominance problems and help them determine which eye to use in sighting.

In my company, a squad leader with an unrecognized eye-dominance problem who had barely qualified *marksman* for nine years immediately qualified *expert* once he realized he needed to fire his weapon using the other eye.

A simple eye-dominance test is as follows:

- The soldier picks out a distant object.



- Keeping both eyes open, he places the index finger of either hand over the object.

- He then closes one eye at a time and notes when the object "moves" from under his finger.

- If the object "moves" when his right eye is closed, his right eye is dominant. If the object "moves" when his left eye is closed, his left eye is dominant.

The only items of equipment a unit needs for the two-round zero are good, adjustable bench rests. Many companies make these, and a unit can order them on a local purchase basis from the larger gun and shooting accessory stores. The present zero ranges, zero targets, and target stands can be used without modification. Each zero station needs an additional E-type silhouette cut from the center of a zero target to use as a point of impact marker and a sight picture reference point.

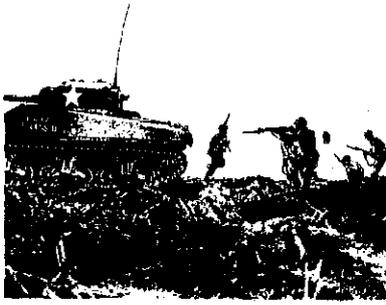
The use of the bench rest eliminates the need to fire three rounds of ammunition to obtain a shot group before making sight adjustments. If the first round is not true, the confirmation round will alert the firer to this fact, and he can repeat the process.

This proposed zeroing method will not eliminate the need for the steady-hold techniques. The purpose of zeroing is only to provide the firer with a weapon that places rounds on target. The two-round method does this while also saving both time and ammunition.

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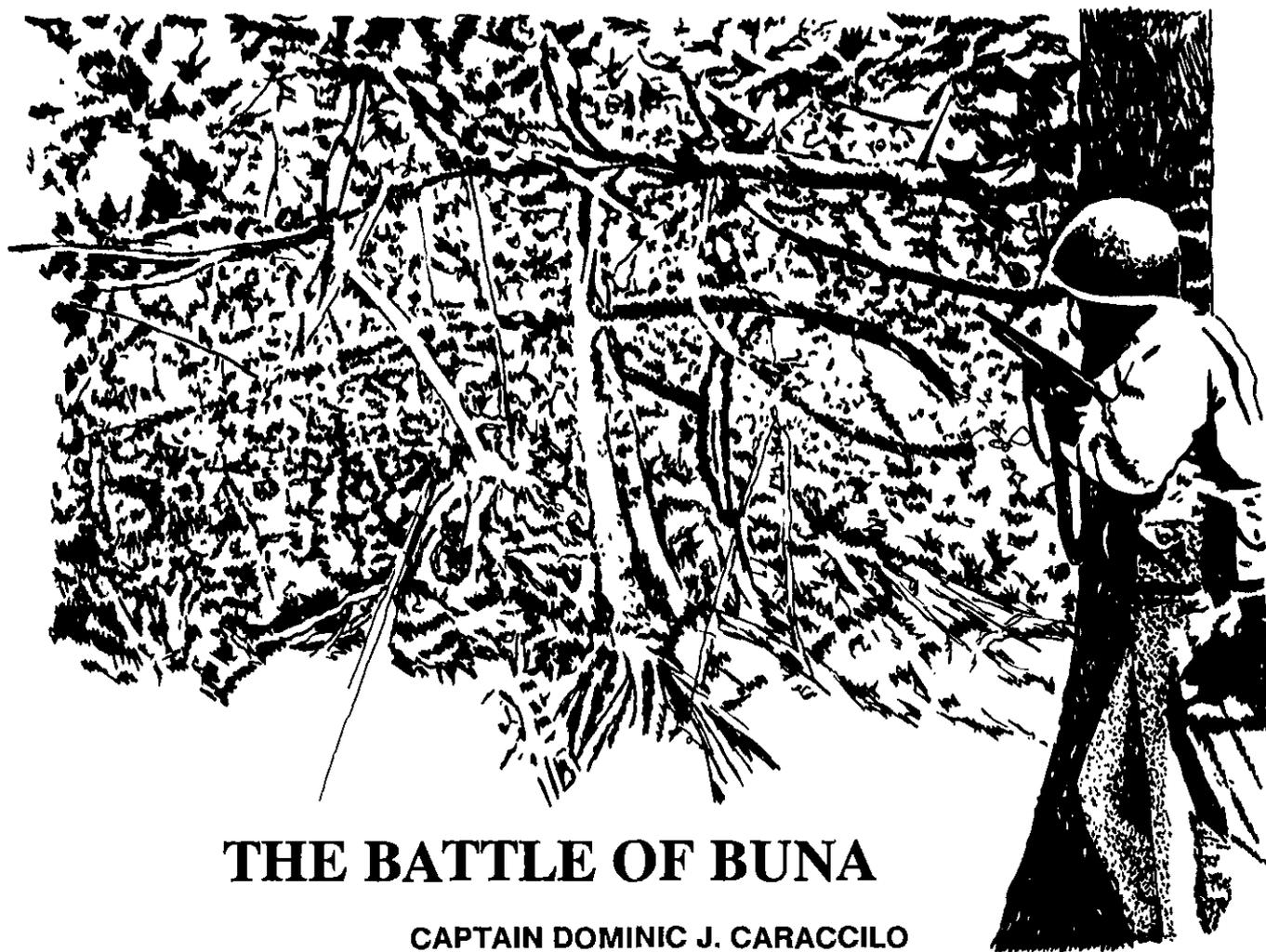
## FIFTY YEARS AGO IN WORLD WAR II

MAY-JUNE 1943

By the middle of 1943, Japanese forces in the Pacific—already on the defensive—were being relentlessly driven from territory they had held a year earlier. U.S. offensives in the Aleutians, in New Guinea, and in the Solomon Islands foretold future victories as Imperial losses in men, ships, and aircraft mounted. With the defeat of Axis forces in North Africa, Allied attention was turning to the invasion of Sicily, as control of the Mediterranean was wrested from the Germans and Italians.

The following highlights of events during May and June of that year have been excerpted from *A Portrait of the Stars and Stripes, Volume II*, by Bud Hannings. (The book is available for \$50.00 from Seniram Publishing, Inc., P.O. Box 432, Glenside, PA 19038.)

- 3 May** Allied forces finalize plans for the invasion of Sicily, and General Dwight D. Eisenhower stipulates that American and British assault troops will land abreast on the south coast of the island.
- 4 May** The U.S. invasion force destined to land on Attu Island in the Aleutians embarks from Cold Harbor, Alaska. Due to bad weather, the invasion date is delayed until 11 May.
- 8 May** Three Japanese destroyers are lost to U.S. aircraft and mines in the Kuro Gulf of the Solomons.
- 9 May** The U.S. II Corps accepts the unconditional surrender of all German and Italian troops in its sector in Tunisia. Six German and Italian general officers are among the thousands of prisoners.
- 11 May** An invasion force of 11,000 men of the 7th Infantry Division conducts landings to dislodge the 2,600 Japanese defenders on Attu Island in the Aleutians.
- 26 May** Private Joe P. Martinez of Company K, 32d Infantry—firing a Browning automatic rifle and throwing hand grenades—leads his comrades against Japanese positions on Attu, destroying several enemy positions. Mortally wounded while clearing trenches, he is later posthumously awarded the Medal of Honor.
- 7 June** Guadalcanal-based American aircraft engage an attacking Japanese air assault force, shooting down 23 enemy aircraft.
- 16 June** In a bitter air battle, the Japanese lose nearly 100 of their 120 aircraft hurled against U.S. troops on Guadalcanal, while American losses total 6 fighters.
- 29-30 June** An Allied offensive (Operation CARTWHEEL) to destroy Japanese positions on Rabaul begins, with landings in the Central Solomons, the Trobriand Islands, and New Guinea.



## THE BATTLE OF BUNA

CAPTAIN DOMINIC J. CARACCILO

During World War II, the U.S. Army experienced jungle warfare for the first time in the Battle of Buna, during the New Guinea Campaign in late 1942. Although the “firsts” of U.S. military history are usually successful and worthy of accolade, this one was neither a historical event in the traditional sense nor an overwhelming success. In the end, this battle also marked the first Allied ground force victory in the Pacific. But the jungle environment of New Guinea imposed severe restrictions and limitations upon discipline, leadership, command and control, intelligence, and logistical planning. As a result, the battle took much longer and caused far more casualties than had been expected. From this early experience, however, the military forces involved learned some valuable lessons about fighting in the jungle that they would use in subsequent battles.

During the early months of 1942, when the Japanese were on the offensive everywhere in the Southwest Pacific (Map 1), their armies seemed invincible. From 10 December 1941 to March 1942 they controlled the Philippines, Singapore, and the Netherlands East Indies. Japanese concerns then shifted to the southeast. From Rabaul in New Britain (which they occupied on 23 January 1942), they planned a two-pronged at-

tack against New Guinea. Their strategy was to gain a foothold, particularly Port Moresby, so they could control the supply lines between the United States and Australia. The Allies also realized that if the Japanese were allowed to control this port, they might use it to launch an attack on Australia, 500 miles away.

General Douglas MacArthur, commander of the Southwest Pacific Area, found the original Allied plan for the defense of Australia highly undesirable. That plan called for the sacrifice of Darwin and Northern Queensland, with the main stand against the expected Japanese invasion to be made along the Tropic of Capricorn, about 300 miles north of Brisbane.

MacArthur preferred to wage battle in New Guinea so that he could establish advance airstrips and impede the development of the Japanese bases at Lae and Salamaua. His concern for Australia's defense was to have it serve as a base for future offensives against the Japanese in New Guinea and the Bismarck-Solomon Islands. Realizing the importance of controlling Port Moresby, the Americans turned the quiet village into a vast staging base (Map 2). From there, they sent the Australians north to secure the northeastern coast of New



to be a major handicap. Without the firepower from these weapons, the division would not be able to mass combat power at the decisive point; this, in turn, would delay a decisive victory.

Allied strategy in New Guinea now began to shift from the defensive to offensive counterattack. At this time, the Japanese made a grave mistake: Indecisive about where to focus their operational attention, they kept diverting forces from Papua toward the Battle of Guadalcanal, which was being fought at the same time. This diversion of troops allowed the Allies to build the airstrips in northern New Guinea that would be needed to transport forces from Port Moresby. While the 7th Australian Army was pushing the enemy back over the Owen Stanley Mountains, the 32d U.S. Division flew to the northern airstrip to envelop the Japanese. Because of the Japanese withdrawal toward the northern coast, it was increasingly probable that Buna would be the site of the ultimate engagement between the forces.

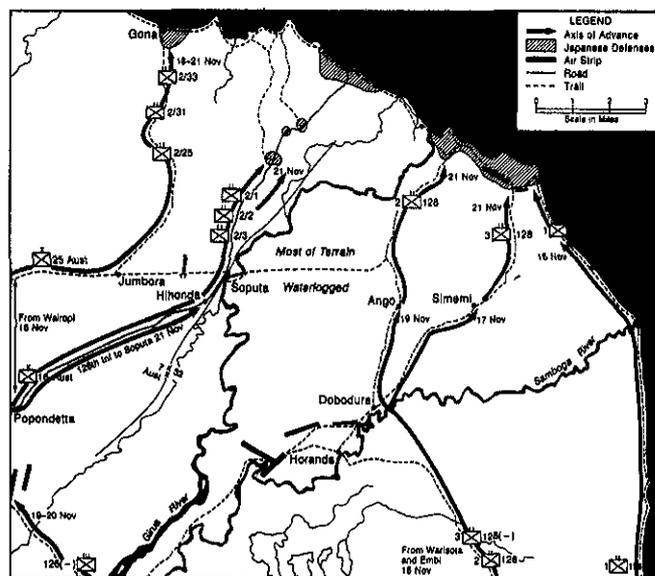
Unfortunately, the Allies initially failed to recognize some inherent difficulties with a battle at Buna and to make adjustments in their conventional ways of jungle fighting. Problems with unity of command, terrain information, and logistics—compounded by poor leadership, untrained soldiers, and a failure to apply the principles of war in a jungle environment—would prolong this three-phased battle.

The first phase consisted of a series of attacks that failed along a two-pronged assault (Map 3). The main Japanese defensive line ran from the mouth of the Girua River, a short distance west of Buna, to the Doropa Plantation, one-half mile south of Cape Endaiadere. The Japanese force consisted of the 3d Battalion, 229th Regiment, one mountain artillery battery of the 38th Division, one battery of the 47th Field Artillery Battalion, and replacements (1,600) from the 144th Regiment. Total Japanese strength was at least 6,500 men.

Both Japanese flanks were secure, and a frontal assault was possible only along two narrow and heavily fortified corridors. Two Allied task forces—the Urbana force in the west and the Warren force along the coast—which were only two or three miles apart by air, were separated on the ground by swamps and thick jungle. It took six hours to walk from one flank to the other, and during rains any messenger who was sent had to walk in water up to his hips. Any extensive movement of troops to reinforce either front took two days. On the other hand, it took the Japanese less than an hour to do the same because of a road network in their defensive area.

Southeast of the Doropa Plantation, the Warren task force made a series of attacks that failed, sustaining massive casualties in the process. This was the initial assault on the Japanese defenses at Buna that ended on 19 November 1942. The next day, the two task forces launched attacks in both the east and the west, preceded by air bombardments.

Both attacks failed. The front lines were not distinct, and the Allied bombs fell on members of the Warren force, causing friendly casualties. The Urbana force reached a point where the trail forked into Buna Village and a government plantation called "the Triangle," a patch of dry ground (measuring 50 yards by 200 yards) sticking out of the swamp.



**Map 3. Closing In on the Japanese Beachhead, 16-21 November 1942.**

This was destined to become the toughest defensive position for the Allies to seize on the Buna front.

By 25 November the Urbana force reached a point just west of the bridge over Entrance Creek and close to the trail. In the east, the Warren force was making a two-pronged attack on the heavily fortified bunkers in the Doropa Plantation (Map 4). To facilitate this attack, ten artillery pieces were flown in and divided among the units within the forces. The heavy fire from these 25-pounders before the attack did little to crush the Japanese defenses.

Following this contact, both fronts experienced a stalemate that continued until 30 November. By that time, the situation on the Buna front was not good for the Allies; their forces were strong in the rear but weak up front. The U.S. Army Air Force did a tremendous job of moving troops in and resupplying them by air. While air superiority now belonged to the U.S. forces, the Japanese showed that they could bring troops in by sea when they landed 1,000 reinforcements on the northern coast on 1-2 December 1942.

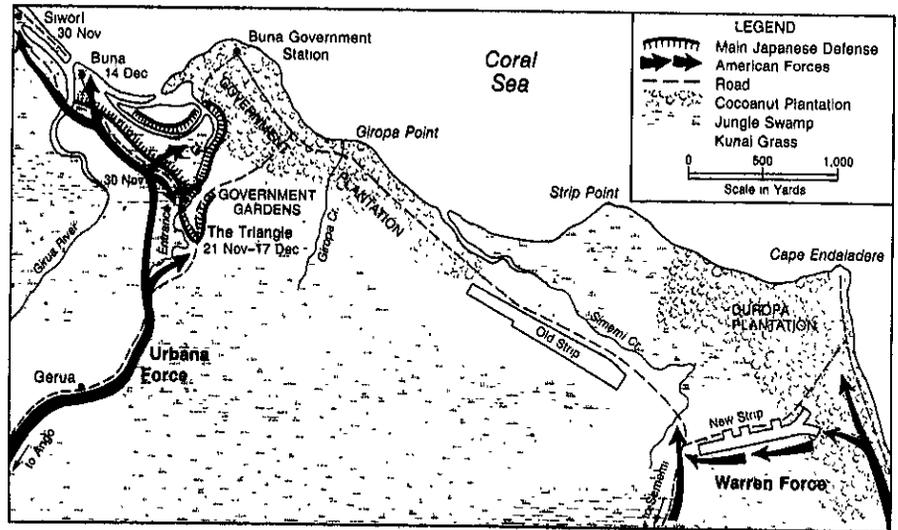
Because of the impassable ground supply routes, the U.S. forces also attempted a resupply using coastal shipping. During the early stage of the battle, enemy aircraft sank a number of small boats carrying men, supplies, and ammunition. This prompted a decision that shipping would be done only at night, but the treacherous reefs became even more dangerous in the dark than the aircraft had been in daylight. These restrictions doubled the time needed to move troops along the shallow and constricted waters.

On 30 November the Urbana force began a drive directed at Buna Village. The force, split into two elements, ended the day with its units positioned on the outskirts of the village.

In the east, the Warren force remained stalled at an Allied-controlled airstrip just south of Cape Endaiadere called "the New Strip." This led to the second phase of the battle, on 1-14 December, which consisted of reorganizing and reinforcing units along the front and capturing the village of Buna.

MacArthur called Lieutenant General Robert L. Eichelberg-

**Map 4. American operations before Buna.**



er (I Corps commander) to Port Moresby and sent him to the Buna front. Arriving to command the forces on 1 December, Eichelberger witnessed a failed attack by the Urbana force. Simultaneously, his G-2 and G-3 witnessed the failure of the Warren force in the east. It disappointed Eichelberger to see that the heat, rain, jungle stench, disease, and wounds had reduced the battalions to half strength, and that short rations (one-sixth ration per day) had left the men dispirited, discouraged, and weak.

Eichelberger also noticed that all elements of command were badly mixed. The chains of command in U.S. units were so jumbled that units from the same regiment were divided and mixed in among the two forces. The Urbana force consisted of the 2d Battalion, 128th Regiment; 2d Battalion, 126th Regiment; and 3d Battalion, 127th Regiment, while the Warren force consisted of the 1st Battalion, 128th Regiment; 3d Battalion, 128th Regiment; and 1st Battalion, 126th Regiment. This intermingling of units made it almost impossible for the task force commanders to control their units.

General Eichelberger realized, however, that his forces had made it this far and were on the brink of victory if only he could remedy the problems of low morale and poor unity of command.

General MacArthur also realized that there was a leadership problem in New Guinea. The leaders had an overly sympathetic attitude toward the hardships their men had experienced in the jungle. In addition, no steps had been taken to counter the myth of Japanese invincibility, and the leaders tended toward a general lethargy brought on by the tropics.

The leadership problems were so bad, in fact, that MacArthur fired the 32d Division commander, Major General Edwin F. Harding, and told Eichelberger to remove all officers who wouldn't fight, including regimental and battalion commanders, and to "take Buna, or do not come back alive."

On 3-4 December, Eichelberger regrouped, reorganized, and directed new commanders for the task forces on the front. The supply system was reorganized, and Bren gun carriers with Australian crews were brought up to assist in the attack on 5 December. Although the Bren guns were immobilized during the attack, by nightfall the Warren force had suc-

ceeded in gaining positions bordering the New Strip. What the Allies lacked in leadership attributes was regained when MacArthur placed Eichelberger in charge. He quickly assessed the situation and took the appropriate action, even if it meant firing high-ranking officers.

In the west, the Urbana force made the first break in the Japanese defenses along the Buna front. The force—a platoon from Company G, 2d Battalion, 126th U.S. Regiment—penetrated through to the sea, cutting Buna Village off from Buna Government Station (also called Buna Mission). This platoon maintained a defensive posture along the beach and repelled numerous Japanese counterattacks.

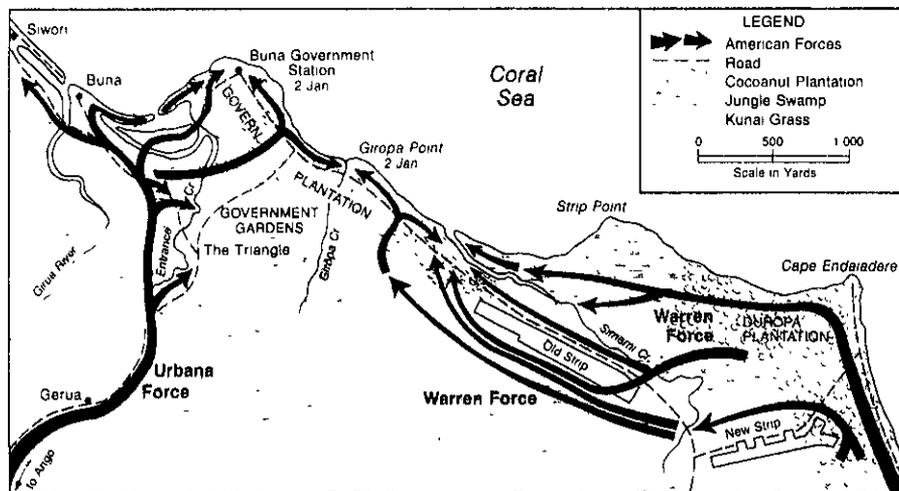
From 6 to 13 December, there was little action. The Allies continuously sent out patrols to identify enemy weaknesses. On 11 December the 3d Battalion, 127th Regiment relieved the 2d Battalion, 126th Regiment and, on 13 December 1942, launched an attack on Buna Village. In one hour, the battalion captured the village only to find the Japanese had already deserted it.

Still, the capture of Buna Village was a shot in the arm for the Allied forces. The resupply of food, ammunition, arms, and medicine improved greatly. At the same time, the Japanese forces had deteriorated through battle losses, diminishing supplies, and the failure of the expected reinforcements to arrive.

Thus began the third and final phase of the Battle of Buna. This phase consisted of the penetration, envelopment, and eventually victory at Buna. In the west, the Urbana force penetrated a coconut grove and enveloped the enemy at the Triangle on 17 December. This attack was repulsed twice on 19-20 December. The Allies decided to contain the Triangle, cross Entrance Creek, and drive to the sea 600 yards southeast of Buna Station.

Meanwhile, on the Warren front, the Allies obtained seven Stuart tanks and a brigade of Australian replacements flown in from Australia. Reinforced by the Australian battalions, the Warren force prepared for the offensive again on 18 December.

The Allies had hoped to surprise the Japanese with their use of armor. After a ten-minute armor barrage, the Warren force penetrated the northeast portion of the enemy flank and



Map 5. Lines of advance of Warren and Urbana forces, 16 December 1942–2 January 1943.

proceeded to just south of Cape Endiaderere before halting because of heavy friendly casualties.

Simultaneously, elements of the Warren force penetrated the east side of the new strip. On 20 December the force captured all the bunkers east of the 125-foot bridge covering Simemi Creek. This advance made it possible for the 2d Battalion, 10th Australian Regiment to move to a position that would enable it to encircle the enemy forces at the bridge, allowing the 1st Battalion, 126th U.S. Regiment to cross the creek. By 23 December, the Allies crossed the creek, and the Japanese defensive line that had been impenetrable since 19 November was finally penetrated.

The Warren force moved to the east end of the government plantation on 28 December 1942. The use of the armor-piercing 25-pound artillery pieces helped them in their slow and tedious "bunker-busting" tactics. In the west, the Urbana force infiltrated the government gardens by "belly-crawling" from bunker to bunker and succeeded in routing the enemy with grenades.

The Triangle, now isolated from Buna Station, was attacked by the 1st Battalion, 127th U.S. Regiment on 28 December and found to be deserted. By the end of the day, both the Warren and Urbana forces were poised to strike at the only remaining objective—Buna Station.

On 29 December the Warren force failed in a combined arms attack on Buna Station due to a lack of coordination between infantry and armor. On 1 January 1943, the Warren force, reinforced with 11 tanks and using comparatively fresh troops, attacked again and within an hour reached the seacoast southeast of Giropa Point (Map 5).

In the west, the Urbana force exploited the corridors from the coconut grove through the government gardens to the sea on 2 January by attacking northwest toward Buna Station. Simultaneously, Company H, 127th U.S. Regiment, drove northeast toward Buna Station from Musita Island. In spite of stiff enemy resistance, Companies G and H, 127th Regiment, pushed their attack. By 1600 on 2 January, enemy resistance ceased, and on 3 January the Urbana and Warren forces linked up, ending the Battle of Buna.

The significance of victory for the Allies in this battle is obvious. Denying the Japanese the use of the Papuan Penin-

sula strangled their ability to interdict Allied shipping in the Southwest Pacific. The possession of Buna enabled the Allies to maintain the initiative gained from their successes at Guadalcanal, in the Coral Sea, and on the Kokoda Trail.

Although Allied forces made many mistakes during the Battle of Buna, it is likely that the fault was not with prewar doctrine but rather with the application of that doctrine. Commanders let the new environment overwhelm them and, instead of applying the principles of war they had grown accustomed to using, they tried to reinvent the fundamentals to fit the situation. The Allies failed to mass relative combat power quickly at the decisive point. Key factors in this failure were a misconception of the enemy situation, an inability to achieve unity of command over untrained and poorly disciplined soldiers, and an inability to resupply and logistically support their units.

The strategic plan of the Allied forces—to maintain the pressure on the retreating enemy with the troops already in contact, while making a secret wide envelopment of his left flank at Buna by air-transported troops—was certainly sound. Unfortunately, the Allies' decision making process was based upon an inaccurate evaluation of the enemy situation. The intelligence information described the Japanese force—believed to be made up of support troops and combat troops already exhausted by their recent retreat over the Owen Stanley Mountains—as physically weak and low on morale. Even if the enemy situation had been properly evaluated, the scheme of maneuver probably would have been much the same. But the tactical plan of the two task forces to capture Buna, as it was originally conceived, failed for many reasons.

The difficulties of the terrain had not been fully appreciated because of inadequate maps and the inability of air reconnaissance to penetrate the jungle cover. Therefore, the movement to Buna was initially viewed as a rapid advance over trafficable terrain. This faulty estimation quickly became apparent once the units attempted to cross the mountains and ford the impenetrable swamps on the other side. When the forces saw that moving to Buna by foot would be difficult and would take too long, an airlift of troops to the northeast side of the island began.

Surprise was essential if airlifting forces was to succeed,

and some surprise was indeed achieved. A staff officer with the 144th Japanese Regiment later said that the air movement of combat troops to the doorstep of Buna took the Japanese by surprise, as they had not considered such a maneuver in their estimate of the situation. But the principle of massing forces at the decisive place and time was violated. Where commanders severely failed was in not realizing the problems before 30 November and changing their plans accordingly. This failure was due to the following considerations:

The Allied forces lacked proper training in jungle operations. What little training they had received in jungle warfare had been in the Australian mountains, which were quite different from the swamps and quagmires they encountered on the Buna battleground.

The Allies were extremely weak in scouting and patrolling skills, and in decentralized small-unit actions. Because of the inadequate use of patrols, the principle of objective was continually violated. Instead of identifying weak spots in the enemy's defensive positions, the Allies assaulted from the front, making the objective unattainable and taking many friendly casualties while attempting numerous frontal penetrations into the enemy's strong points.

On the other hand, Japanese tactics and use of the terrain delayed the Allies' estimates and actions. The enemy forces made perfect use of natural cover and concealment. They utilized the terrain to such an extent that reconnaissance patrols found it difficult to penetrate their defenses.

Staff estimates were weak in the early stages of the battle. The division rear did not establish estimates of minimum daily requirements, which caused unnecessary hardships for the troops at the front. Not all logistical failures could be blamed on transportation difficulties, however great these may have been.

In the latter stages of this battle, air transportation played an important part in the delivery of supplies and men. Without Allied air superiority, a much larger ground force would have been needed, and several more weeks would have been required to defeat the Japanese. C-47s flew in most of the 15,000

men who arrived in the Buna area. The artillery that finally arrived was all airborne, and when the 127th Regimental Combat Team arrived, it was transported to within ten miles of the front lines. By land, the trip from Port Moresby to Buna took 18 to 28 days; by air, it took 35 minutes. If the staff estimates had identified this fact earlier in the operation, many lives could have been spared, and the victory would have been won much sooner.

Mixing the units within and among the task forces hampered unity of command. No one commander initially controlled common units, and the resupply of a unit became impossible, since some regiments had their battalions split between the two task forces. It became quite evident that this lack of unity of command made it difficult for the task force commanders to know and control their units.

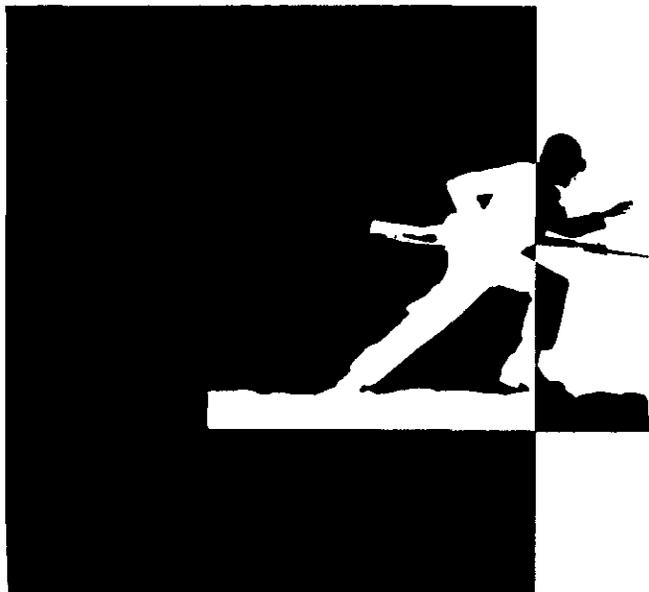
When General Eichelberger arrived at Buna, he made an estimate of the situation and immediately solved many of the problems that had existed in the early stages. He provided the element of dynamic leadership that the task forces needed. Upon assuming command, he had the unpopular task of ridding these forces of their lethargic, indecisive leaders and did so immediately. He also insisted that leaders make frequent trips to the front to see and be seen.

Because of Eichelberger, this long-fought battle came to a decisive end. It had taught the Allies many lessons on jungle warfare, intelligence preparation of the battlefield, logistics estimates, and the command and control of undisciplined and untrained soldiers—lessons that would enable some of the same units to succeed in battles yet to come.

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# TROPICAL REGIONS: INFLUENCES ON MILITARY OPERATIONS, PART 2

COLONEL ROBERT H. CLEGG

*EDITOR'S NOTE: This article is the second in a two-part series on the tropical regions of the world and their environmental effects on military operations. Part 1, in the March-April 1993 issue, discussed climatic and meteorological conditions, the terrain and vegetation, and the military aspects of the terrain. Part 2 deals with the effects of a tropical environment on soldiers, on equipment and facilities, and on combat and support operations.*

*This series continues Colonel Clegg's INFANTRY articles on the various regions of the world: "Environmental Influences on Desert Operations" (May-June 1992), and the two-part "Cold Regions: Environmental Influences on Military Operations," co-authored with Brigadier General Peter W. Clegg (July-August and September-October 1992). Colonel Clegg's two-part series on the temperate regions will follow.*

*Together, these articles provide a complete reference that military leaders can use in preparing their units to operate in any part of the world to which they may be deployed.*

The heat and wetness of the tropics take a heavy toll on the soldier, both physically and psychologically. These conditions create an ideal breeding ground for microorganisms that weaken the human body and ultimately kill if precautions are not taken. Various diseases are transmitted by insects or through the water and food the soldiers consume.

During the Buna Campaign in the swamps of New Guinea in World War II, the soldiers of the 32d Infantry Division were plagued by leeches and snakes, jungle rot, and mosquitoes. Their clothing and boots rotted away and could not be replaced. Rain and fog hampered resupply flights. Hot food was simply not possible. Morale was low, and effective strength

was reduced to less than 20 percent. During this campaign, tropical maladies cost the division more than 8,000 of its nearly 11,000 casualties. Most of these (more than 5,000) were from malaria. (See related article on page 18 of this issue.)

Other campaigns in the jungle also show higher casualty rates from sickness than from combat. In the Burma Theater, 90 percent of the casualties were from disease, and in the South Pacific islands, 83 percent were from disease.

In the constant rains of the jungle, sanitation is extremely difficult. Sewage disposal, a major problem in swamps, must be given high priority. Microorganisms that flourish in untreated sewage are transmitted by mosquitoes and flies. The water in which soldiers sit may be stagnant. Their skin softens and is easily broken, even by the tangled undergrowth and elephant grass, and the cuts become infected and can result in amputation or even death.

The best-known tropical disease is malaria. Once infected, a person retains it for life. Although there is no real cure, its effects of nausea and shaking can be controlled. Pills have been developed for various malarial strains, but they have uncomfortable side effects, and soldiers often complain about taking them. It is a leader's responsibility to ensure that soldiers take these pills, even if he has to watch them do it.

Dysentery and diarrhea are also common in the tropics, and typhoid, cholera, hepatitis, schistosomiasis, beriberi, and tuberculosis are additional risks.

Nutrition is the key to keeping up strength. Fresh fruits and vegetables are highly desirable, of course, but their availability in the jungle is limited and the possibility of disease from them is great. Professional food inspection is required before soldiers can be allowed to eat native foods. As monoto-

nous as MREs (meals, ready to eat) may be over a long period, they are at least safe to eat.

Water purification, sanitation, and medication and ointments are the preventive measures for escaping the misery of all these diseases that can render entire armies combat ineffective. Since dehydration and heat injuries can cause casualties, leaders must monitor their soldiers' water consumption. As much as two gallons of water per day per soldier may be required. This is a heavy load to carry, along with ammunition and other supplies, but without potable water, soldiers soon become ineffective. In World War II, exhaustion and heat stroke sapped the soldiers' energy, and a lack of clean water kept them thirsty. The intense sun caused sunburn, and the brightness eventually damaged their eyes. Metal that heated in the sun burned the soldiers' skin when they touched it.

Snakes, leeches, insects, and poisonous plants can incapacitate the unsuspecting soldier. Although these hazards are often exaggerated, a cavalier attitude toward them can also prove deadly. Their psychological effects alone contribute to a lack of attention to other real dangers, such as the enemy.

Excess moisture produces fungi or jungle rot. It causes the skin to deteriorate, making a soldier more susceptible to disease and infection. Trench foot resulting from moisture is as great a risk in tropical regions as it is in cold climates. Since keeping dry is almost impossible, leaders must fully understand what moisture will do and take whatever action is necessary to facilitate drying.

On *Leyte* in the Philippines, rain fell constantly on the troops. The valleys were flooded, and the ridges and slopes became a morass of mud and slime. The soldiers were exhausted. With insufficient rations and interrupted sleep in water-filled foxholes—not to mention harassing fire from the Japanese—many of them became sick with dysentery, and foot ulcers were common.

In addition to these physical hazards, there are other dangers associated with weather and terrain. Typhoons, with their storm surge, kill hundreds of thousands of people each year. Soldiers can easily be subject to such conditions. Floods from the monsoon and mud slides, along with earthquakes and volcanoes, can wipe out large units much faster than the enemy can.

Psychological effects can also take their toll. The monotony of the tropical climate (brought on by the constant rain and ever-present humidity, heat, and insects) can put soldiers on edge, leading to increased nervousness, lack of motivation, and inactivity. The troops at Buna were described as in a "pitiably abject state incapable of aggressive action." Throughout the tropical campaigns of World War II and the Vietnam War, the ever-present risk of a sniper's bullet added to these psychological effects. Many soldiers experienced "jungle happiness," a condition in which they became unable to adjust later to crowds, bright lights, and even their families.

Life was bleak on the hilltop firebases of Vietnam. The isolation and loneliness played on the minds of the soldiers; the monotony of heat and humidity, coupled with the continuous sound of outgoing rounds, all affected mental stability. The fear of incoming rounds and sapper attacks further

troubled the men at these outposts, and their fears were well-founded. In July 1970, Firebase Ripcord endured a three-week attack by the 6th North Vietnamese Army (NVA) Regiment; 60 Americans were killed and 345 wounded. A single rocket killed 29 and wounded 50 at Firebase Charlie 2. A sapper attack on Firebase MaryAnn killed 30 and wounded 82.

A few days in the swamp reduces the resistance and stamina of even the strongest soldiers. Not only are the injured and sick out of action themselves, but healthy soldiers must stay behind to care for, protect, and transport them. Even the smells of the tropics are an annoyance: Stagnant water, rotting vegetation, and unwashed soldiers, not to mention the stench of death, can be nauseating.

Perhaps the best illustration of the effect of tropical terrain and weather on soldiers is the World War II experience in Burma, where more than 375 inches of rain fell in the four-month wet monsoon (15 inches in one day). Valleys turned into lakes, rivers rose 30 feet in one night, trails turned into ankle deep quagmires and reduced trafficability to one mile per hour. Temperatures reached 130 degrees Fahrenheit and humidity was so bad that breathing became difficult and sleeping almost impossible. The jungle bamboo thickets were so dense that the soldiers had to cut tunnels through them. Fungi and bacteria multiplied at amazing rates causing disease and rot. Mosquitos, flies, leeches, and snakes were ever-present. In this environment, casualties from disease (90 percent from malaria) outnumbered those from combat 14 to 1.

Even the British "Chindits"—who had built endurance by running everywhere, swimming rivers, living on short rations, enduring insect bites, and slogging through mud—lost a third of their force in the jungles of Burma without even meeting the enemy in a major engagement. The soldiers, under British Major General Orde Wingate, headed into the jungle, each carrying a 70-pound load. Although they met with initial success, as they moved deeper and deeper into the jungle the tropical conditions began to take their toll. Potable water became scarce, boots rotted off, and casualties from disease mounted.

Late in 1943, Wingate's force made a second try, this time as part of a larger force. They took the western flank of the three-pronged operation. U.S. Major General Joseph W. Stilwell and his Chinese forces were positioned in the center, flanked to the north and later the east by Merrill's Marauders (under Brigadier General Frank D. Merrill). As in the earlier attempt, the troops penetrated deeply into the jungle, and casualties mounted. Merrill became ill and was temporarily evacuated. Wingate was killed when his plane crashed while returning him to the rear.

Merrill recovered and rejoined his men just in time to lead the assault on Myitkyina, a small jungle village that became key terrain because it had an airfield. Without it, resupply to continue south to coastal Burma and east up into China would have been impossible. Myitkyina was 90 miles away across the rugged Kumon Mountains and through thick jungle vegetation. Although still in the "dry" season, the rain was constant. With the soldiers already in weakened state, the approach march required a superhuman effort. As they climbed

to the 6,100-foot pass, they had to crawl up the slippery steep slopes on their hands and knees. The soldiers, thirsty and intent on drinking, did not boil their water. Many swallowed halazone with water instead of waiting for it to dissolve, thereby exposing themselves to amoebic dysentery and schistosomiasis, both of which could be fatal.

On 16 May the objective was taken. As the Marauders occupied the Japanese positions, the refuse and sewage left behind resulted in typhus, which infected 150. Dysentery plagued 80 percent of the men. About 100 were airlifted out each day, 30 of whom contracted the deadly mite typhus. By the end of May only 200 of the 3,000 Marauders were still able to fight.

Although words are inadequate to describe the misery these men endured, the history of such ordeals must be conveyed to leaders of the future so they can better appreciate the risks of combat in such environments and plan to cope with them.

### Effects on Equipment and Facilities

The excessive moisture of the tropics is also a major problem for vehicles, weapons, and other equipment and facilities. The constant wetness of the tropical rain forest and the wet monsoon sub-climate deteriorate equipment quickly, and the severe storms wreck structures. Rust appears quickly on metal and over periods of a few months can weaken equipment and structures and lead to malfunction and collapse. Protective paints and lubricants are therefore critical. Mildew caused by moisture deteriorates fibers, rubber, and leather items. The rains produce mud that gets into moving parts, requiring constant cleaning and lubrication. In the dry monsoon and the savanna sub-climates, dust clogs filters and interferes with components, and they must be cleaned or changed more frequently.

Vehicle coolants and other fluids (particularly in batteries)

need to be replenished regularly because of the high evaporation rates in high temperatures. Rubber gaskets and tires rot. Water gets into fuel lines and oil compartments, and electrical components are likely to short out because of wetness. Also increased engine and transmission wear results from driving in the mud.

Tropical conditions affect all weapon systems. Rifles and guns rust, producing malfunctions and ammunition jams. Cleaning and lubrication are more than daily tasks. Candid photos of soldiers, even generals in these regions, show them cleaning their weapons. Heavy rain and high humidity cause scopes to fog up. Water on a scope glass distorts the target and can cause a miss. Missile munitions are dependent on electrical circuitry, which can short out when it is wet, resulting in misfires and in-flight malfunctions. Shell casings and powder bags must be kept dry and clean. The effectiveness of artillery rounds and missiles is affected by thick vegetation. Tall, multicanopy trees can prematurely detonate fuzes, causing the round to explode too high to be effective. Flares and parachute rounds get snagged in treetops. Fueled munitions burn up trees and shrubs instead of enemy positions. Air-delivered mines may not be distributed as planned because of obstructions from vegetation.

Computers, radios, and other electrical equipment are subject to malfunction because of the humidity and wetness. Parts in radios and sensors rot and short out. Although various radars penetrate clouds, rain, and even vegetation, returns are distorted and weakened, making identification more difficult. The range of radio transmissions is significantly reduced in heavy rain, and interference is a major problem.

Keeping equipment out of the rain is not good enough; the humidity requires that it be covered and protected. Condensation occurs with only a slight drop in temperature, and moisture clings to plastic coverings, inside and out. High tempera-



The mud of delta areas often impedes maneuver, as these 9th Infantry Division soldiers find out on a mission in Vietnam, near Tan Tru, 1968.

**Soldiers move through tall grasses during Operation JUST CAUSE, Panama, December 1989.**



tures reduce battery life, further complicating communications.

During World War II, communication in the tropics was especially bad. Not only did Japanese artillery constantly cut wire, but standing water in the swamps quickly dissolved insulation, and slight cracks let in moisture that could short out the communications. During many campaigns, communications between adjacent units were nonexistent.

Aircraft are especially reliant on electrical components and mechanical parts and are therefore susceptible to the effects of excessive moisture. High temperatures and less dense air reduce aircraft lift capacity and necessitate longer runways. The movement of artillery by helicopters is problematic. If it is planned for the afternoon when temperatures are the hottest, the helicopters may be unable to lift the tubes. Such missions should be carried out in the early morning hours when the air is as dense as it will get during the day. Sound planning can keep infantry patrols from being without fire support as they move out of range of their initial artillery bases. Fog then becomes a problem that may preclude aviation support. Planning and monitoring of the weather is critical for the simplest routines.

Facilities and other structures such as bridges are subject to weakening and collapse from heavy rains as foundations loosen and support structures shift. Bunkers become cesspools, and sandbags are saturated, endangering the bunkers' structural integrity. The French at Dien Bien Phu, for example, were caught in the wet monsoon (1954) and suffered as their dug-in positions became saturated and important bunkers collapsed.

Most structures in the tropics are fragile, and the high winds associated with tropical storms and typhoons can quickly level them. During the U.S. Army's involvement in Vietnam, such storms wiped out entire compounds. A typhoon in 1971 totally destroyed the headquarters facilities of the 23d Infantry (Americal) Division in Chu Lai.

The savanna is a more stable region, and conditions there are not nearly as harmful to equipment and facilities as the monsoon or tropical rain forest. While the reduced and more seasonal moisture is of less concern, the dryness and high temperatures of the savanna do affect cooling and electronic systems.

#### **Effects on Combat Operations**

The jungle is the domain of light infantry. Movement is so restrictive that only the foot soldier can get through. His speed is reduced to a few miles a day because of mud, swamps, steep slopes, thick vegetation, and dense fog and rain. Helicopters provide the mobility required to concentrate combat power quickly at the decisive point. Small ground units, supported by aviation and artillery for firepower, are the norm. This is the environment for air assault operations.

The jungle favors small-scale offensive operations. Concealment is excellent in the thick vegetation, and the weather favors the offense, mainly in the form of ambushes or hit-and-run raids.

The jungle facilitates guerrilla warfare. Insurgents use the thick vegetation, rough terrain, and bad weather to their advantage for concealment and surprise. Counterinsurgency operations also focus on small light infantry and air assault operations.

These operations simply require less logistical support. A patrol carries what it needs to accomplish limited tasks such as surveillance and reconnaissance, interdictions, raids, and ambushes. But these tactics do not exclude offensive operations of battalion, brigade, and even division size and larger. Throughout World War II and the Vietnam War, large-scale campaigns by both sides were decisive. But such offensives are best conducted only after extensive training, planning, and logistical preparations. They should be timed to coincide with favorable environmental conditions. Even in large-

scale offensives, squad, platoon, and company-level actions predominate.

Defensive operations focus on retaining political control of the population, which is mostly concentrated in villages, towns, and some cities. These built-up areas must then be defended. Defensive positions to protect fire and logistics bases are also required. Aggressive tactics are key to a successful defense in the jungle. The insurgent must get close enough to threaten population centers and the defensive positions. Aggressive patrolling keeps the guerrilla on the run. Guerrilla tactics include standoff rocket attacks, ambush, and raids on such key targets as fire bases and ammunition dumps, and on villages and cities.

The objectives in jungle warfare are to kill the enemy, hold key terrain, and control the population. These lessons were learned in Vietnam. Insurgents or guerrillas are dedicated and impelled by ideological or nationalistic fervor. In Vietnam, their "doctrine of struggle" was fueled by hatred of Americans. Since they could rarely be expected to give up their cause, they had to be captured or killed. After active patrols in the jungle had located the enemy, massive firepower (air sorties, naval gunfire, artillery, and attack helicopters) was used against him. The conduct of small-scale operations to find and fix the enemy and the employment of massive firepower required that key terrain be seized and held (the dominant high ground for artillery fire bases, roads and rivers for access, landing zones for infiltration and evacuation). With the enemy on the run and the peripheral key terrain controlled, population centers could then be controlled and protected. Achieving these objectives required persistence but often paid off.

The environment matches the challenge that even a formidable committed force such as the North Vietnamese Army and the Viet Cong provide. The weather does not permit the indiscriminate use of such massive firepower; additionally, the terrain often reduces the effects of munitions. Both the weather and the terrain reduce the freedom of movement of patrols.

On a wet, dreary December day in 1971 in the vicinity of the Hai Van Pass north of Da Nang, 37 soldiers were killed, not by the enemy but by the environment. A Chinook helicopter left Marble Mountain Army Air Field south of Da Nang enroute to Phu Bai and Camp Eagle to the north. Steep mountains rising from sea level to 3,000 feet on the coast separated Da Nang from the two installations. The wet winter monsoon of coastal northern Vietnam produced a thick fog on the mountain tops, and a constant drizzle reduced visibility even further. The fully loaded Chinook disappeared into the mist of the monsoon. The journey was less than two hours but the Chinook never arrived. It crashed into the mountains, which were obscured by the clouds and drizzle. A company of soldiers from Da Nang was immediately dispatched north into the Hai Van along Route 1. They arrived in the suspected vicinity of the crash in about an hour. But it then took five days to search seven kilometers of jungle to find the helicopter and the casualties. The jungle vegetation was so thick, the slopes so steep, and the weather so bad that the urgently pressed troops just could not get there in time to save any of

the soldiers who had survived the crash.

Large-scale operations are hindered even more by trafficability problems. On 20 October 1944, elements of X Corps landed on Leyte in the Philippines. The 5th and 12th Cavalry units entered a deep swamp just beyond the narrow landing beach. Soldiers were up to their armpits in water and had to make three trips just to carry their personal equipment.

The 2d Battalion, 383d Infantry, attacked toward Catmon Hill and also found themselves facing an unsuspected swamp. Their tanks were bogged down and unable to help in the assault. The 1st Battalion of the same regiment also pushed through marshy ground and swamps. Swamps, coconut logs, and other debris limited the advance of the 3d Battalion, 382d Infantry, to only 1,300 meters. To the south, the 7th Infantry Division was also slowed by swamps. Few supplies had been brought forward because the vehicles had moved only 200 meters. Native water buffalo became the only means of transport, and coconuts the only food for the attacking force.

The terrain rather than Japanese resistance jeopardized the operation and the return of General Douglas MacArthur to the Philippines. Once out of the swamp, the 1st Squadron, 5th Cavalry, and other units moved into tall grass and up steep slopes. The hot sun and heavy loads of ammunition led to exhaustion. The 1st Squadron was in particularly bad shape, having advanced for nearly two days without food or water. On the fourth day, Tacloban was secured, and the 5th Cavalry had the honor of welcoming General MacArthur ashore.

On 25 November 1944, the 511th Parachute Infantry Regiment set out. It took until 22 December, nearly an entire month, to complete the movement. Just west of Burauen was the central spine of mountains in Leyte. The slopes rose some 4,000 feet, almost straight up, and the gorges were so deep that they were nearly impassible by foot. Only small foot trails led the way, and these were interrupted by boulder-filled, swift-flowing streams. Logs were used to bridge the creeks, but a slip could mean a 40-foot drop. In some places the slopes were so steep that footholds had to be cut into the hillsides, where drops could be 100 feet.

This terrain, coupled with heavy rains and Japanese snipers, made the crossing dreadful. Only squad-sized units could maintain their integrity. At one point, Company G was cut off without food for four days. The sucking mud, jungle vines, and continuous climb exhausted even the healthiest of the soldiers. The Japanese were concealed by the heavy foliage and took positions in caves. Finally, on 22 December, enemy resistance and, more significantly, the 11 miles of terrain had been overcome. The 187th Glider Infantry Regiment passed through the tired 511th and then the 32d Infantry to continue the attack.

Such environmental conditions greatly influence combat operations. With trafficability so restricted and mobility so important, the helicopter has become the key asset available to facilitate combat operations in the jungle. The battle of the Ia Drang Valley in Vietnam in 1965 was the first significant air assault operation, and air assault tactics and techniques improved throughout the war. Aviators of all services earned their heralded reputation for bravery and risk-taking during



**Helicopters—as seen here resupplying 9th Infantry Division units during 1969 operations in Vietnam—are often the most responsive means of resupply in tropical regions.**

the Vietnam War. They supported the infantrymen as they flew in less than marginal conditions to deliver reinforcements, evacuate shot-up elements, and engage the enemy with direct fire. Nonetheless, it is primarily the infantry patrol operating under decentralized control that must ultimately root out the enemy, keep him moving—though tired and sick—and kill him.

In Vietnam, infantry platoons set ambushes and conducted raids. They also engaged in defensive operations providing security to villages and combat bases. Patrols and observation posts were the first line of defense. A network of fire bases was behind the patrols and security positions, which provided interlocking indirect fire support, day and night and in all types of weather. They were sitting ducks for enemy raids and rocket fire. Armor also played a role as tanks and armored personnel carriers performed route security and provided defensive direct fire support. These units got their chance to attack in the dry season when their mobility could be exploited.

Another aspect of combat operations is land navigation. In the tropical rain forest, the vegetation and the weather restrict visibility, making land navigation a challenge. In the savanna, dead reckoning is a more effective option. Since compass direction is close to true direction, declination is of less

concern; this simplifies movement and calling for fires. The global positioning system (GPS) will greatly assist future jungle operations.

As we have seen, weather and terrain are major factors in the conduct of combat operations in the tropics. Movement is severely hampered, which makes offensive operations difficult; but concealment, leading to surprise—due to both the weather and the terrain—outweighs this handicap. We can conclude that in the tropics the offense is favored, and offensive operations should focus on elements of company size and smaller.

#### **Effects on Support**

Logistical support for military operations involves determining the type and quantity of supplies and equipment required (taking into account the unique weather and terrain), establishing supply bases, transporting the supplies, and finally storing and distributing the supplies to the soldiers. Each climatic region presents different challenges to the logistical system. The tropical heat and moisture require special consideration.

In tropical regions, bases are best sited along the coasts



**U.S. Air Force aircraft supports  
firebase (west of Da Nang in Vietnam)  
with napalm strike.**

where the major cities are found. Such cities have the necessary port facilities and airports to bring in equipment, and the cities can also offer logistical resources. To ensure a dependable resupply for U.S. forces in combat, sea and air control is required in the vicinity of the base. In Vietnam, the U.S. built major supply bases at Da Nang, Cam Rahn Bay, and Long Binh. Access was provided by the construction of port facilities, airfields, and roads.

A good terrain analysis must be conducted before a base is selected. Key terrain such as surrounding high ground must be controlled and vegetation cleared to prevent guerrilla interference with operations. Weather considerations are also critical. Ports must be protected from frequent storms. Protection in this case refers to terrain masking to reduce the effects of wind and waves; the air turbulence often induced by the terrain must be considered. The base will become an enemy objective, as Port Moresby in New Guinea was for the Japanese in World War II, and as the previously mentioned bases in Vietnam were for the NVA and the VC. The NVA and VC always seemed able to identify and target ammunition and petroleum storage areas. (In Da Nang, they even got the base exchange.) The primary base feeds smaller supplemental bases. Supply bases that are far from a secure port or airfield can often be resupplied only in conjunction with a military operation to secure the route. During World War II, for example, Merrill's Marauders took Myitkyina because an airfield existed there and it was needed to supply further operations.

The types of supply include water, food, fuel, ammunition, clothing, engineer materials, spare parts, major end items, and medical supplies. The tropics and jungle warfare have unique requirements for the types of supplies. In Vietnam, technology helped tailor supplies to reduce the effects of tropical conditions and to support the tactics. Food packets for patrols had to be lightweight and nutritious. The bulky and heavy C-rations were replaced by dehydrated rations, which later evolved into today's MREs.

Special ammunition and weapons were developed during the Vietnam War. The M16 was designed for jungle warfare. It was lighter with smaller and lighter ammunition than the M14, the previous standard rifle. The M16 was also semi-automatic and could be made fully automatic for greater and more immediate firepower. Tank rounds were modified to fire area-coverage flechette rounds, which decimated massed formations of NVA and VC as they attacked fire bases and defensive positions.

Such flame munitions as napalm were used in Korea and Vietnam to dislodge a stubborn enemy from dug-in positions and to clear vegetation. During World War II, flame from both man-portable and tank-mounted flamethrowers, was extensively used in the jungles of the South Pacific. Chemicals were also used in Vietnam to defoliate vast areas, thereby denying concealment to the enemy. Large bombs (15,000-pound "Commando Vault") were developed to clear vegetation for helicopter landing zones.

Cargo aircraft became weapon platforms. A 105mm howitzer fired out the rear cargo ramp of the C130, and large-caliber Gatling guns fired from side doors of C123s and even old C47s. Rocket launchers and 7.62mm mini-guns were affixed to helicopters. Strategic bombers (B52s) were used for tactical air support in the "Arclight" program.

New mines were developed to improve security and ambushes. The claymore mine was especially effective as it dispersed a dense pattern of killing pellets. Smaller hand grenades increased throwing range. The M79 grenade launcher was developed to give the rifle squad limited indirect close-in fire support.

Jungle fatigues were developed that were lightweight and dried quickly. These jungle fatigues of Vietnam evolved into the current battledress uniform (BDU), the best field uniform yet. Jungle boots with steel plates in their soles to prevent puncture from punji stakes and quick-drying nylon upper sections to reduce rot were special items that remain in the system. Air holes are part of their design to drain water and

circulate air. (See also "The Army's Family of Boots," by Captain Troy W. Garrett, *INFANTRY*, March-April 1993, pages 7-11.)

Spare parts became modular for quick and easy replacement. Special medicines were developed and made available to the soldiers for use against the various tropical diseases and insects. Helicopter medical evacuation, which had been introduced in the Korean War, was perfected. The UH-1 allowed for treatment during transport. Hundreds of other logistical innovations saved countless lives and made conditions more bearable.

Transporting supplies is a bigger challenge in the jungle. Along coastal flats where roads exist, the main problems are enemy interdiction and bad weather, but tropical areas and steep slopes may reduce ground transport to man and animal packs. Rivers can be used, but riverine craft are vulnerable to ambush from nearly anywhere along the banks. Coastal movement with freighters and tankers is a more secure method for bulk transport. Movement of supplies by air is the easiest and quickest, weather permitting, but quantity and weight restrictions are still major planning factors.

One of the greatest supply challenges in World War II was supporting the resistance to the Japanese in China. The Burma Road and the Ledo-Burma Road were subject to Japanese interdiction and control as well as to torrential monsoon rains. When the roads closed, the only means of transport was by air, and the tropical weather allowed flying only one day in three.

The route over the Himalayas, called "The Hump," consisted of some of the world's most treacherous terrain. The 500-mile journey crossed 15,000-foot jungle-covered mountains. Gorges from tributaries to the Irrawaddy and Mekong Rivers were hundreds of feet deep. Winds recorded at 248 miles per hour flipped over planes in flight and could cause a 3,000-foot drop in altitude. The dirt airfields became another hazard as the rains washed them out and left huge potholes that kept engineers constantly busy. In flying the Hump, 1,000 airmen were killed and 600 planes were lost; however, 650,000 tons of supplies reached General Stilwell's forces fighting their way to Japan through China.

In tropical regions, the heat and humidity also require special storage for many supply items. Perishable medicines and foodstuffs must be refrigerated, which usually requires more fuel oil and gasoline. Special packaging and warehouses are required to keep things dry and prevent spoilage and mildew. Steps must be taken to reduce the damage done by insects and rats. Facilities for long-term storage are limited in the tropics and may have to be built. Getting supplies to the soldiers demands timing and coordination.

The problems our soldiers encountered in the Philippines during World War II illustrate the difficulty of establishing

logistical systems to support combat operations in the tropics. Engineers were charged with the impossible task of constructing a major supply and air base on Leyte. The decision was to make the landings at the beginning of the rainy season. If combat operations were to be successful, the unstable soil, inadequate roads, swollen swamps, and washouts from the heavy rains had to be overcome. High winds and typhoons added to the problems.

The harbor chosen was shallow, and coral reefs restricted the approaches. The base location was at the end of the Leyte Valley, which was interlaced with many streams and flooded rice paddies. Because of the moist soil, tons of crushed stone were required to make the roads trafficable. In the 24th Infantry Division rear area, engineers tried to build a road from the beachhead to an existing coastal road, between which were deep swamps and rice paddies. After a full day, the project was aborted. Once rudimentary airfields and roads were built, maintaining them was a full-time job because of the rain. Road use was ultimately restricted to preserve the lines of communication.

The U.S. Army employs the tenets of AirLand Battle—agility, initiative, depth, and synchronization—better than any other army in the world. Further, the U.S. Army is the world's most adaptable and experienced fighting force. The combat experiences of U.S. soldiers in all the world's climatic regions, including tropical areas, support this claim.

U.S. soldiers and their equipment, tactics, and logistics have overcome the severe conditions imposed by weather and terrain. The Army understands that the environmental effects of each region are unique and tries to account for them. The swamp is still among the worst places to fight and maneuver; the thick jungle is among the most dangerous; the steep slopes are still exhausting; the insects are still both irritating and carriers of disease; and the heat, humidity, and rain are still oppressive.

To overcome these challenges, soldiers must train continually, because training and fitness instill confidence and esprit. Someday, maybe soon, our soldiers will certainly fight again in the tropical jungles. With continuing emphasis and training on the unique conditions of these regions, they will win, in spite of the tropical environment.

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# TRAINING NOTES



## Bradley MILES Training What I Didn't Know as a Company Commander

CAPTAIN GREGORY A. WATT

In today's training environment, maintaining tactical readiness is a big challenge, given current fiscal constraints and reduced operating tempo. As a result, much of our training is now conducted with simulators and simulations—such as the multiple-integrated laser engagement system (MILES). For infantry units equipped with Bradley fighting vehicles (BFVs), BFV MILES is becoming one of the primary gunnery training devices.

Having served at the National Training Center (NTC) for more than two years, I would like to share some observations and advice concerning BFV MILES training.

First, many leaders have only a general familiarity with BFV MILES, which leads them to believe it performs the same way our BFV weapon systems perform. They do not understand, for example, that a crew may do everything right with the TOW—install the MILES correctly; set, check, and align the device; employ the BFV properly; use correct gunnery techniques; track the missile for the required time—and kill a T-72 tank at 3,000 meters only 50 percent of the time; or that the crew may do everything correctly with the Bradley's 25mm cannon and kill a BMP at 2,400 meters only 23 percent of the time. These are

the NTC vehicle probabilities of kill (PKs) that are duplicated at most installations—not the PKs outlined in Training Circular (TC) 25-6-7, Table 6-1, Weapons Effects Simulation Characteristics. And many of our BFV crews cannot achieve anywhere near the NTC kill probabilities.

To counter these problems, leaders at all levels must be trained on the simulation system itself—its installation, capabilities, characteristics, checks, alignment procedures, and troubleshooting. Unfortunately, the Master Gunner Course does not offer any formal training on MILES; consequently, the unit master gunners, who are the Bradley commanders' primary training managers and systems advisors, do not always have the MILES skills they need.

Local training support centers should be able to provide subject matter experts and the proper equipment: the Multiple Range Alignment Device, the MILES System Test Set, and the Electronic Systems Test Set. Other good sources of information are TC 23-5, *Bradley Fighting Vehicle Training Devices*; TC 25-6-7, *Tactical Engagement Simulation Instructors' Training Guide for Exercise Observer-Controllers*; TC 25-6-9, *Tactical Engagement Simulation Instructors*

*Training Guide for Armored/Mechanized MILES Systems*; and Field Manual 23-1, *Bradley Fighting Vehicle Gunnery*.

If we are to get the maximum benefit from training with MILES, all leaders of Bradley units must know about the problems with before-operations checks and with the boresight and alignment of BFV MILES.

After the BFV MILES components are installed, troubleshooting often includes checking them with a controller gun, swapping out batteries, and swing testing components. But the additional checks shown in the accompanying box must also be performed.

After BFV MILES is installed and tested to ensure that all the components are operational, the BFV integrated sight unit (ISU) must be boresighted to the 25mm main gun and the TOW, using the vehicle boresight kit in accordance with TM 9-2350-284-10-2, *BFV Operators Manual for the Turret*. This boresighting must be completed before the MILES transmitters are aligned to the ISU. Then just as boresight and zero are reconfirmed with service ammunition after a major move or roadmarch—or a major temperature or weather change—BFV MILES must also be realigned at these times. Unit leaders must see that the

MILES transmitters are cleaned daily with alcohol pads or lens tissues. This cleaning should be completed before MILES is aligned and should become part of the alignment procedures.

Before performing these alignment procedures, however, the leader should consider the techniques available for this

task. As with all missions, the alignment procedures he chooses will depend upon an analysis of METT-T (mission, enemy, terrain, troops, and time). Whatever the technique, constant supervision is required. Issuing a location and a not-later-than time of completion for MILES bore-sight and alignment, or even placing

the company master gunner in charge, does not necessarily ensure an accurate MILES alignment. Individual vehicle crews must not be allowed to do the alignment on their own. The most efficient techniques that will allow a unit to maintain a common standard are either setting up a company or team consoli-

## BFV MILES BEFORE-OPERATIONS CHECKS

- Use fresh batteries. Check to make sure the 6-volt batteries have between 4.5 and 6.5 volts and the 9-volt batteries have between 7.5 and 9.5 volts. (Relatively inexpensive voltmeters can be procured through local purchase in sufficient quantities to have one per vehicle. This enables a Bradley commander or gunner to check the batteries before swapping them out for new ones. Furthermore, a vehicle may continue emitting a laser beam that will "kill" a BMP without risking destruction itself, and this is not training to standard.

- Turn on vehicle master power, and push the PRESS TO READ button on the control console. The display should read 00.

- Set the system by inserting the green key in the key receptacle on the control console and turning the key counterclockwise to CONTROLLER; then turn it back and remove it. Turn the console switch to HIT/KILL, then to SELF TEST. Press the PRESS TO READ button. The display should read 88. Turn the console switch to MISSILE, then press the PRESS TO READ button. The display should read 12. Turn the console switch to MAIN GUN, then push the PRESS TO READ button. The display should read 15. Then turn the console switch to COAX, and push the PRESS TO READ button. The display should read 45.

- Insert the orange key in the control console receptacle at the 9 o'clock position; turn the key clockwise to the WEAPON position; then turn it back and take it out. There should be a tone in the intercom, and the combat vehicle kill indicator (CVKI) light should be flashing. Turn the control console switch to HIT/KILL, and press the PRESS TO READ button. The display should read 99.

- Reset the control console with the green key, and confirm that you still get the display readings: 12, 15, 45, and 88.

- Next, conduct the trigger interface test by turning the turret power ON and setting the manual/power operation levers to MANUAL. Punch up either AP HIGH or HE HIGH on the weapon control box, and move the ARM-SAFE-RESET switch to ARM; ensure that the indicator light comes on. Push the LO AMMO OVERRIDE switch, and fire 100 rounds using HIGH RATE with the trigger on the traverse hand wheel for at least 30 seconds. Check the control console by moving the switch to MAIN GUN; the display should read 14. If it does not, fire the MAIN GUN for an additional 10 seconds and recheck. Then move the ARM-SAFE-RESET switch to SAFE. Raise the TOW launcher and make sure it is locked in the FIRING position. Set the MILES TOW simulator system to DRY FIRE. Press the TOW system button on the TOW control box. The TOW test light should come on for 12 seconds. Move the ARM-SAFE-RESET switch to the ARM position and push the MISSILE TUBE 1 button on the TOW control box. Ensure that the indicator light comes on. Fire a missile, and make sure the NOT READY light comes on and stays on for 11 seconds. Move the ARM-SAFE-RESET switch to SAFE. Check the control console by switching to MISSILE. Press the PRESS TO READ button, and the display should read 11. This completes testing the control console and the trigger interface.

- Now conduct the main gun transmitter test by selecting DRY FIRE on the 25mm laser transmitter; turn the turret power ON and the turret drive OFF. Punch up either AP SS or HE SS on the weapon control box. Move the ARM-SAFE-RESET switch to

ARM, and ensure that the indicator light comes on; then push the LO AMMO OVERRIDE switch. Next, either use an operational man-worn laser detector (MWLD) or the detector belt from the left side of the turret. Place either device in front of the main gun transmitter, and fire the main gun transmitter using the trigger on the traverse hand wheel. Either listen for a KILL indication from the MWLD alarm or, while firing make sure the FLASHWESS light is flashing. When the FLASHWESS ceases to flash, ensure that the CVKI is flashing continuously. Then turn the control console switch to HIT/KILL and press the PRESS TO READ button. The kill code should read 22. Reset the control console.

- Now move to the COAX machinegun transmitter test by making sure the COAX is loaded with blank ammunition or that the dry fire plug is installed. Select 7.62 on the weapon control box and press the LO AMMO OVERRIDE button. Turn the ARM-SAFE-RESET switch to ARM, and make sure all indicator lights are on. Use an operational MWLD, and hold it directly in front of the main gun transmitter, ensuring that the soldier wearing it does stand in front of the coaxial machinegun barrel. Fire the COAX using the trigger on the manual traverse hand wheel; if blank ammunition is not used, tap the COAX microphone on any metal surface concurrently. Listen for a KILL or a NEAR MISS indication from the MWLD alarm; if the alarm is not activated, continue firing and tapping the microphone. Then reset the MWLD.

- To test the TOW transmitter, set the MILES TOW missile simulation rounds (MSRs) to dry-fire and erect the TOW missile launcher. Then press the TOW system button on the TOW control box (TCB). The TOW indicator light will come on, and then the TOW test light will come on for 12 seconds. Turn the ARM-SAFE-RESET switch to ARM, and push the MISSILE TUBE button on the TCB. Make sure the indicator light comes on. Again, the MWLD may be placed directly in front of the TOW transmitter, or the detector belt from the left side of the turret may be placed in front of the TOW transmitter. Fire the TOW missile using the manual trigger on the traverse hand wheel, and watch for the NOT READY light to come on and stay on for 12 seconds. Since you are simulating the tracking time of the round, you have to keep the trigger depressed for the entire 12 seconds, regardless of the range. Either listen for a KILL from the MWLD alarm, or check the control console and ensure that it shows an 07 kill code. Then repeat these test procedures for MISSILE TUBE 2. Upon completion, rekey the MWLD and reset the TOW by moving the ARM-SAFE-RESET switch to RESET. Due to the PHPK of BFV TOW MILES on an IFV or a BMP and a T-72 tank, you will not get a kill every time you fire a TOW missile at one of these vehicles. You must continue with this test until you get a KILL.

- Finally, test your detector belts by ensuring that the turret power is ON and the turret drive is OFF. Make sure all cable connections for the detector belt sections are clean and tight. Ensure that the cable from the CVKI light to the control console is also clean and tight. Then test each belt section by using a controller gun on NEAR MISS, and fire at each detector from no more than 10 feet away. The CVKI should flash each time you fire. A detector belt is considered non-mission-capable if more than one of its detectors is bad.

dated boresight and alignment line, or boresighting and aligning one cohesive platoon at a time. The only prerequisites are that a unit's BFVs be fully mission-capable, their MILES operational, and their turret weapon systems boresighted to the BFV ISU before the unit occupies the boresight and alignment line.

The MILES alignment range must be planned in detail. The use of a global positioning system (GPS) or a long-range navigation (LORAN) system significantly increases the accuracy of MILES alignment and a unit's ability to kill at precise ranges. Both of these devices will give azimuth and distance to the target from the firing line. Either with the company or a platoon on line at one time, the chain of command should be held accountable for ensuring that the alignment of the BFV MILES is conducted to standard. This is a platoon and company mission with a task and a purpose, and it requires the same sense of urgency and intensity as conducting actions on contact. As the master gunner works with the firing vehicle, the platoon sergeant should ensure that the rest of his vehicles are lined up and prepared to conduct the MILES alignment procedures. The platoon sergeant makes sure the units go

through the process in a timely manner. He stays one vehicle ahead of the master gunner so that each vehicle is ready to fire when he calls for it. The platoon sergeant aligns his own BFV MILES last.

To boresight the BFV turret weapons, a unit can make a boresight panel out of a 4x4 sheet of plywood. Black and white spray paint is readily available through self-service supply centers. To boresight the BFV turret weapons in accordance with TM 9-2350-252-10-2 or TM 9-2350-284-10-2, this panel is placed out at 1,200 meters. The panel must be staked in and the azimuth and distance from the firing line must be verified with GPS or LORAN.

Since MILES is a line-of-sight system and range has little effect on the transmission of light, the range control knob should be placed on 0 (although any range may be indexed so long as it is not changed). Taking into account that the highest probability of hit to probability of kill (PHPK) with the 25mm main gun MILES transmitter on a BFV is 17 percent or on a BMP 23 percent at 2,400 meters and that it is a line-of-sight system, it does not make any sense to align the 25mm main gun MILES transmitter at a range of less than 2,400 meters. The same thought process is ap-

plied to aligning the BFV TOW MILES. The highest PHPK for the BFV TOW MILES against either an M1 or a T72 tank is 50 percent at 3,000 meters, so the TOW MILES alignment target should be placed at 3,000 meters. (If a 25mm main gun transmitter or a BFV TOW transmitter cannot kill at these ranges, it is out of tolerance and should be exchanged or turned in for repair.) A target position is therefore staked out at 2,400 meters and another at 3,000 meters to verify the azimuth and distance to these target positions from the firing line with a GPS or LORAN. The position of the boresight panel, the 2,400-meter target and the 3,000-meter target should not exceed the field of vision on the HIGH MAG setting in the ISU, from the firing line.

Three options are available to use as targets at the 2,400-meter and 3,000-meter target points:

- A Multiple Range Alignment Device is the most desirable because it resets itself and does not need to be manned, unless a leader wants to know the strength of his MILES. Obviously, this alignment device must be mounted on top of something to be seen at 2,500 and 3,000 meters. The company's HMMWV (high-mobility multipurpose wheeled vehicle) or 2½-ton truck are two possi-

## BFV MILES ALIGNMENT PROCEDURES

- Begin by aligning the TOW laser transmitter first. Turn the turret power switch ON and the turret drive switch ON.
- Raise the TOW launcher, and then turn the turret drive OFF.
- Select TOW on the TOW control box, either MISSILE 1 or MISSILE 2, and looking through the gunner's eyepiece acquire the target at 3,000 meters. Ensure that the gun elevation device is on POWER and the TOW elevation drive is on MANUAL. Put the turret traverse drive on MANUAL. Center the TOW reticle crosshairs on the target.
- Disconnect the TOW transmitter cable connector. Slightly loosen the ¾-inch retainer screw on top of the TOW laser transmitter so the movement of the transmitter does not put a strain on the retaining pin. Also loosen the four adjusting cap screws on the side of the TOW laser transmitter, using the adjustable wrench from the BFV basic issue items.
- Again, looking through the gunner's eyepiece on the ISU, center the launcher on the target at 3,000 meters.
- Now looking through the TOW transmitter's boresighting telescope, rotate the elevation adjustment knob to move the transmitter vertically until the crosshair is aligned vertically on the same target as the BFV's ISU.
- Next, while looking through the TOW transmitter's boresight telescope, rotate the azimuth adjustment knob to move the transmitter horizontally until the crosshair is aligned horizontally on the same target as the BFV's ISU.
- Look through the TOW transmitter boresight telescope and

the ISU gunner's eyepiece to verify the alignment accuracy. Tighten the retaining screw and the four adjusting cap screws. If necessary, repeat these procedures to ensure that alignment is accurate.

- Reconnect the TOW transmitter cable connector. **REMINDER:** If the azimuth adjustment knob does not allow enough movement to permit alignment, loosen the transmitter mounting bolts and move the transmitter along the slot. Then tighten the mounting bolt again and make final adjustments with the azimuth adjustment knob.

- Moving on to the 25mm gun, again ensure that the turret drive switch is OFF; and acquire the target at 2,400 meters looking through the gunner's eyepiece on the ISU, and center the 25mm gun reticle crosshairs on the target.

- Slightly loosen the adjusting knob on the 25mm/coax laser transmitter and, while looking through the transmitter's boresight telescope, adjust the elevation by turning the elevation screw. Then adjust the azimuth by pushing the transmitter left or right as necessary. Adjust the elevation and azimuth until the crosshairs in the transmitter's boresight telescope are aligned on the same target as the crosshairs of the 25mm gun reticle in the ISU. Then tighten the adjustment knob.

- Look through the transmitter's boresight telescope and the 25mm reticle in the ISU and verify alignment. **REMINDER:** If it is necessary to adjust the 25mm transmitter's alignment, repeat these procedures.

bilities and target reference point burn barrels are another.

- An actual target vehicle at the designated range—a BFV at 2,400 meters and an M1A1 at 3,000 meters—can be used. The targets must be manned, and the soldier on board must have radio communication with the firing vehicle and also a *green key* to reset the system. The benefit with this option is the added confirmation that the firing vehicle's MILES will kill the target vehicle's MILES.

Alignment using this option requires one-sensor kills, and the additional sensors must be completely covered. Army green tape is not enough, because it is too porous and allows some light to penetrate it. A denser material such as plywood panels or duffel bags must be used.

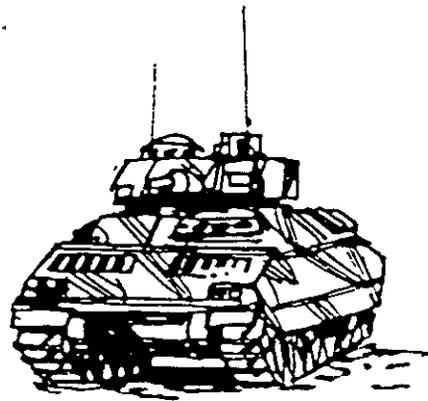
- The Mobile Independent Target System (MITS) is placed on a HMMWV or a 2½-ton truck, the console switch is changed to reflect an armored personnel carrier, and the vehicle is sent out to the appropriate range. This is an economical option to use at home station where other equipment may not be available and funds may be scarce. Observations of this technique have reflected mixed results, however, and it should be the last choice.

After MILES alignment has been conducted at 2,400 and 3,000 meters, the trainer might consider placing a target vehicle out at 3,750 meters and monitoring which BFVs can kill it at this extended range. This same process can be used for the M1A1 main battle tank (MBT) MILES, as frequently both the BFV and the MBT MILES can kill at distances that exceed the published ranges. Each gunner must maintain a laminated 3x5 card with the date-time group of the last time he boresighted and aligned his MILES, whether he can kill with his 25mm gun at 2,400 meters and with his *TOW* at 3,000 meters, and the maximum range at which he can kill with each of his weapon systems. Platoon leaders and company commanders need to take this information into account as they place individual vehicles in the defense.

The range setup can be incorporated into unit SOPs, and with practice this can be done while the sand table is being built

and the graphics are being reproduced. The master gunner should be required to give the commander and each platoon leader sketches of the range that they can include as additional instructions when issuing their warning orders. As with all preparations, the eighth step of the troop-leading procedures must be applied, and the actual MILES alignment procedures must be supervised.

A key point must be made regarding the MILES alignment process: If a BFV's MILES transmitters for both the *TOW* and the 25mm/coaxial machinegun are not mounted securely, it will not matter whether these transmitters have been boresighted and aligned or not. Particular



attention must be paid to the installation of the 25mm/coaxial machinegun transmitter, and it must be "slammed" onto the gun barrel so the teeth bite when it is secured; otherwise, it will vibrate loose and throw off any alignment that may have been done.

The *TOW* transmitter has a history of stripped mount bolt holes, broken bolts, and the like. The proper bolts, flat washers, and lock washers must be used to secure it. Local installations frequently use heli-coils and threaded stock to make field expedient repairs for mounting the *TOW* MILES transmitter. The stability of this transmitter, and thereby its accuracy, can be increased if Velcro and a wood block shim are added between the transmitter and the outside of the launcher while the transmitter is mounted in the

existing bolt holes, either in the normal position or slid forward.

Once the alignment has been verified by the acquisition and engagement of the targets at 2,400 meters and 3,000 meters, at a minimum, crews should again clean their transmitters and move back to their assembly areas. This completes the testing, boresighting, and aligning of their BFV MILES equipment.

Since BFV MILES is not a true representation of the capabilities and effects of the 25mm main gun and the *TOW*, leaders must now accept this as a training constraint. Unfortunately, this tends to force units to train for the simulation itself instead of for combat.

Specifically, in the employment of BFV MILES, the vehicles with a primary weapons ready posture of *TOW* must be considered. Positions that allow these BFVs to be emplaced above any potential obscuration and to be stationary increase the effectiveness of their fires. Massing fires by using the volley fire technique also increases their PHPK, given the number of code words transmitted per second. If, for example, it is determined during the commander's mission analysis that the unit faces a close-in fight in fairly restrictive terrain, one technique with the 25mm main gun is to refer the auxiliary sight at 1,200 meters when the turret weapon systems are initially boresighted. These points are further discussed in TC 23-5, *Bradley Fighting Vehicle Training Devices*.

Although some units may not have problems with massing fires or with boresighting, aligning, and employing weapons, the leaders and trainers in these units must rigidly adhere to boresighting and alignment procedures. Instead of relying solely on their master gunners, they must be intimately involved in their units' BFV MILES training.

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# Improving MOUT And Battle Focused Training

LIEUTENANT COLONEL KARL W. EIKENBERRY

The doctrine in Field Manual 25-101, *Battle Focused Training*, provides guidance on planning, executing, and assessing training. In practice, however, personnel turnover, conflicting priorities, and inadequate resources—especially time—often conspire to produce less than the desired results.

The inherent danger in failing to achieve excellence in training is that the practice may become a habit. Even though junior leaders may memorize FM 25-101, if they do not occasionally have an opportunity to practice its doctrine, they may not fully grasp the standards. Training in military operations on urban terrain (MOUT) provides a superb opportunity to employ the doctrine correctly and get the expected results.

Infantry battalions generally conduct MOUT training annually. This training is characterized by several factors: the availability of considerable planning time (divisions usually allocate their battalions the use of MOUT facilities 12 to 18 months in advance), the total commitment of a battalion to the training's execution (given the importance of the training and scheduling difficulty), and the logical progression from individual and team skills to higher level collective tasks.

Given these characteristics, a battalion should look beyond the obvious goal of increasing its capacity to fight in an urban setting to the goal of improving its ability to conduct battle focused training. Assuming this broader goal is adopted, what plan of action might best lead to its accomplishment?

For purposes of this discussion, we will assume a battalion has been allocated 18 consecutive days of training in a MOUT facility that consists of a small mock village and a live-fire MOUT assault course; furthermore, let's assume that no MOUT training has been conducted within the past eight months, and urban warfare skills are lacking from individual through battalion level. Finally, no specific division or brigade directives tell the battalion what it must accomplish during its upcoming MOUT training period.

These assumptions roughly match the limits with which most infantry battalions operate as they begin their short-term planning for the period of the scheduled MOUT training.

At the outset of the planning process, the battalion must determine at which levels to focus its collective training. The "much is good, but more is better" approach sounds good but it often leads to less than spectacular results. As FM 25-100 says, it is better to train to standard on a few things than to fail to achieve the standard on many things.

It can be argued, given the constraints on time and on control and evaluation resources, that a battalion should focus its training efforts on the individual, squad, and platoon levels. The overhead in observer-controllers (OCs) for company and battalion MOUT force-on-force exercises is extraordinarily high; and even if this investment is made, realism at squad level is often lost. Furthermore, a rifleman who is "killed" in the first minutes of a company or battalion action

will miss from one-half day to a full day of training as he awaits the end of the exercise. Commanders and staff members can be instructed through tactical exercises without troops (TEWTs) and map exercises (MAPEXs). These exercises should not necessarily take place during the battalion's MOUT training cycle, because they may distract the leaders from their primary goal of building trained squads and platoons.

If we insist on doing well on a few events, at the expense of the others, the battalion's chain of command may find it has to relearn—and use—the tenets of battle focused training once it leaves the MOUT site.

Having established the goal of developing proficient platoons during MOUT training, the battalion leaders must define proficiency and structure an enabling strategy. Many references are available to help in this process:

ARTEP 7-8-MTP, *Mission Training Plan for the Infantry Rifle Platoon and Squad*, outlines two maneuver tasks for a rifle platoon in a MOUT environment—"clear a building" and "defend a built-up area or building." The training and evaluation outlines (T&EOs) for both tasks are fairly comprehensive. With these outlines as a starting point, the battalion's chain of command should then actively participate in developing the MOUT training cycle. While it may not always be efficient to solicit the thoughts of many different leaders, it is more effective and should be done when time is available (as it is in this case). The involvement of many leaders in planning

takes advantage of the cumulative experience of the members of the organization and leads to a broader sense of personal commitment later during execution.

There are many ways to expand participation during planning. For example, the command sergeant major can be tasked with preparing a list of individual baseline skills, while the companies are assigned to develop certain squad or platoon tasks. The headquarters company (HHC) commander can work with the appropriate staff officers and his platoon leaders to address the specialty platoons. As an alternative, the three rifle company commanders can be directed to focus, respectively, on individual, squad, and platoon training tasks. What is important is not the method used but the purpose, which is to involve the entire unit's leadership in the planning process.

In determining the tasks that must be trained to standard at various levels, junior leaders can turn to various publications, including the following:

- ARTEP 7-8-MTP, *Mission Training Plan for the Infantry Rifle Platoon and Squad*.
- FM 7-8, *The Infantry Rifle Platoon and Squad*.
- FM 90-10, *Military Operations on Urbanized Terrain*.
- FM 90-10-1, *An Infantryman's Guide to Urban Combat*.
- TC 90-1, *Military Operations on Urbanized Terrain Training*.
- STP 7-11BCHM14-SM-TG, *Soldier's Manual and Trainer's Guide MOS 11B, 11C, 11H, and 11M Infantry, Skill Levels 1/2/3/4*.

Additionally, there are excellent unit publications, such as the 10th Mountain Division's MOU SOP for training, as well as foreign sources such as the German Infantry School's *Rifle Squad Leader's Training Guide*. A determined effort to tie training objectives to the appropriate doctrinal references helps instill in the chain of command the correct use of training resources and the importance of integrating collective and soldier tasks into any training plan.

Although the size of the MOU training facility, its location (on or off post), and other factors influence decisions on

the exact sequence of training, several observations are in order:

First, many MOU sites in the continental United States are best suited to units no larger than a rifle company with some attachments. Space is often inadequate to allow an entire battalion's 27 squads or nine platoons to train simultaneously in a realistic setting. (For example, training lanes that adjoin units conducting unrelated activities are often substandard).

Second, experience tells us that more than six or seven consecutive days of extremely rigorous MOU training may be counterproductive for any group of soldiers. With this in mind, a possible 18-day infantry battalion training cycle might allocate each rifle company (with the HHC sharing) six days in the MOU

facilities with the following schedule:

Day 1: Individual and Team Skills.

Days 2-4: Squad Force-on-Force Lanes (2 days); MOU Assault Course, Day and Night (1 day).

Days 5-6: Platoon Lanes and Clean-up.

In this schedule, during Days 2 to 4, one rifle platoon with HHC attachments spends one day and night alone on the MOU assault course, while the other two platoons rotate through the squad force-on-force lanes. This relieves the congestion that occurs when an entire company descends on an assault course site.

Once the general training matrix is set, leaders can proceed with more detailed planning. With tasks identified for individual/team, squad, and platoon level training (see table), responsibilities for

#### INDIVIDUAL SKILLS AND COLLECTIVE TASKS

##### Individual/Team:

1. **Outside movement:** Cross a wall; observe/fire/move around a corner; move past a window; move past a basement window; move parallel to a building; cross an open area; move between positions.
2. **Inside movement:** Move within a building under attack; hallway procedures; room entering (buddy team); enter through a mousehole; use a doorway.
3. **Lower level entry:** 2-man lift unsupported; 2-man lift supported; two-man lift with heels raised; 1-man lift; 2-man pull.
4. Use of rope with grappling hook.
5. Rappel entry from a roof.
6. Room clearing.
7. Establish fighting positions.
8. Use of booby traps and demolitions.
9. Use of hand grenades.

##### Squad:

1. Perform subterranean reconnaissance, and clear a floor from bottom up (that is, transition from the reconnaissance to an attack on order).
2. Enter a building from the top down, and clear a floor.
3. React to a sniper, clear an obstacle, and enter a building.
4. Prepare a hasty defense and repel a counterattack. (In this case, it is more effective to terminate the preparation of the hasty defense, allow an opposing force team to be "magically" inserted at random by the OC into one of the defended rooms; "kill off" any friendly forces in that room, and resume action at that point. While this is unfair to the friendly forces, the performance of the task of counterattack can best be measured against a standard under these conditions.)
5. Clear a small building.
6. Emplace obstacles and booby traps.

##### Platoon:

1. Conduct a hasty defense.
2. Clear a medium-sized building.
3. Clear three small buildings in succession. (NOTE: Two platoons simultaneously conduct an attack against the third platoon, which has the mission to defend the one medium and three small buildings.)

developing T&EOs should be assigned. It is critical to ensure that the T&EOs are, in fact, performance oriented, challenging, and relevant to combat. For example, the use of a rope with grappling hook is a required individual skill. Too frequently, this task is not further developed with specific conditions (soldier's load, height to throw and climb, enemy situation, and the like) and standards (number of throws allowed, length of time). If precision is not emphasized during individual training, a lack of focus will soon be evident during squad and platoon training as well.

For the particulars of MOUT, it is crucial that infantry battalions standardize and master individual skills; the battle is, after all, one of individuals and teams that we must build upon. Beyond this, we again have our best hope of reinforcing the principles of FM 25-101 if we insist that our individual training and collective lanes be structured so that the results are both measurable and mission oriented. Since conditions affect standards, it may be that T&EOs for collective tasks cannot be entirely developed until we have seen the training site. But if it isn't possible to visit the MOUT facilities early in the planning process, we can still draft T&EOs, even if we are only roughly familiar with the site layout. Then we can refine them as we get additional information.

What we must avoid is merely copying the MTP T&EOs and not planning any further—an all-too-common approach. An MTP T&EO should serve as a starting point and be modified to suit the existing conditions on a particular lane, which in turn affects the standards.

As a simple illustration, the T&EO for ARTEP 7-8-MTP task "clear a building" does not mention the use of light antitank weapons (LAWs) or AT-4s, which are most useful for clearing rooms (from supporting positions) and blowing entrances in structures. If we do not think this through in advance, we may develop lanes on which light antitank missiles are not used. If these weapons are included only as an afterthought, the OCs will not be prepared to give due credit for their proper employment. This is not to criticize any of our MTPs; it is

only to stress that they are of a general nature and that leaders must analyze and modify them to suit their units' specific needs.

Two final points should be made about developing T&EOs. First, we must keep in mind that our primary purpose is to prepare our soldiers for urban warfare. If we construct complex T&EOs that entail lengthy operation orders, we will waste precious training time and resources working on generic tasks that could be accomplished just as easily in garrison. Simple squad and platoon lanes executed with minimal time for troop-leading procedures—similar to the ARTEP drill series—will make the most of opportunities to train and retrain to standard on MOUT skills.

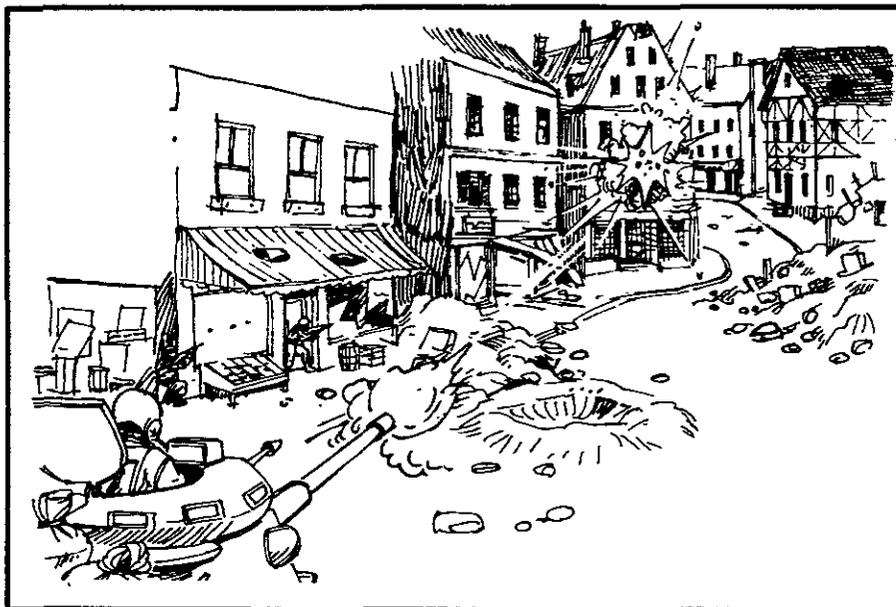
Second, we must make sure the proposed T&EOs are briefed, modified, and approved at a battalion training meeting. MOUT SOPs must be clearly understood within the battalion, and T&EOs should address these SOPs. Furthermore, unless we know the existing standards at one level, we cannot formulate the standards for the next higher one. Finally, in the context of improving our units' ability to conduct battle focused training, we also adhere to FM 25-101, which directs that we centralize planning while decentralizing execution.

As the MOUT training cycle draws near, the battalion should intensify its preparations. Two of the many issues in

a thorough preparation need to be emphasized: training the trainers and gathering the resources to support the training. *Battle Focused Training* tells us that good preparation gives trainers confidence in their ability to train, and that they must rehearse and review the tasks and subtasks to be covered during the training. The fast pace of everyday life in a unit often prevents us from putting this dictum into practice, but MOUT training provides an opening for it.

We must teach the chain of command how to execute and assess training, and the first step is to allocate time for this to occur. While the chain of command is preparing itself for the MOUT cycle, commanders should schedule events—such as organized athletics, equipment maintenance, and accountability inspections—that do not require a major presence of leaders. One technique for training the trainers is to direct each company to set up demonstration stations and lanes and have the largest feasible number of junior leaders observe the execution of the tasks. This approach is commonly used during preparations for Expert Infantryman's Badge testing. Alternatively, members of the chain of command can be organized into squads and platoons and execute the tasks themselves. This latter method will lead to better results, but it is also more time consuming.

Leaders, or at least those who will



serve as observer-controllers during the MOUT cycle, must also be trained on after-action review (AAR) techniques. In our case, squad leaders train and assess their own soldiers on individual skills through round-robin station, which does not necessitate comprehensive OC training; platoon leaders and sergeants serve as OCs for squad force-on-force lanes; and company commanders, executive officers, and first sergeants—augmented by battalion command group and staff personnel—are OCs for platoon lanes.

Again, demonstration lanes should be used. A member of the chain of command observing the demonstration should be selected at random to lead an AAR upon completion of the exercise. Then all of the observers should conduct a subsequent AAR, focusing on the quality of the AAR just delivered. The narrow confines of MOUT lanes will enable the OCs to walk through an engagement again with all of the participants and have the significant actions reconstructed and discussed.

A skilled OC can facilitate learning dramatically. For instance, after watching a squad make a tentative attempt to clear a building, an OC may decide to emphasize the importance of aggressive assault during room clearing, stressing the relationship between the explosion of the hand grenade, spraying the room with small arms fire, and getting up quickly. He can have the attacking force stand in an occupied room, have a dummy grenade tossed in, and ask the defenders to demonstrate the actions they took. The grenade creates a window of opportunity that is apparent to all the soldiers as they see the defenders' scramble for cover, their hesitation before resuming their firing positions (if not neutralized by the blast), and the disadvantages they now face if the attackers have already established themselves in the room. Despite the importance we attach to the AAR process, we rarely take time to acquire the necessary skills to do it right. During preparation for MOUT training, we can and must do so.

We should carefully examine our T&EOs to ensure that we will come to training with all the material we need to

provide the highest possible degree of realism. Junior leaders must be involved at this stage, because they are the experts and also the best innovators. (The obvious may often escape the battalion operations section, which may be intent on the big picture and overlook less salient points.)

For instance, it is no secret that hand grenades play an important role in urban combat. Yet battalions can often be seen in MOUT sites, training their soldiers without any sort of grenades. Solutions ranging from tennis balls to rolled and taped cloth provide easy answers if we only ask the questions. The search for realism will lead to the procurement of smoke generators, dummy mines, anti-tank missiles, and the like. If we cannot produce an adequate simulation of a device or condition that is fundamental to the execution of a particular T&EO, then we must modify the lane. Otherwise, we risk having our soldiers draw the wrong conclusions from the training. Additionally, we should devote similar attention to detail in gathering material to support training assessments. If we fail to plan out our AARs in advance, we sometimes overlook aids that are as available and useful as video cameras, for example.

Some observations about the execution of the training itself: First, if a battalion is deploying off post for MOUT training, the advance party should include not only logisticians but also trainers (at least down to platoon level), and other leaders and staff should move the main body. We frequently overlook this important point, because infantry battalions aren't responsible for structuring their training during most deployments (for example, those to the training centers).

Second, company commanders should be allowed to set up their own individual skill training stations and squad and platoon lanes. The battalion command group should ensure that the agreed-upon standards are achieved consistently throughout the units, but the specifics of execution must be delegated to subordinates. Such decentralization is in accord with our doctrine, and it enables junior leaders to develop their own training management skills.

The entire chain of command should be present for training. When the battalion's total effort is being applied to MOUT training, there is simply no excuse for a leader's absence. Over an 18-day period, there are numerous opportunities to mold the entire chain of command's approach to the execution and assessment of training.

Finally, we must make a continuing effort to review and share the lessons learned from our execution and assessment of training. Upon completion of the training, daily meetings should be conducted at every level, with the participants addressing salient lessons. For example, discussing execution, a commander—as a result of a day's observation of training—might identify the usefulness of the AN/PVS-7 in subterranean reconnaissance and the need for the OCs to remain as inconspicuous as possible instead of blocking the hallways during the training. Sharing these lessons will increase the effectiveness of all subsequent training and will help develop leaders who reach for excellence by continually critiquing their own effort and performance.

The training doctrine set forth in FM 25-101 is sound and straightforward, but we must admit that theory and practice frequently diverge. Part of the problem is that unless we occasionally find opportunities to apply the principles of battle focused training our leaders will not be prepared to employ the doctrine under any circumstances. Infantry battalions that recognize and use MOUT training for the superb opportunity it is will find that their units are more proficient in city fighting, and that their leaders are much more capable of planning and conducting all combat training.

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# MOUT Battle Drills For Infantry and Tanks

CAPTAIN DOUGLAS STEWART

Conducting military operations in urban terrain (MOUT) is considered the infantryman's job, but an infantry force can suffer high casualties in prolonged house-to-house fighting. Several combat multipliers can be used to help the attackers accomplish their mission with fewer casualties. Operation JUST CAUSE in Panama (December 1989) demonstrated the value of armor, military police, and even psychological operations during fighting in Panama City.

The employment of indirect fire is often very restricted by the close-in nature of the combat and the need to prevent collateral damage. Infantry commanders must therefore use other combined arms assets as effectively as possible. Unfortunately, infantry and armor units rarely have an opportunity to train together in urban terrain.

During a MOUT exercise in Berlin, infantrymen trained with M1A1 Abrams

tanks, and the combination proved effective against a defending aggressor infantry unit. Two armor companies and an infantry company trained together in platoon-sized elements to determine how armor and infantry could best be integrated in an urban environment. The opposing force (OPFOR) operated in squad and platoon-size elements using antiarmor weapons and limited Class IV barrier materials. Controllers on both sides ensured that the effects of mines, M1A1 tank weapons, and antiarmor systems were realistic. Both sides used Multiple Integrated Laser Engagement System (MILES) equipment and standard rules of engagement. To avoid collateral damage, indirect fires on both sides were limited primarily to mortar systems and smoke.

Eight different squad and platoon exercises were conducted each day for a week to allow the armor and infantry

soldiers to gain experience and develop battle drills. Four simple battle drills that came out of this exercise will help tanks and infantry fight effectively in close-in urban combat:

**Crossing Danger Areas.** The OPFOR—learning quickly that smoke grenades are thrown when friendly soldiers are preparing to cross a street or alley—automatically shoot through the smoke when it is deployed.

**DRILL:** The infantry squad occupies rooms adjacent to the crossing point. A tank is called up to the rear of the building. Then the infantrymen throw smoke grenades to draw enemy fire, but they do not cross the gap. The tank uses its thermal sights to engage the enemy through the smoke with its coaxial machinegun or main gun. The infantrymen then throw a second set of smoke grenades, preferably HC (hydrogen chloride), and cross the danger area while



the tank overwatches the crossing. (Time: Three to seven minutes. Sequence: Smoke, Draw Fire, Suppress with Tank, Smoke, Cross.)

**Establishing a Foothold (Figure 1).**

In the hasty defense of most urban sites, the enemy is usually unable or unwilling to surround himself with obstacles and barriers. As a result, in the rapid pace of modern combat, friendly forces are likely to bypass such areas. Despite the heat from the M1A1 tank exhaust, an infantry squad can follow three to four meters behind a tank, concealed by the smoke from the tank's smoke system. One tank can cover two squads with its smoke, depending on wind speed and direction. The quiet M1A1 engine allows the tank to approach an urban area undetected while the enemy's attention is focused elsewhere, or while the enemy is being suppressed by indirect fire.

Once a thorough reconnaissance has determined the best avenue of approach with the fewest obstacles to be breached, the following drill can be used to cross a wide danger area to establish a foothold.

**DRILL:** The first tank section moves to overwatching positions that cover the objective without being in line with the intended infantry route of advance. The tanks use smoke and reconnaissance by fire with their machineguns to draw enemy attention. One or two tanks from the second section can lead the infantry along the axis of advance up to the first obstacles or the first building. If the enemy engages the infantry, a tank can instantly use white phosphorus grenades to its front and cover the infantry with its smoke generator to the rear while the infantry takes cover. The infantry can then approach the breach point along the flank of the tank using individual movement techniques. Caution: Once the smoke is generated, the tank must never back up until the infantry leader notifies the tank commander that he is clear to do so. This technique was used in our exercise to cross a 500-meter gap without casualties. (Time: Three minutes.)

**Breaching an Obstacle.** The most common drill in which an infantry squad can greatly assist armor is known as

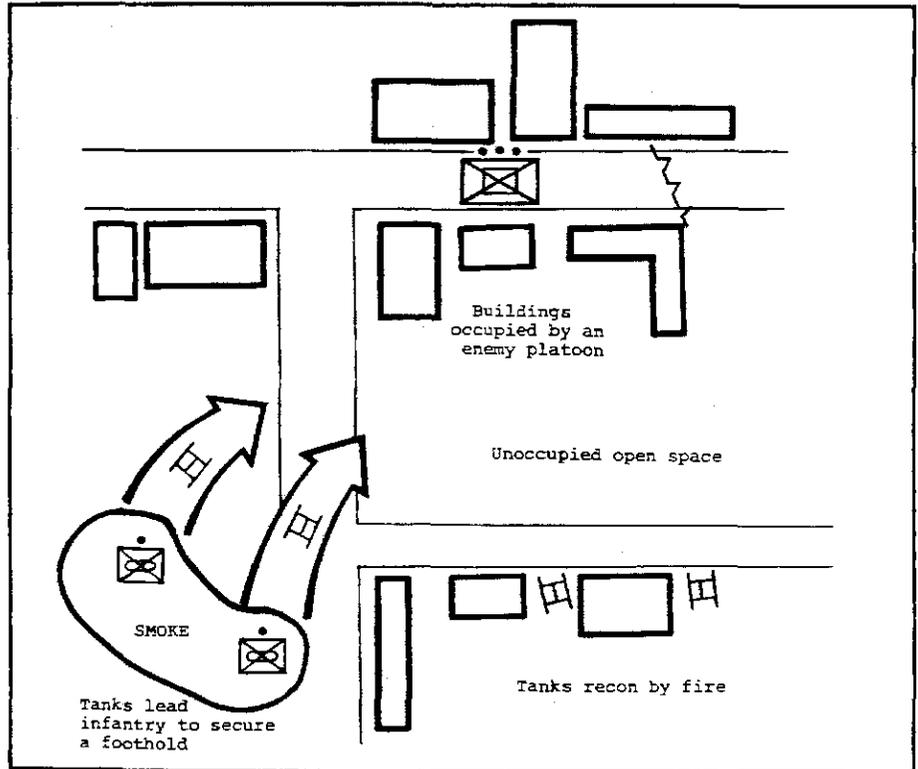


Figure 1. Establishing a foothold.

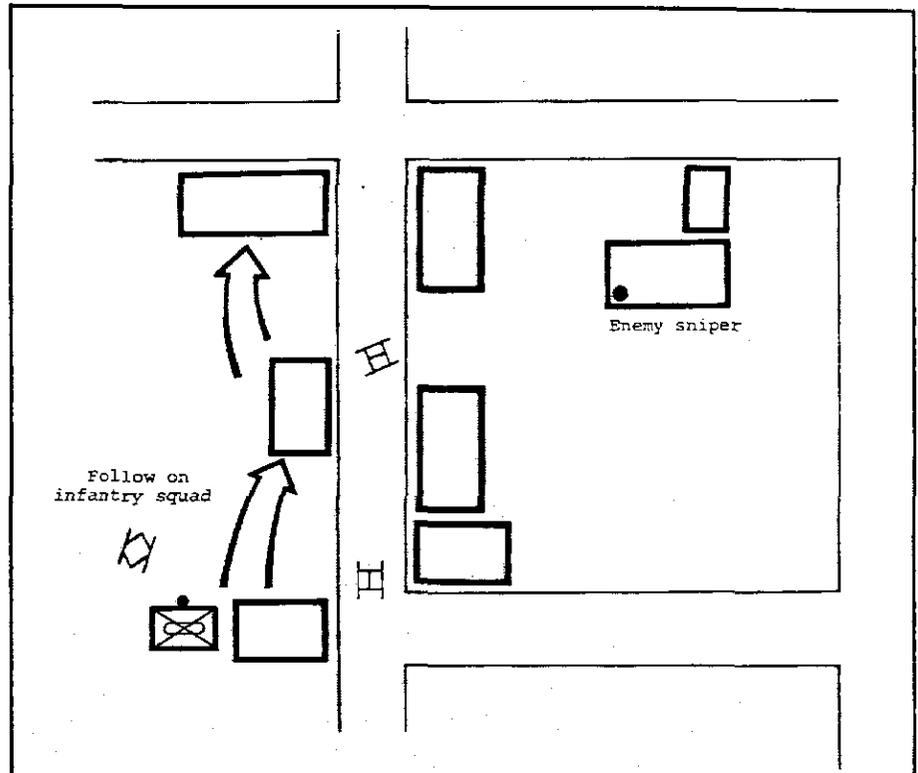


Figure 2. Street movement.

“Pop and Drop.” This drill can be varied to include complex obstacles with both antitank and antipersonnel mines and wire. Because most of these obstacles are

covered by fire, the drill requires thorough rehearsal, and the speed of the breaching element is critical. Also critical are the preparation of the explosives and

the hooks and lines, and the way they are carried by the infantry or the tanks. Carrying the explosives on the tank can be dangerous, and they are hard to get to when needed. Also, the infantrymen must know how wide the lane must be and how to mark it so the tank's crew can see it while the hatch is closed. Several infrared chemical lights or a specific color of smoke may be used as markers. If the infantrymen know how to connect the tow line properly, the tank can easily pull out a triple-strand wire obstacle.

**DRILL:** When the obstacle is detected, the tanks are brought forward as close as possible into overwatch positions. An initial burst of smoke is used to draw enemy fire (as in the first drill), and the tank often destroys or suppresses the enemy soldiers covering the obstacle. The rear element of the infantry squad quickly unpacks the pre-set charges and brings them forward. The infantry leader then selects a breach point that is wide enough for the tanks to maneuver through. At his command, the tanks can secure the breach point and obscure it while the infantry soldiers set the charges on the mines. Once the charges are blown, more smoke may be required

while the tow line is connected from the wire to the nearest tank. As the tank withdraws rapidly, it easily pulls the wire apart, and a squad or fire team rushes through the gap to secure and mark the far side. Still more smoke may be required from the infantry to cover these operations. (Time: Five to eight minutes.)

**Street Movement (Figure 2).** Often in an urban environment, an enemy sniper or team can infiltrate to the rear of advancing friendly forces, causing a great deal of confusion and numerous casualties in the follow-on units. Because these teams usually carry only small arms that cannot penetrate the skirts of the M1A1, the tank can be used to guard the advance of the follow-on squads moving forward along a previously secured route that is now jeopardized by the enemy counterattack. In addition, in urban warfare every infantry unit must conserve or replenish its supply of smoke, which can be depleted in one or two street crossings.

**DRILL:** The infantry squad identifies the general direction of the enemy and takes cover. The squad leader then calls the tank up into position between his element and the enemy. The squad leader

clears the tank to engage any enemy at will as it slowly moves down the street parallel to the infantry's axis of advance. The infantry can then move from building to building in a crouch or high-crawl without smoke, provided they directly parallel the route of the tank. The tank's movement is best coordinated by radio from the infantry squad leader. A tank can cover one squad at a time.

Although these four drills were used with M1A1 tanks in the Berlin exercise, they could be just as effective with infantry fighting vehicles or any armor system that has coaxial weapons and thermal sights. Most of these drills can also be used in a mobile defense or a counterattack.

The effects of armor and infantry together proved very useful at the small-unit level in urban terrain and with combined arms rehearsals, the battle drills can be effective techniques for rapidly defeating an enemy.

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**Captain Douglas Stewart** commanded a company in the 5th Battalion, 502d Infantry, in Berlin and is now an assistant G-3 in the Berlin Brigade. He previously served with the 101st Airborne Division (Air Assault). He is a 1985 graduate of the United States Military Academy.

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# Physical Fitness In the Reserve Components

MASTER SERGEANT MICHAEL L. COLLIS

The readiness of any unit begins with the physical fitness of the individual soldiers and their leaders. Army National Guard and Army Reserve units have always struggled to establish programs that encourage soldiers to maintain their physical fitness through individual, voluntary physical fitness activities. The goal of such programs is for the sol-

diers to meet the standards set forth in FM 21-20, *Physical Fitness Training*, and to pass the Army Physical Fitness Test (APFT) each year.

But a meaningful physical fitness program cannot be executed in just the two days a month during a drill period. Commanders and leaders must therefore emphasize to their soldiers the importance

of establishing their own personal fitness programs and working at them throughout the month.

There are many ways to motivate soldiers to develop such programs: Some trainers insist that positive reinforcement is the best way. Others say that education will change attitudes. Still others take the old-fashioned approach that the carrot

and the stick together can work wonders.

One thing we know for sure, however, is that attitudes are not easy to change. Telling a soldier he stands a 75-percent chance of dying from a heart attack if he does not begin an exercise program may cause him concern, but it does not always change his attitude about exercise. Such incentives as medals and patches work well with some soldiers but not at all for others. Some respond to the threat of punishment or of being discharged, and still others respond to a challenge. Whatever the approach, it must take motivation into account, using a mixture of positive and negative incentives.

Personal commitment to physical fitness develops in three stages: In the first

stage, the motivators are external—they include knowledge of and actual positive changes in body weight and fat, release of tension or stress, reduced blood pressure, improved cardiovascular health, and increased stamina. In the second stage, the motivators are personal—knowledge of and actual positive changes in body weight and fat, release of tension or stress, reduced blood pressure, improved cardiovascular health, and increased strength. In the third stage, the motivation is pleasure—the psychological enjoyment of the habit of training, and the soldier is motivated to do regular physical training, primarily because he enjoys what it does for him and because he realizes the many health benefits.

At this point, a soldier is truly a self-

starter and can be expected to sustain his physical fitness with little supervision.

Here are some additional ideas that have helped in these three areas for units of the Florida National Guard, when used along with FM 21-20:

**First Stage.** The external motivators in the first stage include incentives and awards. Soldiers who perform exceptionally well on the APFT or who significantly improve their scores on consecutive tests should be commended for their performance. National Guard and Active Army medals, as well as certificates of achievement, can be used for this purpose.

The incentives include the Adjutant General Physical Fitness Excellence Gold/Silver/Blue Award. The gold is awarded to soldiers who score more than 300, the silver to those who score 290–299, and the blue to those who score 270–289. The gold and silver awards include personal letters from the Adjutant General as well as the coveted Physical Fitness Excellence Patch. A unit can obtain these awards simply by forwarding the soldiers' score cards to the headquarters. Units can also award T-shirts or hats as additional incentives. Awards should always be presented in formation.

Negative incentives are also used. On a soldier's first failure to pass an APFT, flagging actions (DA Forms 268) are taken to prevent promotion, reenlistment or extension, transfer, or bonus. The soldier must be counseled using DA Form 4856. He is then given six months and adequate assistance to prepare for and pass the APFT retest. On second failure, he is separated from the service.

**Second Stage.** In the second stage, soldiers are educated on why and how to develop individual, voluntary physical fitness programs.

The *why* can easily be answered, both for the soldiers personally and for their unit. Soldiers must know that physical fitness will help them work with vigor and pleasure, without undue fatigue, with energy left over for enjoying hobbies and recreational activities, and for meeting unforeseen challenges. The demands they could face on the modern battlefield require a greater degree of fitness. From a personal standpoint, we know that the



## TRAINING NOTES

better a soldier's physical condition the fewer his chances of developing cardiovascular disease.

The *how* is also easy to explain. Training sessions need to be conducted at unit level to educate soldiers on a variety of subjects. Although these classes need not be taught by experts, Master Fitness Trainers are available, and so are civilian professionals—local teachers and doctors or representatives of the American Heart and Lung Association. But responsible unit leaders also do well at conducting these classes and will themselves become experts in time.

The subjects taught should include the correct way to train, individual fitness programs, APFT requirements and standards, specific guidance on improving APFT scores, cardiorespiratory fitness, nutrition and dietary guidelines, weight control, and tobacco cessation.

Guidance is also available in the following references:

- AR 350-15, *The Army Physical Fitness Program*.
- AR 600-15, *Army Health Promotion*.
- DA Pam 350-15, *Commanders Handbook on Fitness*.
- DA Pam 350-18, *Individual Handbook on Fitness*.
- DA Pam 350-21, *Family Fitness Handbook*.

- DA Pam 350-22, *You and the APFT*.
- Applicable Army National Guard and Army Reserve directives.

**Third Stage.** From the first and second stages comes the psychological enjoy-

ment of the training. The soldiers are motivated and involved in regular physical fitness programs.



ment of the training. The soldiers are motivated and involved in regular physical fitness programs.

It is important to note, however, that

we all need reinforcement from time to time. And with the constant turnover rates and the ever-present need for reinforcement, these training programs should be continuous.

In the past five years, we have seen an increased interest in fitness, and along with it the introduction of dozens of physical training programs and concepts. We have also witnessed the loss of many soldiers who were not physically fit. If you ask ten different people what is the best way to improve your soldiers' level of fitness, you will probably get ten different answers. Until "The Best Way" is identified, if a system works for you and your soldiers, and if they can see and feel the benefits, keep using it.

The information provided here is currently taught at the Master Fitness Trainers Course at Fort Benning, Georgia. It is the most studied, tested, and proved physical fitness information the Army has made available.

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**Master Sergeant Michael L. Collis** is a master fitness trainer. Now assigned to G-3 operations in the 7th Infantry Division, he previously commanded companies in the 82d Airborne Division and the 75th Ranger Regiment. He is a 1980 ROTC graduate of the University of Dayton and holds a master's degree from Central Michigan University.

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# ENLISTED CAREER NOTES



## REVIEW DA FORMS 2A AND 2-1

Frequently, outdated DA Forms 2A and 2-1 are found in the soldiers' career management individual files (CMIF) maintained in the Infantry Enlisted Branch at PERSCOM. Too many soldiers neglect to make sure their forms are updated until they are required to go to their personnel services centers for birth-month reviews or upcoming promotion boards. Unfortunately, soldiers may miss their birth-month reviews for various reasons such as deployment, priority training, and the like, and never make them up.

These forms are important for promotion purposes, but they are also critically important to the assignment process. Assignment managers must have the most accurate information possible in order to make logical, professionally correct assignments. Commanders must therefore stress the importance of these documents to their soldiers and make sure they are kept up to date.

Soldiers in the ranks of sergeant through master sergeant should send their updated DA Forms 2-1 to PERSCOM, ATTN: TAPC-EPK-I, 2461 Eisenhower Avenue, Alexandria, VA 22331-0452. Soldiers who have questions concerning how to read either form should see their personnel services NCOs.

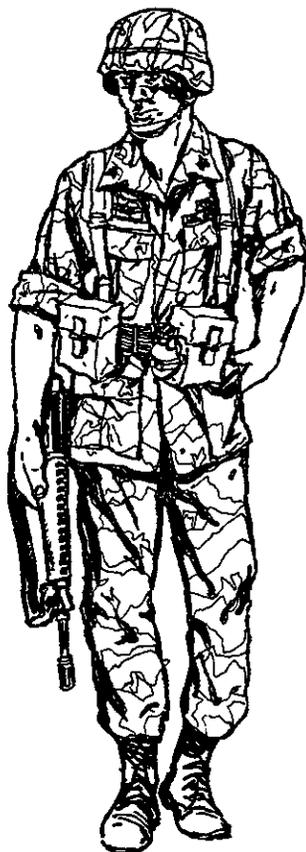
## AWARD OF ADDITIONAL SKILL IDENTIFIERS (ASIs)

Soldiers who attend schools that produce additional skill identifiers (ASIs) should make sure orders are published by their personnel service centers (PSCs) upon their return to home station. These orders will trigger updates in the personnel data base at PERSCOM, and a copy of the document will be placed in each soldier's CMIF.

The enlisted master file update is important to the overall infantry career management field, because it helps assignment managers maintain an accurate ASI inventory and meet training requirements.

## ASSIGNMENT PREFERENCES

A soldier lets his assignment manager or professional development NCO know his assignment preferences by



submitting a DA Form 4187, Personnel Action Form. This form originates in the battalion personnel action center (PAC) and is further processed at the personnel service center (PSC).

On this form, a soldier should include

at least one location in the continental United States (CONUS) and three locations outside CONUS. He should be as realistic as possible in making his selections; this means choosing locations where there are positions in his military occupational specialty (MOS) and skill level.

His personnel service center will process his preferences, which will appear on his DA Form 2A in Section IV, Items 19 and 20. These preferences will then show up on the computerized enlisted master file (EMF) at PERSCOM, which assignment managers use in making assignments.

A key in making assignments is updated DA Forms 2A and 2-1, which should be sent to infantry branch at least every two years. The mailing address is PERSCOM, ATTN: TAPC-EPK-I, 2471 Eisenhower Avenue, Alexandria, VA 22331-0452.

Although the needs of the Army take priority over all other considerations, sometimes a soldier's assignment preferences can be allowed to determine his next assignment. When this occurs, assignment managers look at the soldier's preferences and try to get him as close as possible to the location he prefers.

Before submitting a request for assignment preferences, a soldier should see his personnel action center or personnel service center representatives to clarify any questions he may have.

## OFFICIAL DA PHOTOGRAPHS

Effective April 1984, all Department of the Army centralized promotion boards are provided a hardcopy photograph, if it is available, of each infantry soldier being considered for promotion. This photograph represents the soldier whose official military personnel file is

## ENLISTED CAREER NOTES

being reviewed. It is usually influential in the decision making processes of the board members who see it. One previous board member called the photograph "the soldier's personal statement of professionalism to the board."

If there is no photograph at all in a soldier's file, the board members may be misled and believe that he does not care or is trying to hide an unfavorable appearance. Leaders should therefore ensure that their soldiers have color photos taken and then should review them.

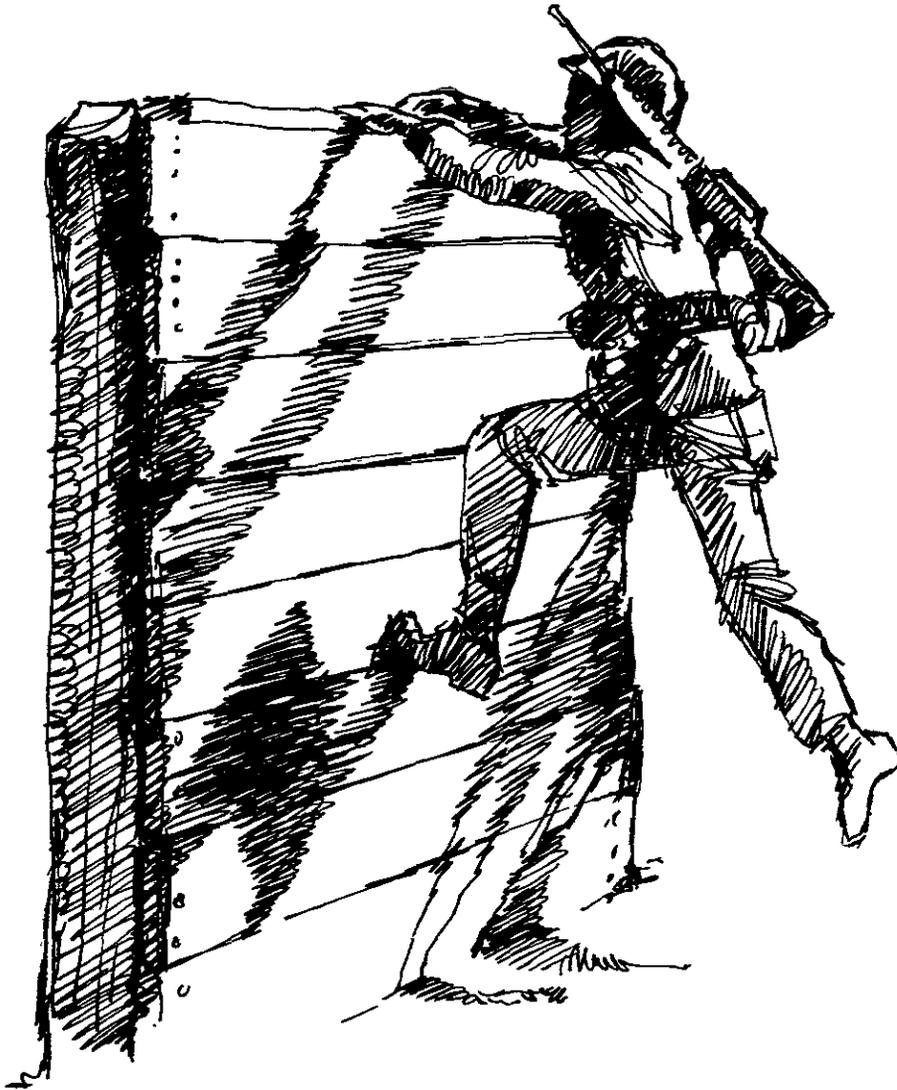
After having a photograph taken, a soldier should view it with concern for

several things: making sure the photograph is sharp, his image does not blend in with the background, and the menu board has been assembled accurately. A sloppy or overweight appearance or unauthorized awards and decorations, for example, could adversely affect the soldier's opportunity for selection. The leaders in the soldier's NCO chain of command should also review the photo and offer their opinions.

When the soldier accepts the photograph as suitable for insertion in his official military personnel file, he should make sure his servicing PSC sends one

copy to the U.S. Army Enlisted Records and Evaluation Center, ATTN: PCRE-BA, Fort Benjamin Harrison, IN 46249-5301; and one copy to Commander, ATTN: TAPC-EPK-I, 2461 Eisenhower Avenue, Alexandria, VA 22331-0452.

Although Army Regulation 640-3 requires that a photograph be taken every three years and in color, a new one may be sent at any time. If an infantry soldier has lost weight, has been promoted, has earned new awards or decorations, or has bought a better fitting uniform since his last photograph, then it is advisable to send an updated photograph.



# OFFICERS CAREER NOTES



## JUNIOR OFFICER INTERNSHIPS

The Army offers two internship programs, the Joint Staff (JS) program and the Office of the Secretary of Defense (OSD) program. Both seek to familiarize junior officers with the operations and decision making processes of these agencies.

The officers selected for the JS program are assigned to the Office of the Joint Chiefs of Staff (OJCS), where they work on actions intended to support training objectives and are given broad experience in staff operations.

Officers selected for the OSD program are usually assigned to the major military manpower and personnel policy directorates of the Office of the Secretary of Defense.

Tour length for both internships is one year. The Army is allotted 12 slots in the Joint Staff program and 6 in the OSD program.

These programs are highly competitive. To be nominated, an officer must meet the following requirements:

- Be a captain who will not be promoted during the one-year assignment.
- Have an outstanding record of performance throughout his career. (Clear above-center-of-mass officer evaluation reports make an officer competitive.)
- Have successfully commanded a company.
- Be able to obtain a Top Secret security clearance.
- Meet the standards of AR 600-9, and have a current DA photo on hand at his branch assignment office.

Officers who meet these criteria may request nomination. Those who are nominated by their Branch must then be approved by the Total Army Personnel Command (PERSCOM) and the gaining organization (either OJCS or OSD).

Upon completion of the internship, these officers must remain in the Wash-

ington, D.C., area long enough to satisfy time-on-station requirements before permanent change-of-station (PCS) moves.

Openings in these programs are expected in the summer of 1994, and interested officers should plan accordingly.

## RECRUITING COMPANY COMMAND

Recruiting company command assignments are now for 24 to 36 months. In most cases, officers are available for reassignment upon completion of their command tours.

Universally accepted as a tough job, recruiting company command is an ideal way to pursue additional command op-

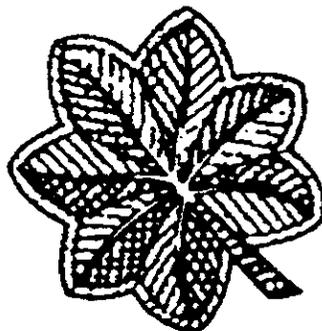
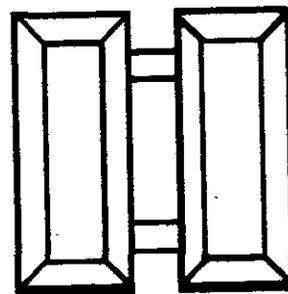
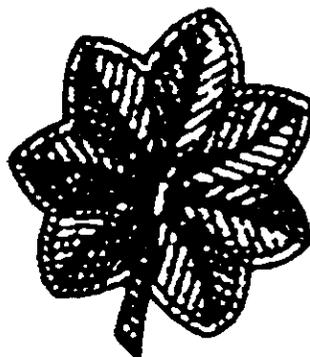
portunities. Officers with solid performance records who would like to command again should call Infantry Branch for an update on available commands.

## HARVARD FELLOWSHIPS

The Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) hosts a fellowship that sends two Army captains each year to Harvard University's Kennedy School of Government. Upon completion of their one-year course of study, these officers return to ODCSOPS to apply the lessons they have learned.

To be nominated, an officer must meet the following requirements:

- Be a branch-qualified captain.



## OFFICERS CAREER NOTES

- Have an outstanding record of performance.

- Have a solid academic background.

Once nominated by Infantry Branch, candidates' career management individual files are staffed for approval through PERSCOM channels and sent to ODCSOPS for approval.

Any officer who is interested and meets the requirements should call Infantry Branch.

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### USMA/ACS

Infantry Branch is well into the nomination process for assignments to the U.S. Military Academy and advanced civil schooling for Fiscal Year 1994. For infantry officers who will be available for reassignment in the summer of 1995 and are interested in one of these assignments, these are the requirements:

- Read AR 621-1, Chapter 3.
- Ensure that Infantry Branch has a copy of your academic transcripts.

- Send us a completed DA Form 1618-R.

- Successful command reports must be at Infantry Branch for final approval.

- Send us a copy of your GRE/GMAT scores.

- Ensure that we have your current DA photo.

Officers interested in USMA assignments should already have contacted the Academy. Those who have not should write to Superintendent, United States Military Academy, ATTN: (Desired Faculty Department), West Point, NY 10996-1985.

From the beginning of the process, these assignments can take up to a year before a request for orders is issued.

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### ROTC ASSIGNMENTS

Infantry Branch is working on assignments for assistant professors of military science. Qualifications include an outstanding manner of performance, an un-

dergraduate grade-point average of 2.5, and successful company command. At a few schools, master's degrees are also required.

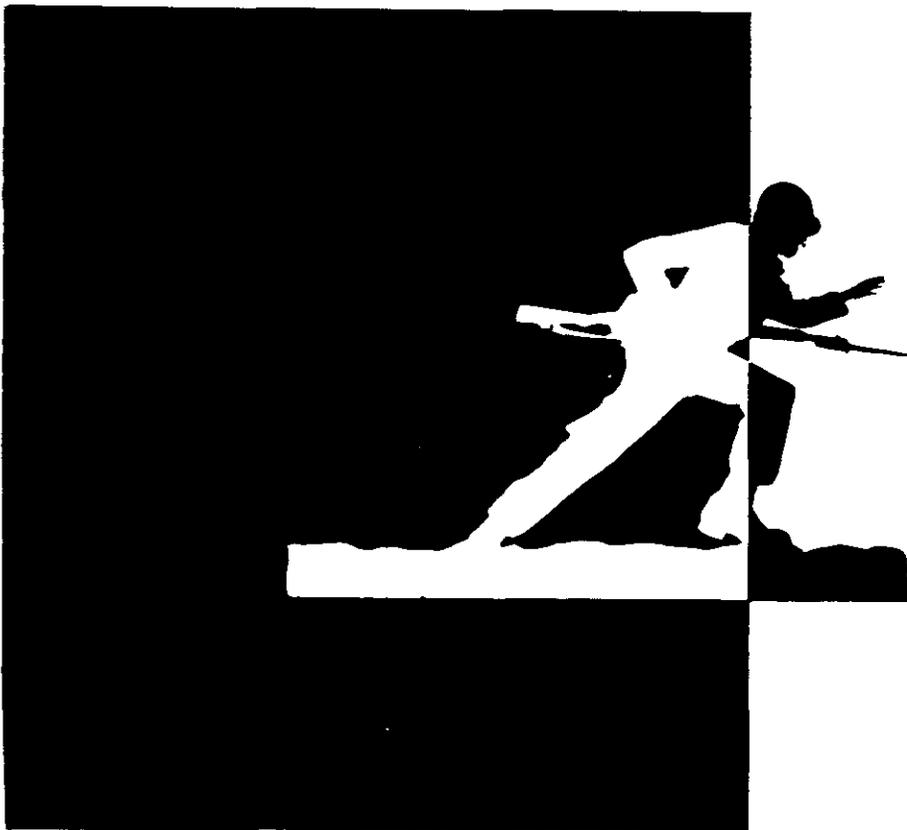
Officers who meet these criteria and have been on station for at least 24 months should call Infantry Branch.

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### PROJECT JUMPSTART

JUMPSTART is a U.S. Army Forces Command (FORSCOM) initiative to reassign officers from FORSCOM troop units to CONUSA Readiness Group positions. All captains will be officer advance course graduates, successful company commanders, and have served from 24 to 30 months at a FORSCOM troop installation. Officers selected will be assigned to a Readiness Group for an additional 24 to 30 months.

Assignments to CONUSA Readiness Groups are important. We expect to see an increase in the number of officers going to these groups over the next year.



# BOOK REVIEWS



At long last the Korean War is receiving its just share of attention from publishing houses around the world. Here are three such publications we have received in recent months, and we commend them to your attention:

• **HISTORICAL DICTIONARY OF THE KOREAN WAR.** Edited by James I. Matray. Greenwood Press, 1991. 662 Pages. \$85.00. The editor of this volume is an associate professor of history at New Mexico State University and the author of a previous book on U.S.-Korean relations. Like the publisher's 1988 dictionary of the Vietnam War, this historical dictionary has the main entries arranged in alphabetical order with cross-references to related items within each main entry.

One example of this method can be found in the main entry titled "MiG Alley." The entry contains a brief explanation of the term as well as a series of asterisks denoting the cross-reference items: U.S. 8th Army, Chinese military intervention, Battle of Namsi, Operation Strangle, and General Hoyt S. Vandenberg (misspelled *Vanderbuerge* here but spelled correctly in the main entry).

Sixteen specifically named battles are grouped in one section, which makes it much easier for a user to find any one or all of them. The same applies to the specifically named military operations. A series of 20 maps at the front of the book is also a nice touch and a great reference aid.

The book's three appendixes contain much useful information, and there are also a selected bibliography and an index. Although the accounts of several battles are somewhat garbled and the book contains several minor errors (such as the misspelling noted), overall, it is a useful reference book. One has to wonder, however, why only two U.S. Army division commanders (and one Marine Corps division commander) were recognized with main entries.

• **THE COMMONWEALTH ARMIES AND THE KOREAN WAR: AN ALLIANCE STUDY.** By Jeffrey Grey. St. Martin's Press, 1990. 244 Pages. \$19.95. This book is the outgrowth of a historical thesis the author prepared for the Department of History, University College, University of

New South Wales. He gives us an excellent picture of one form of coalition warfare, the kind practiced by the British Commonwealth when it went to war in the mid-20th century and before a number of countries withdrew from it.

The author's principal concern is with the developing relations among the various Commonwealth ground forces, which were the most numerous of the forces committed.

Overall, he feels that despite such problem areas as financing, supply, and command responsibility, "Commonwealth military involvement in Korea was a success, if not a uniform one." And this, he argues, was an experience other nations should study, what with today's great emphasis on coalition warfare.

• **SOUTH AFRICA'S FLYING CHEETAHS IN KOREA.** By Dermot Moore and Peter Bagshawe. Ashanti Publishing (Pty) Limited, Johannesburg, 1991. 282 Pages. No price listed. In August 1950, the South African government agreed to make one of its air force fighter squadrons available for United Nations use in Korea. (At the time, South Africa was still in the British Commonwealth.)

This unit was the 2d Squadron, South African Air Force, and its ranks were quickly filled with volunteers from both active and reserve units. In fact, throughout the war, there was never a shortage of qualified volunteers for service with the squadron. In addition, the government sent a small administrative detachment—known as the SAAF Liaison Headquarters—to Tokyo, where it served throughout the war.

Thirty-four of the 209 pilots who went to Korea were killed in action or reported missing and assumed dead. Four others were seriously wounded, and eight became prisoners of war. (Of the latter group, two died not long after their release as a result of the bad treatment they had received.)

The squadron was initially equipped with F-51 Mustangs and flew these on ground support and interdiction missions for the first two years it was in Korea. Then it converted to F-86 Sabre jets for its last year. The squadron served as an integral unit of the U.S. Air Force's 18th Fighter-Bomber Wing.

The book includes a number of personal accounts in its last chapter, and also has a full listing of the various honors and awards the squadron received during the war years, including the U.S. Distinguished Unit Citation. There can be little question that it earned that award many times over.

**HERO: THE LIFE AND DEATH OF AUDIE MURPHY.** By Charles Whiting. University Press and National Book Network (4720 Boston Way, Lanham, MD 20706), 1990. 205 Pages. \$19.95. Reviewed by Dr. Ralph W. Widener, Jr., Dallas, Texas.

The first three chapters of this book deal with what Second Lieutenant Audie L. Murphy did single-handedly to thwart the advance of six 63-ton German Mark VI tanks and two companies of German infantrymen, each calculated to be at its full strength of 125 men. For his courage, this 20-year-old soldier would be awarded the Congressional Medal of Honor, becoming the most-decorated soldier of World War II. For the detail in these three chapters alone, this book is more than worth its price.

Beginning with Chapter 4, the reader can see how Murphy's early life in northeast Texas before the war had played an important part in his becoming a fine infantry soldier. For example, as soon as he was old enough to handle a rifle, he went hunting. As a result, he developed an uncanny knack for killing a bird or an animal with the first shot; he said, "If I missed, we didn't eat." The same was true much later in combat, where he seldom needed more than one bullet to "get his man."

The next 18 chapters show how he developed into one of the finest combat soldiers this country has ever produced. These chapters should be read carefully, for they contain numerous examples of military leadership at its very best, especially in the heat of combat.

The rest of the book deals with Murphy's life after he left the Army—the time spent writing his autobiography, *To Hell and Back*; his movie-making days; his two marriages, which are covered only superficially; and his financial ventures, most of which failed because, instead of insisting on signed con-

tracts, he trusted people to do what they told him they would do.

Throughout these chapters, we see how Murphy was unable to throw off, for very long, the horrors of combat he had seen and experienced in seven campaigns in which he was wounded three times. His misery was compounded by the fact that the soldiers who might have helped him get over the war—the group of men he had known from the beginning in Baker Company, 1st Platoon, B Company, 15th Infantry Regiment, 3d Infantry Division—were either dead or had been incapacitated and were now unable to be of any assistance to him. And he felt that anyone who had not been “to hell and back” could not understand what day-in and day-out combat was like, however much they tried.

As the author says of Murphy, “Perhaps, in the end, he welcomed that sudden, swift death the air crash offered him on that remote mountain slope in Virginia.”

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### A BATTLE FROM THE START: THE LIFE OF NATHAN BEDFORD FORREST.

By Brian Steel Wills. HarperCollins, 1992. 480 Pages. \$30.00. Reviewed by Dr. Charles E. White, Infantry Branch Historian.

Few individuals in American history have elicited both praise and scorn to a greater degree than Confederate General Nathan Bedford Forrest. Hailed as the greatest soldier of the Civil War by Robert E. Lee, called a devil by Ulysses S. Grant, considered a hero by the people of the Confederacy, accused of war crimes by Union loyalists, and—more recently—denounced by the National Association for the Advancement of Colored People (NAACP), Forrest was a violent, uneducated, ill-tempered, and vulgar man who became the most famous Confederate gadfly to harass Union forces.

Until now, trying to find the real Forrest was the great challenge for each of his biographers. In this well-written and meticulously researched book, Brian Steel Wills offers a thorough and balanced perspective of the Confederate general, placing Forrest firmly in the context of his time and removing many of the previous distortions associated with him.

Forrest was a product of the frontier, where he led a rough and violent life. He grew up farming and protecting his mother and younger siblings. Later, he became a successful slave trader and one of the wealthiest men in Memphis. Like most frontiersmen of his day, however, Forrest lacked formal education. He considered himself a man of action and rarely took the time to think things

through before plunging recklessly (and most of the time physically) into frays, regardless of the consequences.

During the war, Forrest rose to prominence as an independent cavalry commander. His war record is filled with daring raids and stunning victories, many against overwhelming odds. He became the most feared and hunted Rebel in the western theater. Yet none of this mattered.

The same traits that made him legendary also deprived him of a decisive role. He was simply not a team player. He chafed at working with others, preferring to operate independently, free to control his own actions. As a result, he was never trusted with anything more than a secondary role. And his habit of getting into the thick of the fight (as if he were a private soldier) raises serious questions concerning his judgment and his abilities as a senior tactical commander.

Forrest was not a good subordinate, but constantly bickered with his superiors. He would become angry and sullen whenever he thought they had disregarded or ignored his advice. He often ignored his commander's intent, especially when he felt that his superior was too hesitant or incompetent to meet the requirements of the moment. In short, Forrest could not tolerate actions or behavior with which he disagreed.

Forrest rarely accepted responsibility for failure but shifted the blame onto others and berated his superiors for squandering the lives of his men. He found it difficult to admit that he was responsible for any of the negative results of his own rash and impetuous actions.

Once the war ended, Forrest struggled to regain his previous wealth. He tried farming, selling insurance, rebuilding railroads, and organizing the Ku Klux Klan, but nothing yielded success. He was a broken man. All the battles of his life finally took their toll, and by October 1877, he could fight no more.

In this splendid and aptly titled book, Wills provides a refreshing look at virtually every aspect of Forrest's colorful and controversial life. This is the most accurate study of Forrest to date and is must reading for anyone interested in coming to grips with the life of Nathan Bedford Forrest.

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**WHERE THE DOMINO FELL: AMERICA AND VIETNAM, 1945 TO 1990.** By James S. Olson and Randy Roberts. St. Martin's Press, 1991. 321 Pages. \$19.95. Reviewed by Dr. Joe P. Dunn, Converse College.

This is one of a number of new survey histories primarily for marketing as textbooks for Vietnam War courses. Although James Olson, professor of history at Sam Houston State University, edited *Dictionary of the Vietnam War* (1988), neither he nor co-author Randy Roberts is a specialist on the war. (Their previous book was on sports history.)

Although the narrative is drawn exclusively from secondary sources, the authors have a good command of the literature. The opening chapter capsules Vietnamese history from antiquity to 1945, and the volume proceeds with the standard topics. An interesting chapter on the 1975-1990 period focuses on popular culture, particularly the large number of movies on Vietnam.

The book compares favorably with similar new volumes such as Anthony James Joes' *The War for South Viet Nam, 1954-1975* (1989); George Donelson Moss's *Vietnam: An American Ordeal* (1990); and Gary R. Hess's *Vietnam and the United States* (1990). A good bibliography, chronology, glossary, and list of acronyms contribute to a very readable source for laymen.

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### THE BOOK OF STRATAGEMS: TACTICS FOR TRIUMPH AND SURVIVAL.

By Harro von Senger. Viking Press, 1991. 397 Pages. \$24.95. Reviewed by Lieutenant Colonel Cole C. Kingseed, United States Army.

To most Westerners, Chinese military thought has its roots in the writings of Sun Tzu, whose *The Art of War* is required reading for most professional officers. In this book, Swiss sinologist Harro von Senger condenses the traditional strategic rules and operational principles used so successfully by Sun Tzu, Mao Tse-Tung (Zedong), and Vo Nguyen Giap. The result is as informative as it is educational.

In the Chinese sense, the word *stratagem* ranges from a simple trick or a spontaneous action based on sheer presence of mind to complex, carefully planned behavior designed to deceive an adversary. According to the author, the principal goals of stratagems are masking something that is true, pretending something that is untrue, gaining the initiative or advantage, gaining a prize, encirclement, enticement, and flight. The book includes 18 of the 36 most important stratagems found in ancient Chinese writings. The remaining 18 are scheduled to be published in a subsequent volume.

To illustrate these stratagems, the author uses more than 200 examples, ranging from

a world table-tennis championship to the arrest of the Gang of Four in 1976. The result provides a key to much of Chinese thinking and represents an interesting analysis of how classical Chinese philosophy and military thought can be applied to contemporary life. Officers and noncommissioned officers will readily identify all of the principles of war included in the text and delight in the examples of their implications for military operations.

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**THE LAST PRUSSIAN: A BIOGRAPHY OF FIELD MARSHAL GERD VON RUNSTEDT, 1875-1953.** By Charles Messenger. Brassey's (UK), 1991. 367 Pages. \$24.95. Reviewed by Major Harold E. Raugh, Jr., United States Army.

Field Marshal Gerd von Runstedt—the stoic, aloof, and senior German Army commander of World War II—has come to personify the stereotypical aristocratic Prussian officer class. Indeed, author Charles Messenger, a noted military historian and retired British Army officer, contends in this excellent book that von Runstedt was “the Last Prussian.”

In this superb study of von Runstedt, Messenger begins by chronicling the subject's long family heritage of military service as members of the Prussian aristocracy. Then he examines the Prussian Code of Honor of “Duty, Honor, and Loyalty,” which appears to have been the focal point of von Runstedt's life and is a central theme of the book. (The author mistakenly states that the Prussian Code of Honor is also the motto of the United States Military Academy at West Point.)

Especially interesting are the chapters on World War II and von Runstedt's stormy relationship with Hitler (although the chapters dealing with von Runstedt's post-1945 life may be the best of the book). The question remains: If von Runstedt was adamantly opposed to Hitler on so many issues and occasions, and if he knew about wartime atrocities and massacres, why did he continue to execute Hitler's orders faithfully and without apparent protest? As Messenger intimates, the defense of the “traditional Prussian concept of duty” is unacceptable. This excuse of unwavering loyalty to the maniacal dictator Hitler was in fact disloyalty to the German people and state.

Messenger makes excellent use of myriad primary sources, including von Runstedt's own letters, papers, and other documents. Ten excellent maps ably supplement the text, as do the 52 photographs, many of them from

von Runstedt's family albums and published for the first time.

This biography of von Runstedt is extremely well-written, interesting, and thought-provoking. It is destined to remain for some time the authoritative biography of this German field marshal. It makes a marked contribution to the history of World War II and to the study of military leadership, both good and bad.

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**ON FIELDS OF FURY: FROM THE WILDERNESS TO THE CRATER. AN EYEWITNESS HISTORY.** By Richard Wheeler. HarperCollins, 1991. 304 Pages. \$25.00. Reviewed by Major Don Rightmyer, United States Air Force.

By the winter of 1864, even the volunteer soldiers of the Union Army had learned how to survive and make it through the harsh conditions of the winter encampments. This is where author Richard Wheeler begins this continuation of his multi-volume account of the Civil War, presented predominantly through the first-person accounts and experiences of those who were there. This book follows five earlier volumes in which Wheeler examines the campaigns of Gettysburg, Appomattox, and the Virginia peninsula, Sherman's march through Georgia, and the siege of Vicksburg.

This book covers the eastern theater of the war from early 1864 through the battle of the Crater during the siege of Petersburg in July of that year. It includes a variety of perspectives on what occurred during the conflict of those violent months from the generals at the top, Grant and Lee, down through the ranks of officers and soldiers on both sides. The frequent use of official correspondence, personal letters, and reminiscences written after the war gives the reader a “You were there” feeling. Wheeler masterfully ties all the loose pieces together with excellent narrative that moves the Union Army from its winter camp and crossing of the Rapidan River to the trenches of Petersburg. The actions at the Wilderness, Spotsylvania, and Cold Harbor are the major battles covered in the period of this book.

*On the Fields of Fury* will give the reader some worthwhile insights into what the fighting man experienced, thought, and felt during this American military conflict.

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**THE SAS AT WAR: 1941-1945.** By Anthony Kemp. John Murray, 1991. 268 Pages. \$39.95. Reviewed by Leroy Thompson, Manchester, Missouri.

Books about the Special Air Service (SAS) abounded after the regiment's role in counterterrorist operations, Northern Ireland, and the Falklands War propelled it into the spotlight in the 1980s. Much of the World War II information in these works, however, is just a re-hash of the works published by members of the SAS during the decade after the war ended. Kemp, however, has used new source material as well as interviews with surviving members of the wartime SAS to take a new look at its successes and failures during World War II.

Of interest to all historians of special operations are the insights into the constant battle for independence that the SAS had to fight against the Army's entrenched command structure so they could continue their behind the lines operations against the Germans and Italians. Kemp also offers some new perspectives on the most famous of the wartime SAS commanders—David Sterling, Paddy Mayne, Brian Franks, and others.

Another invaluable aspect of this book is the later chapters, which deal with the final phases of the war in Germany and Norway, SAS operations that have often been neglected or glossed over in other works. Although he covers the subject more thoroughly in another work, *The Secret Hunters*, Kemp also gives some attention to the intelligence section of 2nd SAS in tracking down Nazi War criminals.

This work can serve as an introduction to SAS operations during the war, from the early operations in the western desert to the disbanding of the SAS at the end of World War II. I recommend it as the best one-volume overview of the subject. I also recommend it for those who are well-versed in SAS operations and history, for the new information it offers on various operations, particularly those that took place on the continent of Europe in the post-North African phase of the SAS's existence.

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**SOLDIER SPIES, ISRAELI MILITARY INTELLIGENCE.** By Samuel Katz. Presidio Press, 1992. 389 Pages. \$21.95, Hardcover. Reviewed by Major Richard Ugino, New York Army National Guard.

Samuel Katz has presented a well-documented, thoroughly crafted book about A'Man, or Israeli military intelligence, which in 1991 became Israel's fourth branch of service. This is a book that leads the reader, from the very earliest beginnings of both the Israeli state and its military protectors to the current headlines in Lebanon. It is one of the first books to examine “military in-

telligence" rather than the Israeli's "CIA," the Mossad. As the author says, however, "A'Man lies in the Mossad's shadow while laying the groundwork for Israel's Intelligence success... its victories are not suitable for publication and [its] defeats [are] not suitable for proper explanation."

Israeli military intelligence has developed around two main themes that are seen again and again throughout its history. The first of these themes is an interchange and a constant ebb and flow between Israel's "elite units" and its "military intelligence." The author takes pains to show that, from the founding of the organization, military intelligence and "special operations" in Israel go hand in hand.

The professional infantryman reading this book will be struck by the interwoven pattern of special operations and intelligence that is seen in most of the nations of the world and that, for the west, had its beginning in the British training of these forces during World War II.

The second theme is that A'Man has had its greatest successes exploiting its greatest strengths, which are a duality of long-range reconnaissance activities and a very early and thorough understanding of signal intelligence (SIGINT). A'Man has been involved with SIGINT since its founding, and the book relates many fascinating stories about the Israeli's use of this warfighting technique to hamper and harry its Arab antagonists.

On the converse side, A'Man failed to recognize the serious threat from the Egyptian armies in 1973, downplaying the fighting abilities of their opponents. This caused their analysis to be flawed and left Israel with little pre-strike warning. This failure caused the organization to exist "under a cloud" until its help in the 1976 Entebbe Raid again raised its stature.

The reader will note with interest that A'Man, not Massad, prepares the Israeli national intelligence estimate and is the sole channel through which an integrative, intelligence evaluation is brought to Israel's policymakers. Some of the most fascinating reading in the book involves Israel's war against terrorism and the role of military intelligence in that war. The dual skills of special operations and intelligence placed A'Man on the front lines in this struggle from the early 1960s to today. (Readers will find interesting a short passage that discusses joint Israeli and U.S. anti-terrorism activities under the control of Marine Corps Lieutenant Colonel Oliver North.)

This book presents a very realistic view

of the way a military intelligence organization operates and the way it interoperates with the combat forces it supports. Although it is a valuable "primer" as a first book on Israeli intelligence organizations, it does presuppose some knowledge of Israel and its history. Yet it is still valuable to the infantry or intelligence professional and is a bargain for its price.



**RECENT AND RECOMMENDED QADDAFI, TERRORISM, AND THE ORIGINS OF THE U.S. ATTACK ON LIBYA.** By Brian L. Davis. Praeger, 1990. 202 Pages. \$42.95.

**PAGE AFTER PAGE: MEMOIRS OF A WAR-TORN PHOTOGRAPHER.** By Tim Page. Atheneum, 1990. 238 Pages. \$19.95.

**AN ILLUSTRATED COMPANION TO THE**



**FIRST WORLD WAR.** By Anthony Bruce. Viking, 1990. 424 Pages. \$35.00.

**THE SUPERPOWERS AND NUCLEAR ARMS CONTROL: RHETORIC AND REALITY.** By Dennis Menos. Praeger, 1990. 179 Pages. \$39.95.

**THE SOUTH PACIFIC: EMERGING SECURITY ISSUES AND U.S. POLICY.** By John C. Dorrance, and others. Brassey's (US), 1990. 118 Pages. \$9.95, Softbound.

**ADMIRAL ARLEIGH BURKE.** By E.B. Potter. Random House, 1990. 494 Pages. \$24.95.

**FINGERTIP FIREPOWER: PEN GUNS, KNIVES, AND BOMBS.** By John Minnery. Paladin Press, 1990. 114 Pages. \$12.00, Softbound.

**CUBA: FROM COLUMBUS TO CASTRO.** Third Edition, Revised. By Jaime Suchlicki. Brassey's (US), 1990. 246 Pages. \$16.95.

**SPETSNAZ: THE INSIDE STORY OF THE SOVIET SPECIAL FORCES.** By Viktor Suvorov. First published in 1987. Pocket Books, 1990. 244 Pages. \$4.95, Softbound.

**SOLDIERS OF DESTRUCTION: THE SS DEATH'S HEAD DIVISION, 1933-1945.** By Charles W. Sydnor, Jr. Originally published in 1977. Princeton University Press, 1990. 375 Pages. \$12.95, Softbound.

**OTHER CLAY: A REMEMBRANCE OF THE WORLD WAR II INFANTRY.** By Charles R. Cawthon. University Press of Colorado, 1990. 208 Pages. \$19.95.

**THE BATTLE OF HUERTGEN FOREST.** By Charles Whiting. Pocket Books, 1990. 300 Pages. \$4.95, Softbound.

**NEW ORLEANS: THE BATTLE OF THE BAYOUS.** By Harry Albright. Hippocrene, 1990. 232 Pages. \$16.95.

**THE MINUTE MEN, THE FIRST FIGHT: MYTHS & REALITIES OF THE AMERICAN REVOLUTION.** By General John R. Galvin. An AUSA Book. Pergamon-Brassey's, 1989. 294 Pages. \$24.95.

**GOD GAVE US THIS COUNTRY: TE-KAMTHI AND THE FIRST AMERICAN CIVIL WAR.** By Bil Gilbert. Atheneum, 1989. 369 Pages. \$22.50.

**SCREAM OF EAGLES: THE CREATION OF TOP GUN—AND THE U.S. AIR VICTORY IN VIETNAM.** By Robert K. Wilcox. John Wiley, 1990. 295 Pages. \$22.95.

**THE CULTURE OF WAR: INVENTION AND EARLY DEVELOPMENT.** By Richard A. Gabriel. Contributions to Military Studies No. 96. Greenwood, 1990. 184 Pages. \$39.95.

**NARROW SEAS, SMALL NAVIES, AND FAT MERCHANTMEN: NAVAL STRATEGIES FOR THE 1990s.** By Charles W. Koburger, Jr. Praeger, 1990. 184 Pages. \$39.95.

**JFK WANTS TO KNOW: MEMOS FROM THE PRESIDENT'S OFFICE, 1961-1963.** Edited by Edward Claffin. Morrow, 1991. 312 Pages. \$22.95.

**IN A WARRIOR'S ROMANCE.** D.S. Lliteras. Hampton Roads Publishing Co. (891 Norfolk Square, Norfolk, VA 23502), 1991. 200 Pages. \$11.95.

**BEYOND STALINGRAD: MANSTEIN AND THE OPERATIONS OF ARMY GROUP DON.** By Dana V. Sadarananda. Praeger, 1990. 165 Pages. \$42.95.

**GLORIOUS DEFIANCE: LAST STANDS THROUGHOUT HISTORY.** By Dennis Karl. Paragon House, 1990. 237 Pages. \$22.95.

# From The Editor

## REDUCING THE RISK

Soldiering can be a dangerous business, and each MOS carries its own risks; infantrymen, logisticians, artillerymen, NBC specialists, aviators, tankers, medical personnel, engineers, and all of the other members of the U.S. Army must learn to recognize and deal with the risks of their profession. Teaching our soldiers about safety is the responsibility of trainers, leaders, and peers, and not just when the subject bobs up on the training schedule or after an accident, but every time the opportunity presents itself.

In preparation for an upcoming piece on firearms accidents, I've come across some figures; for example, in the last 8 months, the United States Army has experienced 19 accidental shootings, which resulted in the deaths of four soldiers or family members and serious injury to the remainder. Ten of the shootings were with handguns and were attributed to alcohol or fooling around with the weapon.

Firearms are the tools of our trade, and unless we understand that they are not toys, that we can never assume they are unloaded, and that we only point a weapon at something—or somebody—we really intend to shoot, we will continue to face the reality of young lives ended, families destroyed, and careers abruptly terminated.

Firearms safety is not just another requirement; it is an imperative that demands our attention. The issue is not gun ownership; it is responsible gun handling. And it is something that can only be taught and reinforced by trainers, leaders, and peers.

RAE

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