

A black and white photograph of a helicopter, likely a UH-1 Huey, in a field. The helicopter is the central focus, with its rotors and landing gear visible. In the foreground, several soldiers are crouching or lying on the ground, some appearing to be in a defensive or tactical position. The background consists of a dense line of bare trees, suggesting a late autumn or winter setting. The overall tone is somber and military.

# FIELD ARTILLERY JOURNAL

May-June 1976

The Artillery Raid

# FIELD ARTILLERY JOURNAL

Volume 44

May-June 1976

Number 3

The *Field Artillery Journal* is published bimonthly at the US Army Field Artillery School for the same purpose stated in the first *Field Artillery Journal* in 1911:

*"To publish a Journal for disseminating professional knowledge and furnishing information as to the field artillery's progress, development, and best use in campaign; to cultivate, with the other arms, a common understanding of the powers and limitations of each; to foster a feeling of interdependence among the different arms and of hearty cooperation by all; and to promote understanding between the regular and militia forces by a closer bond; all of which objects are worthy and contribute to the good of our country."*

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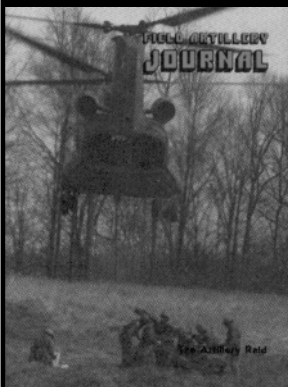
Funds for the printing of the publication were approved by the Department of the Army, 1 September 1973.

All articles and information submitted are subject to edit by the Journal staff; footnotes and bibliographies will be deleted from text due to limitations of space.

All letters and articles should be addressed to Editor, *Field Artillery Journal*, PO Box 3131, Fort Sill, OK 73503. AUTOVON 639-5121 or Commercial (405) 351-5121.

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Subscriptions to the *Journal* may be obtained through the Field Artillery Historical Association, Fort Sill, OK 73503. The rate remains \$6 per year.



Members of the 101st Airborne Division preparing for march order. (Photo by SP4 David Sleeth of the 101st.)

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Oklahoma City, OK*

POSTMASTERS: Application to mail at controlled circulation rates is pending at Lawton, OK.

## Articles

- FIST** 7  
*by BG Paul F. Pearson*
- Toward A More Congenial Training Environment** 13  
*by LTC Frank A. Partlow Jr.*
- Firepower** 17  
*by BG Albert B. Akers*
- Artillery Raid — Air Assault Style** 22  
*by LTC (P) Albert E. Wolfgang and  
CPT Ronald E. Spears*
- The Up-Load Exercise** 33  
*by CPT Keith E. Predmore*
- Winning The West — Chapter Two** 37  
*by COL (Ret) Robert M. Stegmaier*
- Forging The Main Link** 40  
*by LTC Serge P. C. Demyanenko*
- The Warlock** 48  
*by CPT John R. Shelton*
- The Field Artillery In Vietnam  
Part V (Continued)** 53  
*by MG David E. Ott*
- Reflections On Being A Lieutenant In Germany** 60  
*by CPT Edward W. Pogue*

## Features

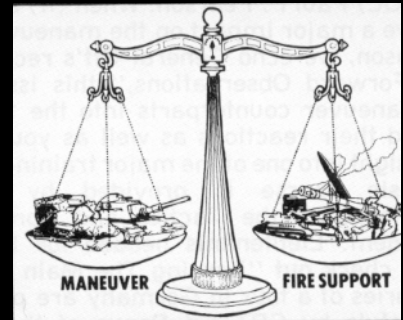
- A word from the editor** 2
- Incoming** 3
- Forward Observations** 6
- Commanders Update** 12
- Right By Piece** 29
- View From The Blockhouse** 45
- With Our Comrades In Arms** 51
- Redleg Newsletter** 58



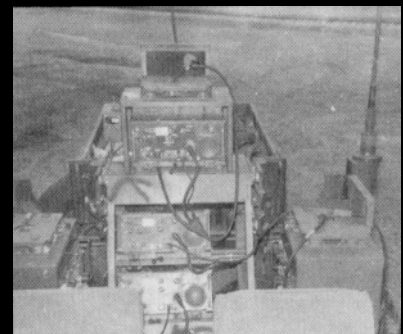
pg. 60



pg. 29



pg. 17



pg. 48



pg. 22

# *a word from the editor*

Our feature article this month represents probably the most significant modification to the forward observation system since binoculars were added to the inventory. The fire support team (FIST) is the result of the efforts of the Close Support Study Group formed in June of last year under the able direction of BG (then COL) Paul F. Pearson. When (if) adopted, FIST will have a major impact on the maneuver arms. For this reason, we echo General Off's recommendation (see "Forward Observations," this issue) to bring your maneuver counterparts into the FIST picture. We need their reactions as well as yours.

An insight into one of the major training exercises of the basic course is provided by LTC Serge Demyanenko of the Tactics and Combined Arms Department. Lieutenants headed for Fort Sill will want to check out "Forging The Main Link."

Memories of a tour in Germany are presented in a unique style by CPT Ed Pogue of the Counterfire Department. "About that green tape, Ed...."

The 101st Division Artillery is on board with two articles, "Artillery Raid," a training exercise written by LTC(P) Albert Wolfgang and CPT Ron Spears of the 2d Battalion, 319th Field Artillery; and "Warlock" a complete communications complex mounted in one jeep. The designer and author, CPT John Shelton, has left the div arty and is now working for the division communications officer for obvious(?) reasons.

From Europe, CPT Keith Predmore focuses on a less glamorous, though vital, aspect of the FA system—ammunition resupply.

We are still receiving responses to the "Hostile Training Environment" article from our January issue. LTC Frank Partlow Jr. has presented us with some very cogent ideas for designing a "Congenial Training Environment."

At this point I would like to introduce the **Journal** readership to the new editor, MAJ William A. Cauthen Jr.

Bill comes from Florida and did his undergraduate work at West Point. He has a masters degree from the University of Alabama. A graduate of the Command and General Staff College, Bill has seen duty with the 101st, served two tours in Vietnam and commanded a Pershing Battery. He comes to us from the Information Office of Headquarters, European Command. I am confident that the **Journal** will continue to succeed under his very capable direction.

A word of thanks and one note of caution. It occurs that the **Journal** owes a great deal to many people: Generals Off, Koch and Lewis, who got us started and, if you will, kept us going; General Akers, whose strong belief in our forum concept makes it possible for all points of view to be printed in the **Journal**; the staff members, past and present, for their total commitment to excellence—the list could go on forever. The biggest share of the thanks, of course, goes to our readership, especially those readers who have been contributors. It has been truly exciting over the last three years to see the interest in the **Journal** build throughout the Field Artillery Community. This leads us to the note of caution.

One of the problems in becoming an established part of any system is that the members have a tendency to take you for granted. As we prepare to begin our fourth year of revived publication, it is hoped that we can avoid this problem of complacency. I don't know how many times Redlegs have said to me, "I was going to write you a letter (or article) about that subject, but...." The best rule to follow is, if the spirit moves you to write, write! There is nothing magic about how we publish every two months; we take what you send us and put it together. We will make room for all points of view.

The old **Field Artillery Journal** was published from 1911 until 1949, 38 years. If we continue to receive the same enthusiastic support, the **Journal** is well on its way to its second successful 38 years.

Enjoy your **Journal**.

## *editor*



## letters to the editor

### New Subscriber

As a new civilian (ex-GI) subscriber to the *Field Artillery Journal*, I read my first issue (January-February 1976) with a great deal of interest. I am very pleased with the variety of articles and the very high quality of articles. If I may I'd like to comment on two of the articles:

- "Trainers, Rise Up," page 17, right column, first paragraph: "Resupply operations may be slowed and even stopped." That one sentence could and should be amplified into a separate article. Resupply is a very much overlooked subject and one which should receive Army-wide attention. If what I read is correct, European rear bases will be destroyed very early in a war — and then what will you have to fight with? Same article, page 19, left column, last paragraph: What is a "self-help school?" Never heard that one before.
- "The Time Has Come . . ." page 46: This is the first article I have read on the Lance, and it is excellent. I find it hard to believe that so vital a unit is without a security force. Who is to protect it, or the radio relay teams the author suggests must be established? It would seem that one standard Soviet airborne rifle squad could raise havoc with the unit and a special team, of say 20 men, could destroy it. I would hope someone of authority will look at the security of this vital unit; it does seem lacking.

All in all, the *Journal* is a very interesting magazine, and I'm looking forward to the back issues I've ordered, as well as future articles.

Robert M. Phillips  
Eugene, Oregon

*A self-help school is a class (normally one day) on the maintenance of government housing (both individual and unit). —Ed.*

### The Detective

As Public Affairs Officer for the US Army Criminal Investigation Command (USACIDC) and Editor of *The Detective*, our quarterly magazine, I am extremely interested in the magazines and journals published by service schools. USACIDC is a major Army command with tenant units distributed world-wide. Due to the broad spectrum of our duties, we attempt to stay abreast of developments in the Army. If you would place us on your mailing list, I will insure that your publication is maintained in the headquarters reading room and circulated through our directorates. Please mail three copies of your publication to Headquarters, US Army Criminal Investigation Command, Washington, DC 20318 . . . .

Brigham S. Shuler  
Major, GS  
Editor, *The Detective*

*Welcome aboard. —Ed.*

### Nui Hon Cao

First of all let me say that I realize that war stories, like fine wine, get better with age; but I feel compelled to state some of my feelings about the attack on an unnamed fire base General Ott discusses in his article "1967 Combat Operations" in the November-December 1975 *Journal*.

To the men of A Battery, 2d Bn, 320th FA, and to the men of my battery, C Battery, 3d Bn, 16th FA (the Army's finest) and our commanders and S3s, then LTC Bolcar, MAJ John Patton and LTC Don C. Fox and MAJ Gerry Gross, that hill sure had a name: *Nui Hon Cao*.

Somehow the reading of the attack loses something. No one can express the pure heroism of the one Medevac pilot who came in to the fire base (Dustoff 54) or the skill of the radar warrant officer in vectoring a helicopter to a very narrow

ridgeline in truly zero, zero weather.

Also, to my knowledge my predecessor, then CPT Dan Simpson, made the first airmobile lift of 155s in I Corps utilizing CH-53 Marine helicopters. This lift was made from Chu Lai to the Special Forces camp at Thien Phouc. I assumed command at Thien Phouc and made the air move to Nui Hon Cao again utilizing Marine CH-53s. While I was in command, C Battery made two more Marine helicopter moves and one luxurious move utilizing CH-54s.

Bruce A. Bourgault  
MAJ, FA  
Asst. Professor of Military  
Science  
Idaho State University

*Thanks for the name, Bruce. As we recall our "advisor's Vietnamese," the translated name would be the "Taller Mountain." —Ed.*

### Fireworks

In response to Ray Anderson's request for information (January-February, 1976 *Journal*) concerning the "History of Fireworks in America," the Morris Swett Library, USAFAS, contains material that might be of use.

Three standard works available are LT Robert Jones' *Artificial Fire-Works*, 1766; James Cutbush's *A System of Pyrotechny*, 1825; and, CPT Alfred Mordecai's *Ordnance Manual of 1850*. In addition, Henry Faber's *Military Pyrotechnics* and Alan St. H. Brock's *A History of Fireworks* offer excellent historical discussions. Brock's work, while primarily concerned with the development of British fireworks, offers probably the most complete bibliography available.

James H. Byrn  
Supervisory Librarian  
Morris Swett Library  
USAFAS

## Incoming

### Why Don't We?

*(Create a system of NCO master instructors in units.)*

I propose we borrow an idea from the British Army and adapt it to our situation. That is, the development of a corps of expert NCO instructor/trainers using currently authorized TOE positions within our groups, division artilleries, battalions and batteries.

The need for these specially qualified NCO trainers is going to become increasingly apparent during this next year. TRADOC is launched on a massive, multimillion dollar program to get more training support out where the action is — in the units. Expensive multimedia packages, designed to reinforce enlisted skills taught in school and to teach skills not taught in school, are being prepared for export to every unit in the Army, both Active and Reserve.

Who is going to insure that these beautiful packages are properly used? Or that they are used at all? We have all experienced the arrival of big packages of new reference material or equipment in the battery supply room of a busy outfit and its subsequent discovery a year later during preparations for the IG inspection. In recent years, our Army has usually responded to problems like this by adding little special briefings to officer school training and sending form letters to busy commanders asking their cooperation. This is all right — even necessary — but it doesn't get to the heart of the problem.

The trainer most frequently present for duty who sees the gun, survey, missile and FDC sections face to face on a daily basis is the NCO. If he is not an effective trainer — if he cannot use the beautiful TRADOC packages properly — then we are wasting enormous amounts of time and money. Worse, we will not have a combat-effective unit.

How can we insure that our key trainer, the NCO, is fully competent without *any* officer supervision to handle the routine training of the enlisted men for whom he is responsible? How can we get him up to standard on the latest doctrine, techniques and training methods? And permit him to remain current during a three-year unit tour? I recommend we designate selected senior NCO (TOE) positions in each unit as "instructor" positions. Some examples might be the SFC battalion chief computer

(13E), the SFC chief of firing battery (13B), the SSG survey team chief (82C) and the SFC platoon sergeant (15D). The instructor "H" suffix would be made a prerequisite for NCO assignment to selected key positions in units.

This special designation would indicate not only superior MOS technical proficiency but also a mastery of training techniques and current training materials.

The senior NCO instructor's job, along with his other normal TOE duties, would be to train the junior NCO trainers in his unit. In this way, the cannon unit chief of firing battery insures that his section chiefs, and even the SP4 acting chiefs, are able to effectively use available material to train their sections. We would eliminate the destructive situation where an uninformed section chief sits around in a circle with his men trying to figure out how to do something. We must give that section chief the answers! He is the critical, final link in the chain of command.

No formal school system of resident instruction can cope with the needs of ever-changing unit situations. This is the reason TRADOC is preparing to export the Basic NCO Course (BNCOC) to NCO academies throughout the Army. We will reach more section chiefs faster this way. But BNCOC is only a small step. The key is within the unit. If officers and senior NCOs are not able to train new, acting or incompetent NCOs up to a reasonable standard *on the job* then our overall training system is a failure.

Where can we get the senior NCO expert instructors? This is a tough one. We can make a start by working with MILPERCEN to insure that every NCO instructor at the Field Artillery School is assigned to one of these key unit positions when he leaves the School. We would have to give him a brief orientation course as he departed to insure he was fully informed on the use of all training material available in the unit. A second potential source of unit instructors is the resident Advanced NCO Course. In addition to MOS training, enough emphasis could be placed on "how to train" to justify the award of the "H" suffix to graduates. There are undoubtedly other good possibilities which I haven't thought of.

A requirement in the system would be MILPERCEN agreement to intensively manage these specially-qualified senior NCOs to insure that they move directly to

unit TOE positions where they are needed and stay in such positions until promotion takes them into other jobs. Does this smack of creation of an elite senior NCO group within the MOS? You bet! Would this give them a big advantage for promotion? Absolutely! Isn't this discrimination in good (troop duty) job assignments? Exactly — only the best need apply!

The final linchpin in operating the system would be to establish these senior NCO instructor positions as the recipients of a continuing stream of information from the Field Artillery School. Letters, training circulars and bulletins to commanders would, of course, continue. But we know that information provided to busy commanders may not always be disseminated expeditiously to section chief level. And battalion/battery officers have a habit of skimming off personal copies of well-written, colorful training circulars. To offset this and to insure that our senior NCOs are kept informed, we would send appropriate material directly to them and they would retain their own personal library of pertinent publications. The Field Artillery School might also provide regional teams to conduct semiannual updating brief courses or bring selected unit representatives back to Fort Sill annually.

In addition to training the junior NCOs, this elite corps of NCOs would also provide the nucleus for required teams to administer the coming hands-on skill qualification tests. The tests, which must be administered at some level within units, will require a high level of expertise for setting up, administering and scoring. Without NCOs of unquestioned technical competence, such practical tests can become a farce. These NCOs will also be tremendous assets in administration of ARTEPs and in the training of junior officers.

There are many holes in this proposal. It is not completely thought out — but it seems worth the effort. The greatest gain of all would be a major impetus in improving a commander's most precious asset — professionally competent NCOs.  
WHAT DO YOU THINK?

Paul F. Pearson  
Brigadier General, USA  
USAFAS

## Feathered Redlegs

If a lobster can make it into the *FA Journal* (January-February 1975), why not a birdbath? Enclosed is a photo of the birdbath in front of the Headquarters, Readiness Group Shilling Manor, Salina, KS. The bath was originally a "blah" white until the Branch Assistance Team, Field Artillery, lended dignity to it in the finest field artillery tradition . . . . The bowl was painted red with white crossed cannons in the center.



Keep up the good work; all the National Guard FA units we work with receive, read and enjoy the *Journal*.

Anthony McB. Curtis  
MAJ, FA  
BAT, FA  
Readiness Group  
Shilling Manor  
Salina, KS

## New Grading Procedure

Reference an article in the January-February 1976 issue of the *Field Artillery Journal* by COL [BG] Paul F. Pearson entitled "Forward Observer Effectiveness!"

I would like very much to obtain a copy of the "New Grading Procedure" that the colonel mentioned in the article and any appropriate instructions relative to the implementation of same. (I am an FSO with the 1st Battalion (155-mm SP), 86th FA, and have the responsibility for FO training.)

Thank you for any help you may send.

James E. Ennis  
CPT, FA  
Graniteville, VT

*Your grading procedure is on the way.*  
—Ed.

## Vietnam Photos

As part of the Army's official historical series, the Center of Military History is preparing a volume entitled *The US Army in Vietnam: A Pictorial Record*. We are now canvassing Vietnam War veterans for pictures and would be grateful if you printed the following notice in the next issue of your journal.

*We would welcome photographs illustrating the following subjects: Viet Cong and North Vietnamese Army activities, morale and discipline in USARV, Vietnamese life in the cities and on the outskirts of US bases, battle damage and combat. All contributions — prints only, no slides, should be sent to:*

Dr. Joel Meyerson  
US Army Center of Military History  
Forrestal Building  
Washington, DC 20314

## FDC Evolution

Working with Reserve Component and Canadian units here at Fort Lewis, I'm one of those remote Redleg staff officers who is frequently unable to obtain current copies of your superb publication. But my pride (and hopefully proficiency) as an artilleryman has not waned, despite present duties.

Each issue of the *Journal*, however deviously acquired, is read repeatedly until more recent editions are found. I was quite impressed with the tentative results of your readership survey as cited in the September-October 1975 edition. After reading those statistics for the third time, I was finally struck with the notion that I may have a simple contribution of interest to the majority of your readers.

Late in 1972, while waiting for my FAOAC class to begin, I was quite honored in being asked to research material for possible inclusion in the written memoirs of General Collins, former Army Chief of Staff. My efforts resulted two months later in the printing of a simple booklet, "Notes On The Development Of The Fire Direction Center."

I don't know what use, if any, General Collins made or intends to make of my submission. However, the booklet is filed

## Incoming

with Morris Swett Technical Library, USAFAS, and I've been advised that it's used often by FAOAC students and others as a very concise yet informative reference on field artillery . . . . It should present universal appeal to all Redlegs everywhere, especially other staff officers since we read *anything* . . . .

I would appreciate a courtesy copy of the most recent *Journal*. Perceptive PSNCOs and extrovert S1s and S3s within division artillery are getting very suspicious of me, sneaking around offices looking for discarded copies. Thanks for enhancing my FA pride with your incomparable publication!

Thomas H. Miles Jr.  
CPT, FA  
Fort Lewis, WA

*Thanks, Tom. With all due respect to staff officers everywhere, Redlegs interested in obtaining a copy of the FDC booklet may do so through their local library on an interlibrary loan.*  
—Ed.

## "Battered Bastards" Reunion

If it is possible under your policies, could you publish the enclosed notice of the annual reunion of the original "Battered Bastards of the First Team," perhaps in your letters section.

Thanking you in advance for your trouble.

Ralph R. Balestrieri  
1LT (Ret), FA  
Eatontown, NJ

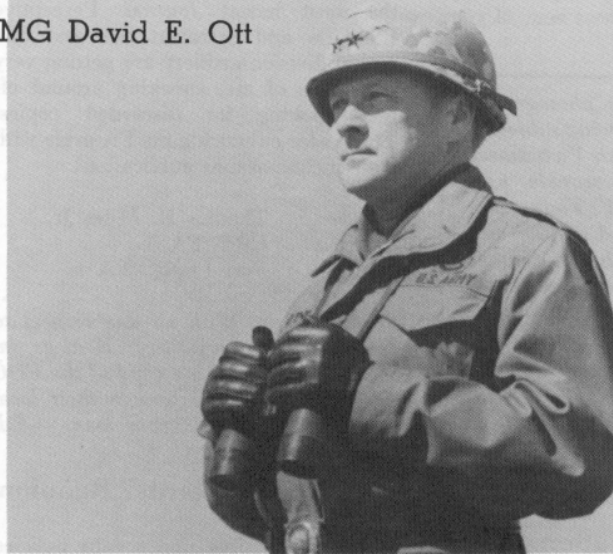
PS — No profanity is intended as the organization in question had no parents, no family (except an occasional group headquarters) nor any off-spring as far as is known!

The 58th Armored Field Artillery Battalion will hold its annual reunion August 14-15 at the Colonial Motel, Greenville, SC. For further information contact Edward R. Richardson, 1419 Iroquois St., North Charleston, SC 29406. Former members not on the mailing list (current roster) are urged to make contact even if they do not plan to attend the reunion.

*Look for more on the 58th in a future issue.* —Ed.

# forward observations

MG David E. Ott



For some time, we at Fort Sill have been concerned about the size and composition of the forward observer (FO) section. It is the smallest in the free world, but that's not really the point. Three problems disturb us. First, company sectors on our battlefields are very wide, much wider than they were when we formed FO sections. This makes it extremely difficult for our FO to provide indirect fire support across an entire company front. Second, the TOE transportation for the FO is a 1/4-ton truck, even when he is working with tanks and armored personnel carriers (APCs). If he is to ride with armor, he must "bum a ride" in one of their vehicles, thus splitting up his own team; and, third, new equipment will further burden down the small section. Soon we will be fielding the laser rangefinder and, not long after that, the ground laser locator designator necessary to guide the cannon launched guided projectile.

We took a look at available assets to expand the capability and transportation of the FO team. We noticed that mortar sections had their FOs operating with infantry platoons on a dedicated radio net, and we knew that there were considerable APCs utilized for

purposes other than the transportation of mechanized-infantry squads.

We felt that perhaps a solution could be found wherein the FO team could absorb mortar observers into a multipurpose observer team and could find better transportation and communications from the various resources allocated to infantry and armor. This, of course, would entail some cross-transferring of personnel and equipment and led me to ask General DePuy to establish a study group, chaired by either the Combat Arms Development Activity at Fort Leavenworth or MASSTER at Fort Hood so that the team would not have a parochial flavor. General DePuy responded by directing Fort Sill to head the study effort and provided membership for it from other combat arms schools and other combat arms activities. This resulted in an *ad hoc* study team under BG (then COL) Paul F. Pearson, Director of Gunnery.

The study team from these various schools and agencies came up with a fire support team (FIST) concept, consisting of an artillery lieutenant, controlling and directing observers who are noncommissioned officers working with the platoons (except tank platoons). All observer noncommissioned personnel would be given a new MOS—a shooter's MOS—and would be especially trained in the adjustment of indirect fire of all types, mortars and field artillery. In addition, the lieutenant and his key sergeant would be trained in close air support. The FIST leader would be in an APC in armored forces. This concept received immediate and enthusiastic support from commands where it was informally briefed—divisions in Europe, units in other CONUS posts and the other combat arms schools and activities. However, we did run into a problem concerning the assignment of the officer, his men and his equipment. We are working now on a resolution of this problem. Several possibilities exist: that the entire fire support team belong to the maneuver force it works with; that it belong to the field artillery as the current FO team does; or, that part of the team belong to maneuver and part to the field artillery. There are obvious training and responsibility problems no matter which solution is adopted, and we are seeking resolution of this part of the problem.

I encourage you to show this article to maneuver personnel near you. We will need a fully supported team effort to make the FIST work.





# ***FIST!***

by BG Paul F. Pearson

## **Europe 1980:**

The field artillery forward observer (FO) moves with his combined arms company team in his M113 armored vehicle. Since he has mobility and armor protection similar to his tank-mech counterparts, he is in no difficulty. He transmits calls for fire over extended distances by a high-power radio mounted in his vehicle. The combination of armor-protected mobility and high-power radios permits the FO to position his vehicle for optimum observation and still accomplish the necessary interface with his company commander to do his job as company fire support coordinator (FSCOORD).

Maximum utilization of available indirect fire weapons is permitted because the FO, now the fire support team (FIST) chief, commands, trains and

**Muhammad Ali's right fist photographed by Pierre Houles. Reproduced by permission of *Esquire Magazine* © 1974 by Esquire Inc.**

supervises all observers with the company team. All members of the team (former 81-mm and 4.2-inch mortar observers) are now field artillerymen trained in the fire support MOS 13F specialty. They are now capable of selecting the best weapon for the job and calling for and adjusting the appropriate ammunition, whether it be mortar or field artillery.

The many problems caused in the past by the lack of combined arms (maneuver-field artillery) training are gone because the field artillery FSO sections and FISTS are now organic to maneuver units, minus the officers who are attached for extended periods of time from the direct support (DS) battalion. This organization also eliminates the problem of fire support resources for

divisional cavalry squadrons and maneuver battalions beyond the total of nine per division. All maneuver battalions come with their organic FSO section and FISTs! But we are getting ahead of our story . . .

### **Close Support Study Background**

In June 1975, MG David E. Ott, Commandant, USAFAS, wrote General DePuy, the Commander of TRADOC, expressing concern at the many deficiencies plaguing the front (observer) end of the fire support system on today's modern battlefield. General Ott noted the totally inadequate transportation and communication equipment now provided field artillery and even mortar observers. He also stressed the need for coordinated use of observers present with the maneuver company where an infantry unit may have three 81-mm mortar observers, one 4.2-inch mortar observer team and a field artillery observer team. None of these observers is cross-trained and the teams operate with very limited coordination.

General DePuy agreed that the forward observation system badly needed modernizing and he directed General Ott to form a TRADOC study group to solve the problem. The Close Support Study Group (CSSG) convened 25 August 1975 with the mission: *optimize observed fire support for maneuver forces.*

### **Methodology**

The CSSG included members from the Field Artillery School, Infantry School, Armor School, Combined Arms Center, MASSTER and the US Air Force. The study group examined other armies' observer organizations and received extensive input from a variety of US Army tactical units. Today's modern battlefield, with its extended frontages and new maneuver tactics, was considered along with the most likely threat and its associated array of massed armor, motorized infantry, field artillery, air defense artillery and antitank weaponry — all of which drive the number and type of targets observers must cope with. An initial solution was sought for the Europe mech-armor environment, with the concept subsequently applied to other type units.

The rapid increase in FO responsibility was recognized along with materiel developments in the next five years which will further load new requirements on observers. For example, recent gunnery changes in registration and smoke mission procedures now put most of the load on the observer, not the fire direction center (FDC). New ammunition capabilities, such as field artillery scatterable mines and dual-purpose improved conventional munitions, will place the observer, working with the company

commander, in the key decision-making role.

New equipment for the FO includes the GVS-5 laser rangefinder, the digital message device (DMD) which is the front end of our TACFIRE battery computer-gun display unit digitalized gunnery system, the vehicle/ground laser locator designator (V/GLLD) used in conjunction with the cannon launched guided projectile (CLGP) and the lightweight laser designator (LWLD) now being developed for issue to mortar observers. All these developments obviously require a much better equipped, trained and integrated FO system — without this we will have a disastrous, ineffective front end of the fire support system.

The probable absence of airborne forward air controllers (FACs), due to a mid-intensity air defense threat in a Soviet bloc threat environment, has also added to the observer's lengthening list of duties. TRADOC and Tactical Air Command have tentatively agreed that someone on the ground, in a position to locate the target and describe the local environment, must provide this information. Since the Air Force cannot provide a FAC for every maneuver company, the logical man for this limited requirement is the field artillery FO.

The CSSG quickly agreed on a long list of "wants," to include improved transport, communications and technical training. Also, the group agreed that we must tear away the "mystery" of field artillery, greatly increase combined arms training and develop more maneuver commander understanding of indirect fire support. Observer assets must be integrated to form a FIST which is organic to all maneuver units, eliminating the problem of those divisions with 10 and 11 battalions as well as unsupported cavalry squadrons. The integrated FIST would insure maximum use of available weapons systems so that scarce field artillery is not wasted on jobs mortars can do. The CSSG also agreed that the maneuver company commander is overloaded with responsibilities. He needs an FCOORD, working under his guidance who has the know-how to squeeze the most benefit out of available resources. Finally, vast improvement is required in technical fire support training in most maneuver units. For example, many people — Army aviators, Air Force FACs, scouts, platoon leaders, mortar observers and others — are taught something about calling for and adjusting indirect fires in military schools. But there is limited (or no) follow-up training in units. Additionally, observer training is usually not coordinated for the greatest payoff. The 81-mm mortar, 4.2-inch mortar and field artillery personnel all do their own thing, whereas a coordinated training program could provide expert instruction and many opportunities to practice the

observer's trade.

### Study Group Recommendations

To achieve all the "wants" and the effective utilization of new materiel being developed, the CSSG recommended the formation of company FISTs. Transportation and communication are upgraded significantly in mech-armor units. The FIST, along with the battalion FSO sections, is assigned to a maneuver battalion headquarters and headquarters company minus the field artillery officers who are attached from the DS battalion. These fire support assets are consolidated in a fire support section under the attached field artillery officers. This arrangement places the administrative and technical training burden at battalion level while facilitating habitual FIST association with maneuver companies at all available training opportunities. It is recommended that the field artillery officers be attached to a maneuver unit for a year and then be replaced by officers from the DS battalion.

The CSSG came up with two sets of solutions:

- The Quick-Fix solution which can be implemented immediately with the personnel and equipment currently on-hand in troop units.
- The Long-Range solution which adds the materiel presently in the development stage.

The Quick-Fix FIST strictly uses existing TOE personnel and equipment supplied mostly by the maneuver units. The teams for tank and mech-infantry companies are organized as follows:

#### Tank Company — Quick Fix

##### Personnel

One LT — FIST chief  
One SSG (E6) — Sr FS SGT  
One SGT (E5) — Asst FS SGT  
One SP4 (E4) — Personnel carrier driver  
One PFC (E3) — Radio telephone operator (RTO)

##### Equipment

One M113A1  
One AN/VRC-46  
Two AN/GRC-160s  
One KY-38  
One AN/GRA-39

The tank company FIST is capable of 24-hour operation. All personnel come from existing field artillery and 4.2-inch mortar observer party positions. The FIST M113s are supplied mostly by 81-mm mortar platoons in mech-infantry units; the M113s in the 81-mm platoons will be replaced by M577 command

post tracked vehicles taken from various battalion headquarters. The FIST radios are obtained from both FA and maneuver sources.

Platoon FOs for tank units were considered and rejected because of:

- Absence of an appropriate place for the FO to operate.
- Tank platoon leader/platoon sergeant communications capability permitting easy access to fire support nets.
- Absence of dismounted operational requirements.

#### Mech-Infantry Company — Quick-Fix

##### Personnel

##### Equipment

##### FIST Headquarters

One LT — FIST chief	One M113A1
One SSG (E6) — Sr FS SGT	One AN/VRC-47
One SGT (E5) — Asst FS SGT	Two AN/GRC-160s
One SP4 (E4) — Driver	One AN/GRA-39
One PFC (E3) — RTO	One KY-38

##### Platoon FO Party (Three)

One SGT — FO	One AN/PRC-77
One PFC — Asst FO/RTO	(in platoon leader's vehicle)

This team, like the tank company FIST, provides for 24-hour operation. All personnel, except for some of the second men in the platoon FO parties, come from current observer party assets. These second men have been transferred from 81-mm mortar platoons at the request of the Infantry School to beef up observer capabilities. The M113A1 comes from the mech-infantry communications chief, who receives a 1/4-ton truck with radio and trailer in the swap. The identification of equipment trade-offs in the quick-fix configuration serves only to establish a method of reorganizing temporarily. The CSSG is not labeling equipment in its present TOE location as "expendable." The items selected appear to be the easiest to do without on a temporary basis. Major commanders who choose to move quickly into the FIST configuration will make their own decisions on equipment sources. The longer term submission of revised TOEs will include both FIST and original materiel as desired by the proponent schools. The ultimate result will be determined during the TOE justification process at TRADOC, major commands and DA.

In conjunction with the FIST, it is recommended that

a new field artillery career specialty be established, 13F fire support, which incorporates all mortar (11C) and field artillery (13E) enlisted observers along with FSO section fire support personnel. Single source training beginning with advanced individual training would be accomplished at the Field Artillery School. This will eliminate the current gross lack of attention given our enlisted observers by both field artillery and maneuver branches. It will provide a truly professional corps of NCOs in a manageable career specialty, as opposed to today's situation where the career-motivated observer must attempt to span the entire spectrum of increasingly complex forward observation, fire direction and, in the case of 11Cs, mortar crew duties. The Field Artillery School is already moving to create the 13F specialty whether the CSSG recommendation is approved or not. Within the 13E MOS the impending changes required by the TACFIRE battery computer make this division of expertise essential. The Basic NCO Course, which will be exported to NCO academies next year, will include both 13E and 13F courses for field artillerymen.

The Long-Range FIST utilizes the quick-fix organization with a few changes in the rank structure, and will include equipment now in development. Perhaps most important, the senior fire support sergeant will be an SFC who gets the job done whether an officer is present or not.

### **Tank Company — Long-Range**

<u>Personnel</u>	<u>Equipment</u>
One LT — FIST Chief	One M113A1 with FO kit
One SFC (E7) — Sr FS SGT	One Land navigation device
One SSG (E6) — Asst FS SGT	One V/GLLD
One SP4 (E4) — Personnel Carrier	One AN/VRC-47
One PFC (E3) —	Two AN/GRC-160s One KY-38
	One AN/PRC-77 One DMD One AN/GVS-5 One AN/GRA-39 One AN/RC-292

This team also is capable of 24-hour operation and can furnish a second fully equipped FO party as required. The FIST vehicle carries equipment which provides continual, accurate vehicle location and base direction along with a mounted laser rangefinder in a configuration which will provide instant direction and distance to a target. These target data are quickly converted to target location in a simple computer and transmitted digitally to the TACFIRE system, providing

a constant first-round, surprise fire-for-effect capability.

### **Mech-Infantry Company — Long-Range**

<u>Personnel</u>	<u>Equipment</u>
<u>FIST Headquarters</u>	
Same as tank company.	
<u>Platoon FO Party (Three)</u>	
One SGT — FO	Two AN/PRC-77s
One SP4 — Asst FO	One AN/GVS-5 and one LWLD (in platoon leader's vehicle)

The platoon FO party receives additional equipment to permit handling of both laser guided munition and conventional missions simultaneously.

The FIST concept as developed for mechanized and tank units was adapted with appropriate variations for infantry, airborne, airmobile and armored cavalry units. Since the basic ideas are the same, these will not be outlined in detail here.

The impact of the CSSG recommendations on the Reserve Components was considered in detail. Reserve component advisors and unit commanders were consulted. It appears that FSO-FIST sections, minus officers, could be placed in maneuver units. The officers would train with their FSO-FIST section as frequently as geography/distance permits.

Battalion and brigade FSO sections are strengthened by immediately providing one 1/4-ton truck from reorganized FO assets for each FSO section and requiring the 4.2-inch platoon leader to serve as the assistant battalion FSO as an additional duty. In conjunction with long-range TOE changes, the CSSG recommendation provides a 1/4-ton truck with AN/VRC-47 radio and a driver/RTO; a major instead of a captain as brigade FSO; a brigade senior fire support sergeant in the grade of E8; and, the variable format message entry device for digital interface with the TACFIRE system.

### **Command and Control**

The FIST organization and equipment permit the use of a flexible command and control system. The FIST vehicle and its three radios allow the team chief to position himself for optimum observation and still be in constant communications with his company commander. With one radio on the company command net, the other two radios normally will be on the company fire net and the field artillery fire direction net. Since all

observers with the company, as well as the platoon leaders/platoon sergeants, are trained to call for any type of available fire — mortar and field artillery — there must be a control system to prevent traffic jams on *one* frequency.

There are numerous ways in which commanders, through their FSOs and FIST chiefs, can control the allocation of indirect fire support. Since heavier fires (4.2-inch and 105/155-mm) are limited and must be shared by all company teams within a battalion task force, the battalion commander/battalion FSO must insure that these fires are quickly available where they are needed most. For example, in a wide sector the 4.2-inch mortars cannot range the entire battalion front. Additionally, a tank-heavy company team has no 81-mm mortar support. The FSO may position the 4.2 platoon to insure that it can support that company team and may also give the tank heavy team priority of fire from the 4.2 mortar platoon. Within a mech-infantry heavy team, the FIST chief may permit platoon observers/platoon leaders to go directly to the 81 mortar FDC for fires while requiring them to come through him when they want 4.2 mortar or field artillery fires. There are other control measures discussed in the study which the FSO/FIST chief, operating under maneuver commander guidance, may use to insure that indirect fire support is available to anyone who needs it and that the most appropriate weapon system is used to provide the support.

### **Training**

The CSSG felt that failure to continue school training in units is the weakest link in our fire support training system. Mortar and field artillery observers commonly perform numerous other jobs until two or three weeks before the ARTEP. The enlisted members of the observation effort often aren't even designated until a time when a crash effort has to be made to get ready for the annual test. Aviators, scouts and platoon leaders may *never* call for or adjust indirect fire in the unit. The study group believes that a more professional, combined arms approach to training is possible to include a much closer working relationship between the maneuver units and the DS battalion. Continuous planning and coordination of fire support training *can* be done at each level of maneuver command. To make this happen, the first giant step is to assign/attach the fire support expertise so that the technical expert is present full-time at brigade, battalion and company (as appropriate). The stationing of these field artillerymen with maneuver units automatically draws the attention of the DS battalion commander to a greater degree than before. After all, they are going to shoot for him on *his* ARTEP! So, even if we had a battalion commander so

unprofessional that he were concerned only with his own neck and not combined arms effectiveness, he would still have to pay attention to the FSO/FIST sections. The maneuver commander will also develop a greater understanding of and appreciation for the fire support side of combined arms. He now owns the whole front end of the observed fire business! By agreement within TRADOC, the maneuver ARTEP will be changed to include a much tougher requirement to demonstrate technical competence in planning for and delivering indirect fires.

It is recognized that school training for many people must be changed. The key figures in the FIST are the FIST chief and the senior fire support sergeant. In addition to creating the 13F fire support specialist, the Field Artillery School is already changing the Officer Basic Course to incorporate added training on mortar operations and capabilities as well as the FA lieutenant's duties as maneuver company FSCOORD. Also, several maneuver leaders and NCOs are identified for increased fire support training in service schools.

### **Testing**

The study group set up a CPX-type field test of the FIST and its command/control concepts at Fort Sill in September 1975. The key positions in a mech-armor battalion task force with two company teams in action were materialized and played in a scenario, designed to test several control techniques. Where materiel configuration was critical (FIST chief in an M113 with three radios; tank platoon leader calling for fire) the complete vehicle-radio-people combination was used. The test confirmed the validity and flexibility of the conceptual control system.

In February-March 1976, the 3d Armored Division planned, prepared and ran a battalion task force level field test of the FIST concept. The test was run during tactical training exercises at Hohenfels, with a live enemy providing a changing array of possible indirect fire targets. Many recommendations made by the CSSG cannot be tested in a short time or a single exercise. The 3d Armored Division tests were designed to provide real-world recommendations on training requirements to implement the quick fix organization; reconfiguring materiel based on quick-fix swaps; and, operation of the command/control system in a full-scale field exercise over a substantial period of time. The official test report has not been received at the time of this writing. However, informal reports are very favorable. It is clear that the FIST concept provides a much better trained group of observers in an integrated team which produces much better planning and coordination of fire support means, as well as more responsive and effective delivery of fires.

## Future Developments

The CSSG is now fully staffed at the affected TRADOC schools, and general agreement has been obtained. The TRADOC Commander will be briefed on 5 May 1976 and asked to approve the study recommendations for further briefing to major commands and implementation after a final decision briefing at DA.


Implementation will involve a number of major actions in the enlisted personnel management system, TOE, doctrine, ARTEP and training support areas. From the field artillery point of view, we are already underway in creating the new 13F specialty and adding appropriate material to the Officer Basic Course. With TACFIRE only three to four years away, it is imperative that we split the overly complex 13E field, whether the total FIST concept is approved or not.

## A Personal Note

We have received many valuable comments from field commanders, unit officers and unit NCOs. Field artillerymen applaud the many benefits to be gained from the CSSG recommendations; however, some have voiced strong objection to the assignment of field artillerymen to maneuver units. On the maneuver side,

there is concern about responsibility for technical training and for replacement of losses. We have gone more than halfway in meeting this concern by placing, where required, competent field artillerymen in the maneuver structure. Since all 13F enlisted men are on maneuver TOEs there is maximum flexibility for maneuver commanders in quickly replacing losses. Also, since the field artillery officers are attached from the DS battalion, that battalion commander retains the responsibility to provide competent officers. In fact, we should see heightened interest on *both sides* in effective forward observation and fire support coordination.

Strong concern also has been voiced regarding the career development of the field artillery lieutenant. Many commanders feel that he will be "ruined" by a year's service with a maneuver unit — that he will miss out on the development of critical skills which can only be refined in the cannon battery. They may be right. But I don't think so! Knowledge of maneuver units, how they operate, how they think and how best to put the combined arms team together is worth more in the long-run than a year of technical proficiency inspection, mess officer and *occasional* FDO-XO level duties.

Let's live and train in peacetime as we will fight in wartime — to the maximum extent possible! 

**BG Paul F. Pearson is the former director of  
Directorate of Course Development.**

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# Commanders Update

LTC William K. Kuhn  
5th Battalion, 4th Field Artillery

LTC Leonard A. Eason  
1st Battalion, 5th Field Artillery

LTC Richard A. Bliss  
1st Battalion, 6th Field Artillery

LTC Harry S. Ota  
1st Battalion, 7th Field Artillery

LTC Rush Yelverton  
1st Battalion, 31st Field Artillery

LTC Alexander Jennette  
1st Battalion, 42d Field Artillery

LTC Michale Langrehr  
2d Battalion, 75th Field Artillery

LTC Crossley W. Ross  
3d Battalion, 84th Field Artillery

LTC Frank C. Rauch  
1st Battalion, 320th Field Artillery

LTC Ernest F. Estes  
19th Aviation Battalion

LTC John A. G. Klose  
158th Aviation Battalion

LTC Gerald C. Mitchell  
1st Training Battalion  
Fort Sill

# Toward A More Congenial Training Environment

by LTC Frank A. Partlow Jr.

## CPT Lee

Baxter's article, "Trainers, Rise Up," which appeared in the January-February 1976 *Field Artillery Journal*, echoed sentiments I have felt ever since my return to troop duty after an absence of four years. While the specific examples of the hostile environment he describes may vary from time to time or place to place, denial that the training environment in today's Army is terribly and unnecessarily hostile reflects the inability or unwillingness to understand that environment.

Why we have continued as an institution to foster that environment and the concurrent self-deceptions after the spate of jarring critical blasts we have suffered in recent years at the hands of civilian journalists and authors is beyond me. Overstated as they may have been, books like Stuart Loory's *Defeated* (1973) or Ward Just's *Military Men* (1970) certainly painted a picture of an Army which was a lot more likely to lose than win wars. Now, our younger officers are telling us about training: to name only a few, Captain Baxter; 2LT Michael Ellis, in a 1975 letter to *Infantry Magazine*; MAJ David Shoemaker, with an article in "Personal Ethics" in the July-August 1975 *Infantry*; and, MAJ Marc Powe, in

"The US Army After the Fall of Vietnam," *Military Review*, February 1976. Of course, COL Mike Malone and COL Bill Hauser have been ping-ponging on this for several years now. Why don't things improve? Why aren't the changes made?

**There are** several possible answers to those questions. Among them are the natural resistance of an organization to change, the reluctance to be out front — to be "point man" when the shooting starts — and honest disagreement among honest men as to what needs to be done and how to do it. In fairness, too, a lot *has* been done. Constructive changes have been forthcoming, however slowly, in spite of perceptions to the contrary.

Lessening the hostility of the training environment, however, will require more than repetitive redefinition of the problem. If the recent criticisms of the Army have a common fault, it is in the area of proposing constructive, realistic solutions to the problems so graphically portrayed. With that thought in mind, some general and specific proposals geared to ameliorating the training environment follow. Some suggestions are pointed at the upper echelons of the command structure. Those are easy, since they require someone else to do something — always a convenient solution to our problems. Many, however, can be implemented at major subordinate command or battalion headquarters by commanders who want to do something about the problem.

A word about integrity in the Army before proceeding. A lot has been written in recent years on that subject. Honest organizations, like honest people, may differ slightly in their willingness to stand up and be counted, in assessing motivation for certain actions. Nonetheless, honesty, whether it be the intellectual variety which is inside us or the institutional variety which is around us, is very much a zero-sum proposition. Either it exists or it does not. Much of what follows will never get started in the absence of genuine institutional and intellectual honesty in the Army.

**Staffs and** commanders at the highest levels can do a great deal to alleviate the hostility of the training environment. For example, at these levels, every management tool — every report — must be evaluated to ascertain whether its utility offsets the amount of time which will certainly be spent at the unit level to compile the information — time taken from training. Visits to subordinate commands should be scheduled as far in advance as possible, spelling out a

specific itinerary or reason for the visit. In spite of the recently surfaced *faux pas* where the late President Lyndon Johnson said farewell to the wrong troops, subordinate commanders will continue to insulate their superiors from reality by "putting their best foot forward." Every time that foot is put forward, the best laid training plans of numerous unit commanders are destroyed — not to mention the fact that insulation itself is a two-edged sword. How can you expect your boss to make intelligent decisions on your behalf when you hide your real problems from him?

**TRADOC and** the service schools need to get better coordinated training literature to the field. It is absolutely inexcusable that the infantry and artillery forward observers' calls for fire differ. In many divisions Army-wide, field artillerymen are given significant mortar training responsibilities; yet, the infantry and field artillery ARTEP requirements differ so significantly that a common training ground is difficult to find. In effect, we expect our young captains and lieutenants, who must perform the training, to solve the problems which senior staff personnel, charged with solving those problems, have eluded.

At FORSCOM and TRADOC, there are also some obvious disconnects which confuse the training effort at the lower echelons. FORSCOM headquarters emphasizes squad, crew and small-unit proficiency. Yet, the annual FORSCOM requirement is for battalion-level ARTEP evaluation. TRADOC literature emphasizes fighting outnumbered and perfecting *defensive* tactics and techniques. However, ARTEPs continue to be heavily weighted toward *offensive* operations at every level.

**Staffs at** every level are often part of the hostile training environment problem, when they should be dedicated to its solution. There is an insidious staff compulsion to view troops and troop units as one huge manpower and equipment pool available to solve staff problems. For example, staff officers tend to calculate suspense dates for subordinate commands based on *their* needs, not those of the subordinate commands. The cumulative effect of this procedure on unit training, as an action is passed through several headquarters, can be devastating. The "buck" stops at the unit commander. He pays for all the time flexibility created above him by taking time from his training program to meet the unrealistically short suspenses thus created. Moreover, in an Army where unit commanders

are told to make do with E4s because E6s are unavailable, taskings for staff controlled projects often require assignment of an E6 or above. Subordinate headquarters are required to loan TOE equipment to staff sections for field problems even though loss of the equipment will adversely affect unit training. We all must learn to share the shortages together.

Staffs and their output must be carefully controlled. They must be made to understand that they best serve their commander by serving his subordinate commanders well. In the 9th Infantry Division, for example, a staff officer cannot say "no" to a commander. Only the commander can say no. The staff officer can say "yes" and begin providing the assistance requested. The unit commander has no staff. How much time he spends personally involved in the training of his unit is directly proportional to the amount of assistance he receives from the battalion and major subordinate command staffs. Some specific ways for the battalion commander to provide the services of his staff to his unit commanders will be mentioned later.

**At the** division level, a good deal can be done to enhance the quality and effectiveness of training. The major, overriding contribution is establishment of a clear-cut set of prioritized goals, coupled with a long-term program designed to allow each commander reasonably to achieve those goals. That program then should be made absolutely impervious to change from within and strongly resistant to change from without. In the 9th Infantry Division, for example, the commander has placed emphasis on the infantry battalions, which, along with their normal support slice, are expected to achieve and sustain the ability to do the following over an 18-month period (listed in priority):

- Participate successfully in a battalion-level combined arms live-fire exercise (CALFEX).
- Successfully complete formal battalion evaluation under ARTEP.
- Participate in an emergency deployment readiness exercise (EDRE) wherein all or parts of the battalion actually deploy by air within 18 hours from notification to some remote location and successfully accomplish a tactical combat mission there.
- Move to another post or area for a period of specialized training outside the Fort Lewis infrastructure.

At a lower priority, but stated as commander's tools for evaluation of subordinate units, are no-notice Logistics Evaluation Team (LET) inspections (100 percent inspection of seven commodity areas) and no-notice



Annual General Inspections (AGI). AGI and LET inspections are approximately annual for each company-sized unit; however, they are unannounced and must be 90 days apart for any particular visit.

**To provide** each commander time, personnel, monetary and other training resources on an equitable, foreseeable basis (while still fulfilling the myriad of nonoperational readiness missions required on a post the size of Fort Lewis), each battalion, through its major subordinate command, is programed on a series of five-week cycles (XYZ):

- One cycle provides for maximum training at the unit level — the unit belongs to the commander who can expect only training inspections from higher headquarters. No other details, evaluations, commitments or inspections are conducted during this period.
- The second cycle belongs to the division commander; ARTEPs, EDREs, CALFEXs, LETs and AGIs are scheduled and conducted during this period.
- The final cycle is a kind of *quid pro quo*; units perform all support functions for the post — guard, details, unit taskings, evaluations, ROTC support, affiliation support, etc. Only individual training is possible, including on-duty education for those who desire it, and maximum use of school quotas. Unannounced AGI and LET inspections can also occur during this cycle.

No system is perfect and this one has been in effect only a few months, but it has inspired considerable confidence and appears to have lessened considerably the hostility of the training environment at Fort Lewis.

**At least**, the battalion commander has been given a framework within which to plan and operate. How does he then pass the benefits of this framework along to the guy who actually does the training — the unit commander? First, he must learn to insulate his subordinate commanders, not his superiors. The battalion commander can do a great deal to protect unit training programs by acting as a buffer between the programs and the competing requirements emanating from above. He can also represent his unit commander accurately and as often as necessary to his superiors.

Next, he must learn to think and plan in five-week increments. Weekly training coordination meetings should be mandatory at the battalion level. Following an overview briefing by the S3, the meeting should address:

- Battalion commander's guidance for training at least

four weeks hence.

- Unit commander's general implementation of battalion commander's guidance for training three weeks hence. Initial training support coordination with S3, battalion staff.
- Unit commander's detailed implementation plan for training two weeks hence. Detailed training support coordination — firing points, training areas, training aids, personnel support — and battalion staff response.
- Unit commander's submission of pencil draft of next week's training schedule for finalization and distribution by the S3.
- Crisis management of current week's training. Since the unit commander participates in planning the training at each step, he has renewed interest in that planning and subsequent execution of the plan.

**More importantly**, however, the battalion commander must free his subordinate commanders from all other responsibilities so that they can actually conduct the training. To effect this, he must put his staff to work for the unit commanders, doing their administration, logistics and management. The Consolidation of Administration at Battalion Level (CABL) experiment now ongoing under the aegis of the Administration Center at Fort Benjamin Harrison appears to be a system capable of achieving this end. While the details of how the system works are fairly complex, the concept is not. The unit commander is not an administrator — he is not a staff officer — he is not a manager. We have all too many of those at each level of today's Army. The unit commander is a leader and trainer, and we have all too few of those. The unit commander is our only hope to make unit training effective. He must work at that goal — training effectiveness — full-time. To get him to do that, the CABL concept is to remove the accouterments of administration from the unit and withdraw all unnecessary management tools from unit level control. No clerks, no typewriters and no forms which cannot be scratched out by stubby pencil should remain there. All clerks and all possible orderly room functions should be pooled in the Personnel Actions Center under the control of the S1 at battalion level. All supply sergeants and supply room functions should similarly be colocated in the Supply Actions Center under control of the S4 at battalion level. Dining facilities in garrison are similarly consolidated.

All training management which is not used by and for the unit commander should be withdrawn to battalion

level. If a publication, letter or AR is not used at unit level, it should not be retained there. A complete library for reference can be maintained at battalion. Only training records reflecting absolutely mandatory individual training accomplishments, such as individual and crew-served weapons qualifications or PCPT scores, should be required. Any other records should be at the discretion of the unit commander. The unit commander doesn't need paper to tell him the training status of his troops nor must he be forced to divert time and resources to the ridiculous exercise of managing his training to pass inspections. Training effectiveness must be inspected head-on. If the training is unsatisfactory, how great the training management is makes no difference. If the training is satisfactory, the management is, by definition, effective.

**When higher** headquarters and staffs need to know the training status of subordinate units (i.e., Unit Readiness Reports), they should ask the commander to evaluate his training status by whatever standards and in whatever categories needed. Requiring him to keep meaningless statistical indicators of his training diverts the unit commander from doing the one thing he can do and the staff officer cannot — actually train the unit.


What must this unit commander do then to help himself overcome the hostility of the environment? First, he must recognize that if he fails, we all fail. He must decide to be a leader and trainer — he can be a staff officer and manager later. He must start telling people he cannot attend their meetings because these interfere with his training. He must be honest with himself and avoid the temptation to bite off more than his unit can chew. It is easy to please the battalion commander with a fancy briefing on the unit's training program. It is a lot more difficult to actually perform that training effectively when the time comes. A unit generally does one thing well at a time. Units are organized that way, and no reflection on its leader is implied if the unit falls apart rapidly when its efforts are divided — unless the unit commander planned it that way.

Finally, and most importantly, only the unit commander can defeat the one element of hostility in the training environment which will cause us to fail no matter how successful we are otherwise — the hostility of the individual soldier toward "training." We tend to deal with soldier problems after the fact. Our programs are all repairs. Where is the preventive maintenance? Why do soldiers like basic and advanced individual training but not unit training? Why do clerks,

mechanics and cooks generally fare better with the "system" than the "gun bunnies" and "grunts?" Young people in the Army are like young people anywhere. They are looking for *something meaningful to do with their lives*. We must give them *meaningful work to do* or they will be unhappy and resentful. Unhappy soldiers become problem soldiers which divert commanders' time from training; but, training may well have been the root cause of the problem in the first place!

**Today's soldier** wants challenging, competitive, head-on, performance-oriented training. He wants it every day. He doesn't want to stand around in the rain and wait for his leaders to get their problems sorted out. He doesn't want to become a training aid for a staff exercise. To provide that training is the challenge of today's unit commander. "Adventure training" and other gimmicks are not the answer. It is fine for artillery crewmen to be able to ski; however, it is infinitely more important that they be able rapidly and efficiently to emplace and fire their assigned howitzer as a team.

Preparation, rehearsal and conduct of training at the unit level should receive at least as much, if not more, care, attention and effort as does training at service schools or in basic and advanced individual training programs. It is incongruous that only those troop units assigned to ROTC or West Point summer camp training programs use FM 21-6 to plan, prepare, rehearse and teach.

**To quote** Captain Baxter, "The real way to take care of our people is to have them completely prepared for battle. If we don't, they may die." Therefore, we must make their jobs meaningful and fulfilling; we must train them on their own TOE equipment, for the mission that they will perform — *adventure* training. To make all training *adventure* training may not seem possible. However, if our young leaders put the time and effort into that goal which is now diverted to administration, inspection preparation, logistics at unit level, details, housekeeping, management at unit level and so forth, we would have a much better chance of reaching that goal. "Trainer, Rise Up!" 

**LTC Frank A. Partlow Jr., FA, is Commander of the 3d Battalion, 34th Field Artillery, Fort Lewis.**

*On 19 March 1976 the Assistant Commandant of the Field Artillery School addressed the V Corps Artillery Firepower Conference held near Giessen, Germany. Hosted by the 42d Field Artillery Group, attendees included the V and VII Corps Artillery commanders along with the battalion, division artillery and group commanders of V Corps Artillery. We are publishing the substance of General Akers remarks here for the information of Redlegs worldwide. —Ed.*

Speech by

BG Albert B. Akers

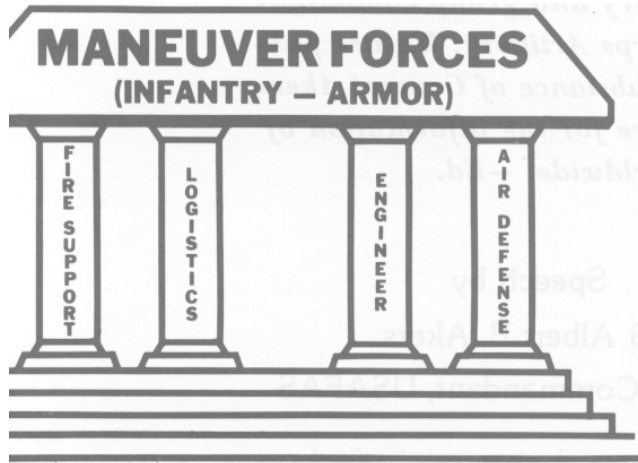
Assistant Commandant, USAFAS

I would like to express my appreciation for the opportunity to participate in this conference on firepower, a most important and worthwhile topic. Important because it holds the key to success on tomorrow's battlefield and worthwhile because we — school and field — must nurture a partnership which will lead to better answers on how to fight and win than we presently hold. We at Fort Sill are looking particularly close at your environment, since we have been charged with developing the fire support portion of a concept paper for military operations in central Europe. Our paper will emphasize the increased significance of the fire support system in modern combat and I would like to share with you our thoughts regarding firepower and fire support.

Liddell Hart noted that, "The tendency toward underrating firepower has marked every peace interval in modern military history."

Our modern battlefield will not tolerate an underrating of firepower, for when you talk about firepower, you are talking about the whole battle and everyone in it. Firepower is the one word which describes the ultimate act of warfare. We can no longer separate, in the absolute, the varying elements of combat power. Academically, we can separate them for study, but we cannot make this separation on the battlefield.

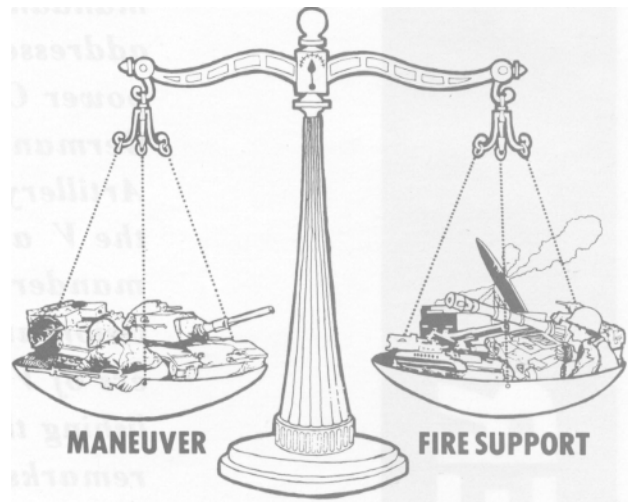
This is not an easy concept to grasp — or to sell! We have thought far too long of the fighting forces of our Army as infantrymen — and, more recently, tankers — and have classed all other participants in the combat as *support*. We speak of *fire support*, *logistics support*, *engineer support* and *air defense support* — assuming that the battle plan is already completed by the force commander and the G3 — and that all other arms should support that plan. The term "support" has hurt us in the field artillery more than it has helped us, and, while we won't change the term, we must overcome it if we are to have a true combined arms team.



Traditionally, we think of fire support as close air support, mortars and field artillery. Although there is no imminent break in this tradition, there is renewed emphasis on how fire support and firepower relate and on the *equality* of maneuver forces and fire support. Thus, the focus is on the combined arms team and placing in proper perspective the elements thereof. It is no longer acceptable to have the plan of defense or the scheme of maneuver designed and then passed on to the fire support coordinator with the order to "support it." The battle plan must be developed simultaneously by the G3 and fire support personnel.

The commander, the operations officer and the fire support coordinator must sit down together and develop the battle plan. Only through this type of interaction can we, the firepower coordinators, begin to change the general philosophy about fire support. The thinking that "the plan must be supported after it has been designed" must become *passee*.

We at the Field Artillery School believe in this equality of the two main elements of combat power — fire support and maneuver forces — and seek a more balanced relationship between these combat power elements than we presently enjoy. In some combat units this equality is already working and working well.



In some cases, the commander may very well formulate his battle plan around his fire support assets. One of our former major commanders did just that recently: Addressing a group of high ranking Australians, LTG James Hollingsworth, then Commander, I Corps (ROK-US) Group in Korea, described the threat faced by his command and then asked rhetorically — *"How in the world, after such a bleak picture has been painted, can we possibly hold firm well forward?"*

He then answered his own question: *"By destroying the enemy with violence, gentlemen. By the creation of violence in the form of massive firepower. By causing the enemy to mass and then making him suffer such a high rate of casualties before he reaches the FEBA that the division on line will be able to hold with its own organic weapons. In the US Army today, gentlemen, we say 'Win the first battle' and that is what I intend to do in Korea — win it and keep on winning it until the enemy's offensive capability is broken."*

General Hollingsworth then went on to say how. *"Not with rifles and machineguns and hand-to-hand combat and counterattacks. You don't fight an overwhelming mass of men and tanks with more men and small weapons. We will do it with **firepower!**"*

So that's firepower — the *business* end of combat power. General Hollingsworth illustrated the decisive role fire support can play today as well as tomorrow when we will have new weapons and hardware coming into the inventory.

Since man devised a method of combat which allowed him to inflict injury on an enemy from a distance longer than his arm could reach, he has constantly sought to increase his lethality, accuracy and range. The result is today's family of weapons and equipment which has

evolved from spears and arrows through catapults and brass cannons and muskets to the cannon launched guided projectile, scatterable mines, TACFIRE and many, many more.

Today, the method of combat is the employment of firepower. This firepower is applied by direct fire weapons, indirect fire weapons and air delivered weapons — the effectiveness of which have improved constantly over the years. But lately we have witnessed an *acceleration* of change which increases the lethality, accuracy and range of modern weapons to a point never previously equalled — and which has great implications for the employment of firepower on the modern battlefield.

In past wars field artillery has always been an area weapon because of its limited success in coping with the four elements it takes to hit a target: Gun location, muzzle velocity, weather and target location. Today we are well on the way toward solving these problems. The gun location, obtained now by meticulous and time-consuming survey, will be determined by PADS (the position and azimuth determining system). The shooting characteristics or, more specifically, the muzzle velocity, will be obtained using velocimeters to apply timely corrections to technical firing data. Weather data, now obtained at considerable expense, time and effort, will be provided within minutes by the Field Artillery Meteorological Acquisition System (FAMAS) — thus taking us another step closer to registration elimination. Finally, and the toughest part of the problem, we need to know the target's location.

The forward observer's handheld laser rangefinder (AN/GVS-5), the remotely piloted vehicles (RPV) and the mortar and artillery locating radars (AN/TPQ-36 and -37), all coming on board by 1980, will help us conquer our greatest challenge. Additional help in accurately locating targets will be provided a few years later by the photo locator (formerly called the analytical photogrammetric positioning system, APPS) and the field artillery acoustic locating system (FAALS). All of these developments will move us closer to first round hits.

I should note here that we have our answer to the accuracy problem against point targets — a "smart" artillery round, the cannon launched guided projectile (CLGP). By means of a ground or air observer operated laser designator and, later, an RPV-mounted laser designator, the CLGP has demonstrated its ability to hit a moving target. So, the dream of today, that the field artillery be a point target weapon, may in fact become the reality of tomorrow. In close air support, similarly, the introduction of smart bombs into the USAF inventory in the 1970s provides a quantum jump in accuracy.

Although I've mentioned only some kinds of fire support, all fire support means must be characterized by those qualities which are *imperative* for success on the modern battlefield — and there are *four*:

- Fire support must be immediately *responsive*: It may be counterfire, direct support of the maneuver forces, suppression of enemy air defense or simply the creation of confusion and violence, but it's got to be there *now*.
- Fire support means must be *survivable*: We cannot afford to have much of our fire support taken out of the fight. Our survivability is greatly enhanced by what we call "combat multipliers," things which normally do not destroy the enemy directly, but create an environment which increases the killing capability of related weapons systems. For example, we will remain more effective and durable on the battlefield if we position well, make maximum use of camouflage, use hardened positions when possible, shoot selectively and are constantly prepared to move.
- Mobility is absolutely essential to fire support. When the critical times in the battle are upon us and maneuver moves to meet the threat, we must move with it. We must constantly move to provide support in depth and move laterally across the front, always repositioning if necessary, but always remembering that range, both laterally and in depth, is gained through mobility.
- The combination of the qualities of responsiveness, survivability and mobility gives us our greatest contribution to the battle, the fourth necessary quality, *massed fires* — by the concentration of massive doses of firepower.



Combine all of these characteristics and you offer the force commander firepower he cannot refuse. If he understands, thinks and trains with this in mind, his combat power will in fact overwhelm the enemy.

The principal coordinator for all of this firepower is the fire support coordinator, the division artillery commander. It is he who must coordinate all the fire support and insure, as principal advisor to the force commander, that every means of firepower is employed with optimum effectiveness.

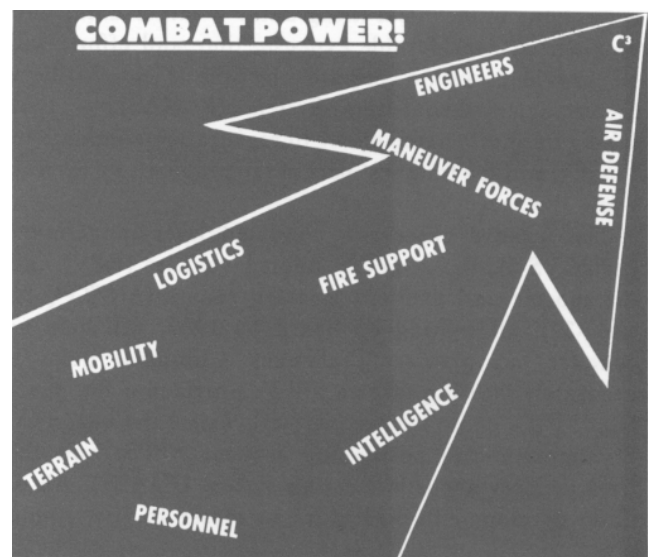
We have not done this in combat for some time. Vietnam was a battery commander's war and the small individual operations which were so admirably supported by our young captains will not be found to any great degree on the modern battlefield. The war in Europe, as we see it, will be a division artillery commander's war, and large operations — in the covering force area and main battle area — will require his constant effort to recommend priorities of scarce fire support means, to guard against indiscriminate shooting, to know when to mass and when to reposition laterally — and to do all of this over frontages never before experienced in combat. Because of the increased responsibilities of the division, FA groups will play a key role not only in providing added assets for the fight but also will be charged with controlling a significant portion of it, especially in the covering force area. The field artillery battalion commander's role is no less vital, for the balance between centralization and decentralization of fire support assets changes minute by minute. It is the battalion commander who must constantly react and execute the commands of the division artillery commander. But it remains the division artillery commander's war.

We've been thinking in terms of the "modern battlefield" for some time now. Of course, that's just another way of saying we're about the business of what the Army should be doing — thinking about the next war and how we should prepare to fight it. All wars have been fought on a modern battlefield, that is, modern for their time, and the generals and colonels and captains and sergeants who fought then had to develop systems, tactics and doctrine for meeting the adverse conditions of the time. We've done that, too, and, although the description of the battlefield and how to fight on it could (and surely will) fill volumes, it is very well summed-up in the Army's new Capstone Manual, FM 100-5, which is to be published in June 1976 as the world-wide Army doctrine for how we are to fight.

I want to point out some things from this manual that are pertinent to a discussion of firepower and its employment by a force commander, for that's where firepower coordination must start. Since the American

Revolution, our Army has been basically infantry oriented. This is simply the result of the wars we've fought and the way we fought them! The point is, we've thought of war and battle from an infantryman's view, the fight at the FEBA. But now, we must broaden our view of the fight. We need to orient on combined arms, armored and mechanized task forces, far beyond the FEBA. We cannot afford to wait until the fight at the FEBA develops to attack the bulk of the enemy's combat power. The FEBA was once a good place to concentrate efforts if you had a relative parity of forces or, at least, were outnumbered by the enemy not more than 3:1 in a defensive situation. If you can see the enemy clearly with your binoculars and ground surveillance radar; if you can canalize him with barriers and minefields; if he is within range of your tanks and TOWs and M-16s, fine. But, as we perceive it, this will not be the case on this modern battlefield!

There will be a series of critical times and places for the employment of massive doses of combat power on the battlefield. And one of the first of these will be in the covering force area (CFA) — to attack the enemy at the greatest distance possible in order to reduce his combat power before he gets to the main battle area.



If the enemy gets to the FEBA with anywhere near the combat power with which he initially engages our covering forces, the day as well as the issue will be in grave doubt. The odds are going to be 6:1 or even 8:1 against us. It is imperative that we plan to employ long-range fires from the outset to cause attrition of enemy forces at maximum ranges.

The objective then must be to reduce the enemy's combat power to manageable proportions before he gets to the FEBA. How? TRADOC doctrine calls for a heavy covering force that gets within tank range and destroys a

significant portion of the enemy force. But first, long-range firepower — those weapons and munitions which we *call* fire support — becomes the "initial defender" on the modern battlefield and constitutes the *bulk* of firepower which can be committed without waiting to close with the enemy. The initial concentration at the critical time must come early, and it must *reach out* and destroy the enemy on his way to the fight — we must leave his combat power strewn about the CFA and beyond. A simple tenet of combat — "get him before he gets you."

Can we do this? Conceptually, it sounds super, but we are concerned about the demands on the limited fire support assets available to the commander. A heavy covering force must be supported by a heavy slice of artillery, of mixed calibers, able to reach out and cause this initial reduction of the enemy's first and second echelon forces if we are to be successful. The commander, however, must also be concerned about the enemy's indirect fire systems and must assess the damage to be expected from the initial "barrage" and subsequent artillery fires. Based on this assessment, the commander may decide to commit his fire support assets to *counterfire*. That's why we moved counterfire down to the division level, so that a single commander, the division commander through the division artillery commander, can make the determination as to where the priority of fire support assets should go.

Now, what of the need for fire support to suppress enemy air defense weapons to allow our close air support aircraft to assist in this attrition mission which we feel is essential? Combined arms is much more than just the ground fight, and here we have a competing need for one fire support means to help another fire support means to accomplish its mission.

And what of the main battle area? There is a requirement to preserve some of our combat power, in the form of fire support, for that fight. If we commit everything at the *initial* critical times and places, we may well have made a good showing in the primaries, but we'll lose the big election.

The point is that if these fire support considerations are not made from the outset then the maximum effect cannot be gained from their employment.

In the planning stages, *all* elements of combat power must be considered *equally*. Each resource must be viewed as a possible base from which to build the battle plan. The overriding factor may be any one of the elements; logistics, communications, fire support, maneuver or, most probably, intelligence.

Therefore, on the modern battlefield, the force commander must visualize the battle and use all sources of intelligence available to him to find the critical times and places in the battle. Above all, it is the commander

who clearly and accurately sees the enemy — his movements and his intentions — and acts quickly and decisively to concentrate the combat power that wins the battle. He must exploit all his combat capabilities, shield his vulnerabilities and know the enemy's vulnerabilities. Only by doing this will he achieve the full potential of *all* elements of the *combined arms team* — through the total employment and coordination of the tremendous firepower available.

How do we get there from here? The answer is by training. In June 1902, Theodore Roosevelt told a graduating class at Annapolis that "In modern war, the chief factor in achieving triumph is what has been done in the way of thorough preparation and training *before* the beginning of the war." That's still true today.

The number one priority in the Army today has got to be training — and this priority is constantly hindered by the hostile training environment (see "Trainers, Rise Up," January-February 1976 *Journal*). We have got to train as we are going to fight — as a combined arms team. Through our ARTEPs, maneuver and fire support will be evaluated together — and we'll overcome the hostile training environment together.

It's up to us to take the *initiative* in this combined arms training — because everyone who does not fully understand the implications of fire support must get on board quickly. Our training must constantly involve maneuver — always pushing for and arranging combined arms exercises.

We must be *thinking* artillerymen who understand the fire support system and who can relate it to maneuver; who know when to pursue the fight at the FEBA and when to put everything into counterfire; who know the myths and the realities; and, who make the business of fire support understandable to infantrymen and tankers *and* make them conscious of it every waking hour.

Kipling referred to "The never-ending mystery of the gunner's art." Well, it's time for us to dispel this puzzle. FA has nothing to do with witchcraft. We must stop believing and preaching that ours is a very complex business. It's not. But our maneuver partners believe it is. Many times they will accept anything the Redleg says: "Here's the plan — support it with your complex system."

Whenever I hear a maneuver commander say that his fire support is "just great" I become concerned, because he may very well have been duped and captured by the FA mystique.

It is critical that we tell our maneuver partners the straight scoop. It may not be what they want to hear, but we must tell them in detail what we can and cannot do — and make them like it, because of the logic of our view.

(continued on page 39)

# The Artillery Raid



## Air Assault Style

by LTC(P) Albert E. Wolfgang and CPT Ronald E. Spears



In the fall of 1974, the 101st Airborne Division (under the direction of its then new commander, MG John W. McEnery) redirected its training efforts toward the development of innovative and improved techniques for the employment of the air assault division in a mid-intensity environment. The limited range of the division's weapons and its almost exclusive reliance upon the CH-47 "Chinook" helicopter for mobility and ammunition resupply made the assignment a very demanding and exciting one for the flying artillerymen. Many of the techniques devised were discussed in a recent *Field Artillery Journal* article, "Air Assault Artillery" May-June 1975. However, one technique mentioned only briefly in that article proves particularly intriguing — the air assault artillery raid.

This operation, while it has tactical applicability to unique situations, can be an outstanding training vehicle in the conduct of artillery air assault operations, not only for the airborne artillerymen, but also for the light artillerymen of the infantry division. The technique incorporates independent small unit operations of short duration, combined arms team work, speed and limited ammunition expenditure. Proficiency is easily determined in the raid exercise, and it can be a great morale builder for individual soldiers and the entire unit.

Sound like a panacea to air assault training? It isn't! It requires precision, detailed planning and coordination and a very cooperative medium lift helicopter company. (In this particular instance, the procedures discussed were worked out with B Company, 159th Aviation Battalion, commanded by CPT(P) Nick Leopoldus. His company is in the only CH-47 battalion in the US Army.) In spite of these limitations, every light artillery unit commander should include the air assault artillery raid in his training bag of tricks if for no other reason than it's fun and exciting training for the young soldier.

The artillery raid normally is initiated when one of the various intelligence gathering sources available to the division discovers a target which requires immediate elimination and is beyond conventional artillery range. Close air support, or attack helicopters in the air assault situation, may not be the appropriate tool to attack this target if there are extensive air defense sites in the target area. Thus, the target can most appropriately be attacked successfully using stand-off techniques. Target examples might include corps or division headquarters, POL/Ammo storage areas, missile sites or other relatively vulnerable targets in the enemy rear area which might be heavily defended by air defense sites.

The air assault artillery raid may take many forms; however, the 2d Battalion, 320th Field Artillery, has

developed an SOP configuration which brings together all facets of artillery small unit training. If an artillery battery can accomplish these tasks successfully, mission variances in an actual combat operation should be easy to handle and provide no surprises. In general, the standard raid requires two-thirds of a 105-mm howitzer firing battery, four CH-47s for lift support, two AH-1G "Cobras" for escort, a UH1H "Huey" for the advanced party and an OH-58 for the aerial observer. All aircraft effect a simultaneous crossing of the FEBA at a predetermined point using nap-of-the-earth flying techniques. The advanced party then speeds to the firing position while the CH-47s simulate false insertions by going into pre-selected "hover holes." The advanced party is in the position only a few minutes when the battery commander calls the CH-47s forward. (The teamwork necessary among the pilots becomes critical at this point. Using VHF, they must coordinate their departures from the hover holes so that they arrive simultaneously at the firing position. A piece-meal insertion adds to the total time of the mission and increases the opportunity for enemy detection of the insertion area.) The four M102 howitzers are delivered to the firing position internally. The gun crews off-load the weapons by hand and the CH-47s return to alternate hover holes. The weapons are laid on the target and the mission is initiated. Precomputed fire-for-effect data may be fired or, as used in this training, an air observer may adjust on the target using pop-up techniques with the firing data computed by the jump FDC which arrived with the weapons. When the mission is complete, the CH-47s and the Huey are recalled, the howitzers are reloaded internally and everyone flies away. Less than 15 minutes transpire from the time the first advanced party man arrives in position until the last one is out. Though seemingly a simple drill on the surface, it is in fact quite complicated and success requires more coordination than most air assault missions.

### ***Briefing***

Numerous areas must be coordinated. Upon receipt of the mission, the air mission commander, the battery commander, the fire support officer and all pilots must meet. In this briefing, all problem areas are discussed. Though not presented in any particular order of priority, the following points should be covered:

- Mission—Complete understanding of mission, alternate targets, fire support, flight routes, flight altitudes, etc.
- ADA sites—All available data on enemy air defense in the area of operation.
- Hover holes—A map and/or photo reconnaissance is conducted which shows pilots where each aircraft will



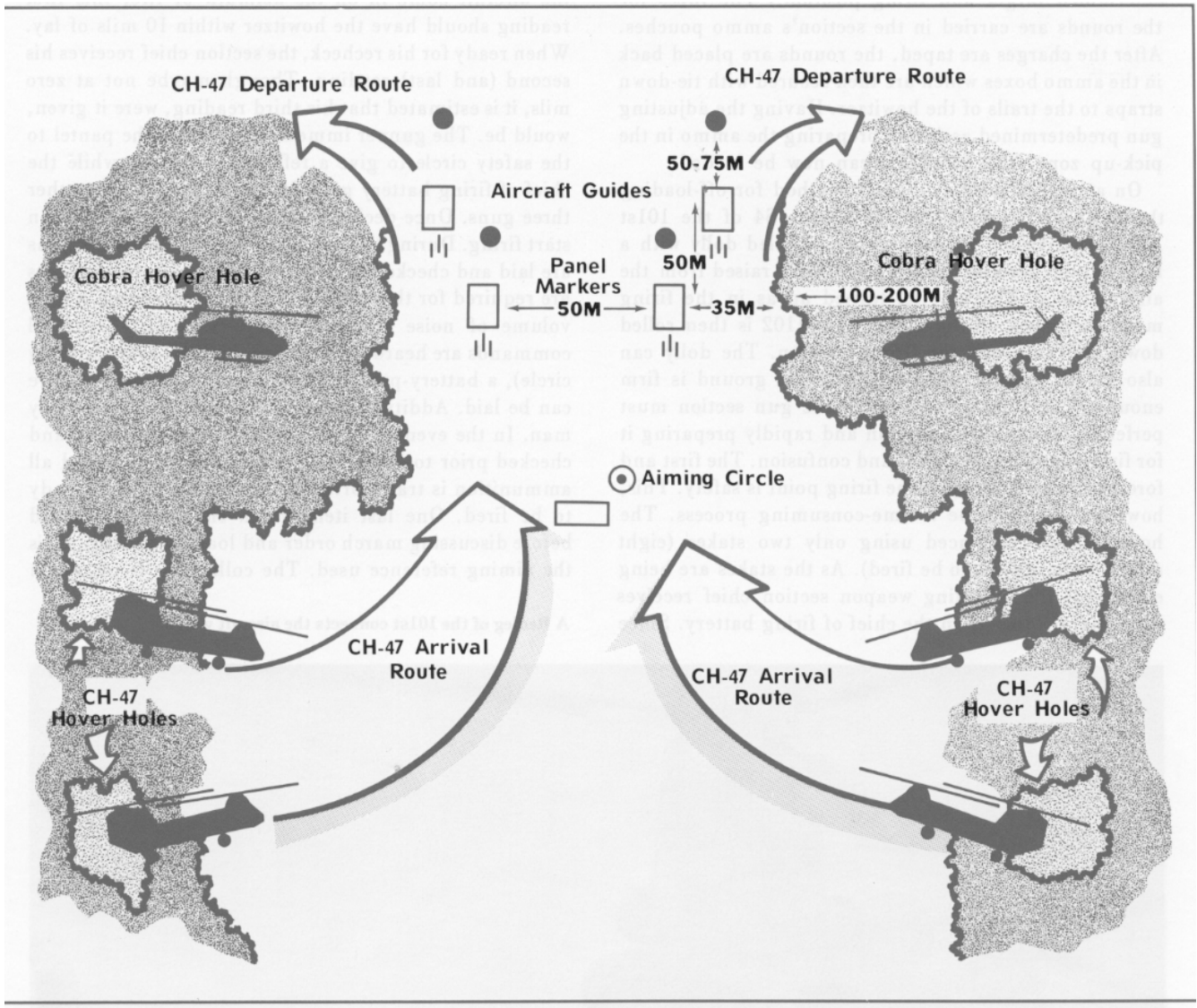
**Two-wheeled dolly used in loading and unloading howitzers.**

go for its false insertion and where it will loiter during execution of the fire mission.

- Frequencies—Normally the battery commander will operate with the CH-47s on the battalion command or admin and logistics net. In this manner, the fire net is not obstructed should it be needed. UHF and VHF frequencies are exchanged for aircraft control and coordination.
- Use of the aircraft winch—If the battery is emplaced on an incline, the ability of the howitzer section to push its load on-board the aircraft is severely restricted. If this is the case, the winch in the CH-47 must be used. The flight engineer becomes the key man—he must have the winch cable played out so five to seven feet of cable extend past the ramp when it is down. If he does not make this prior preparation, the additional time required to let the cable out (20 feet per minute) is excessive. Alternatively, if the winch cable is out too far when the helicopter lands, the flight engineer must be prepared to use the winch in the "rescue" mode, taking up the slack rapidly while being aware, of course, that the rescue mode must be disengaged once the howitzer is hooked up.
- Chain—The CH-47 crew chief must have a chain to run around the M102 axle at both wheels to connect to the winch cable. This chain must be left with the gun crew when they are inserted; in this way they can have it already rigged when the aircraft returns for the extraction. The winch cable should not be connected to the howitzer base plate; the force of the winch can cause the base plate to be pulled free of the howitzer carriage.
- Howitzer location in the aircraft—The M102 should be secured as near to the ramp as possible. If it is

pushed/winched all the way forward, additional time is wasted in unloading the CH-47. Additionally, the howitzer should be loaded tube first since in this mode the M102 is easier to maneuver in and out of the aircraft.

- Tie-down procedures in the aircraft—The most expeditious is the use of tie-downs in three prepositioned locations—on the axle of both wheels and the lunette. If this is not established beforehand, the flight engineer sometimes will use four or five tie-downs, thus decreasing the off-loading and on-loading time at the firing point. Although the tie-downs are used for safety purposes, it has been proven at Fort Campbell that three tie-downs provide a safe load for the raid mission. An added time-saved benefit has been realized when the gun crews aid the flight engineer in tying down the loads. This takes some practice, but the time is available while the pilots are receiving their briefings.
- Aircraft approach/departure—The battery commander must point out the exact route he wants the aircraft to follow during insertion and departure from the firing position.
- Use of panel markers—The battery commander and air mission commander must discuss and agree on the position of the panel markers used in the firing position. Some pilots prefer to approach from the left and slide right. Regardless of the method used, this point must be clarified in the briefing to preclude aircraft collision since the weapons are normally positioned about 40-50 meters apart.
- Call signs and code words—This runs the gamut from a complete exchange of call signs of all participants (to include behind-the-line units that might be used to provide security) to signals for executing the different phases of the operation.
- Security—Rules of engagement, suppressive fires at the FEBA, flight routes, security behind the lines and a multitude of others must all be coordinated. AH-1G mission and aircraft position in the formation bear some discussion at this point. The AH-1G Cobra gunships are utilized very effectively during the raid. They serve to escort the CH-47s into the firing position. Their position in reference to the formation of Chinooks is dictated by the tactical situation; however, the most effective location for providing suppressive fire on an ADA site is on either flank, about halfway back. If they are too far forward, they will be the first aircraft engaged and not have time to react. After the CH-47s have landed, the gunships will position themselves to the flanks of the position area to close off any existing high speed avenues of approach; otherwise, they provide a screen. As the



howitzers are extracted, the Cobras will "pull in" the perimeter, sweeping the area to both flanks of the position, and then take up their defensive fire suppression mission once again.

These are the minimum points which must be covered during the battery commander's briefing of the pilots. Depending upon the mission and resources available, other factors such as stand-by aircraft, alternate targets, Cobra screen areas during firing, etc., might come into play. These must also be discussed at this meeting.

### Howitzer Section

The howitzer section is the next integral element of the raid team. A well-trained crew will prove to be the difference between a rapid, successful mission and

one which requires too much time and could allow the enemy to neutralize the battery prior to extraction, or worse, neutralize the battery and the aircraft during extraction. A burning CH-47 in the firing position will ruin your whole day! The howitzer section and the aircraft crew chief must establish a working relationship with the limited time they have available. Prior to loading the aircraft in the marshalling area, ammunition for the raid (normally 24-30 rounds in training) is prepared by the section chiefs. The rounds are broken out of the fiber containers and the extra powder bags are extracted from the cannister and taped on the outside. (This is possible since the charge is pre-computed based on a predetermined

target and firing position.) The fuzes for the rounds are carried in the section's ammo pouches. After the charges are taped, the rounds are placed back in the ammo boxes which are then secured with tie-down straps to the trails of the howitzer. Having the adjusting gun predetermined assists in preparing the ammo in the pick-up zone. The howitzers can now be loaded.

On arrival in the LZ, a quick method for off-loading the howitzer has been devised by the S4 of the 101st Airborne Division Artillery. A two-wheeled dolly with a long handle permits the terry tire to be raised from the aircraft floor. The lunette, turned up as in the firing mode, is placed on the dolly. The M102 is then rolled down the ramp into the firing position. The dolly can also aid in loading the howitzer if the ground is firm enough. The third aspect which the gun section must perfect is laying of the weapon and rapidly preparing it for firing amidst great noise and confusion. The first and foremost consideration at the firing point is safety. This, however, need not be a time-consuming process. The howitzers are emplaced using only two stakes (eight stakes if charge 7 is to be fired). As the stakes are being emplaced, the adjusting weapon section chief receives his initial reading from the chief of firing battery. Since

the aircraft come in on the azimuth of fire, this first reading should have the howitzer within 10 mils of lay. When ready for his recheck, the section chief receives his second (and last) reading. Though maybe not at zero mils, it is estimated that his third reading, were it given, would be. The gunner immediately rotates the pantel to the safety circle to give a referred deflection while the chief of firing battery gives initial readings to the other three guns. Once declared safe, the adjusting piece can start firing. During the adjustment, the other three guns are laid and checked. (A minimum of two safety officers are required for this mission.) There is obviously a high volume of noise in the battery. To insure that all commands are heard (from either the FDC or the aiming circle), a battery-powered bullhorn can be used or wire can be laid. Additionally, each gun section uses a relay man. In the event a gun has difficulty getting laid and checked prior to FFE, it is called out of action and all ammunition is transported to the nearest weapon ready to be fired. One last item which should be covered before discussing march order and loading procedures is the aiming reference used. The collimator is placed in

**A Redleg of the 101st connects the aircraft winch.**





direct line with the aiming circle as soon as each gun is laid. Thus, no added motion is required by the gunner to emplace the collimator. Alternatively, it is possible to fire the entire mission using only the aiming circle as the reference point.

As the last rounds in FFE are fired, the battery commander calls the CH-47s from their hover holes to make the extraction. (The extraction differs somewhat concerning the actions of the Chinooks. They will line up on the same panels used during the insertion; however, the flight engineer will control the final positioning of the aircraft because the object is to place the ramp of the aircraft as near as possible to the tube. In this instance, a good flight engineer can save a great deal of time if the howitzer crew does not have to push the howitzer a great distance to hook up the winch.) As the CH-47s return, the gun sections are march ordering the M102s and replacing the ammo boxes with the cannisters in them on the trails and securing the chain to the axle.

If on an incline, the winch will have to be used. For this reason, it is important that the flight engineer

#### **CH-47 heads for hover hole.**

always has the winch cable out. The gun crew can manhandle the weapon closer if the winch still does not reach the chain. The battery commander should be able to inform the flight leader of the necessity for the winch after he is on the ground and has laid out the firing position.

To preclude too many bodies on the ramp of the aircraft, only two people should assist in loading as the howitzer is pulled up the ramp: one on the elevating handwheel and the other on the traversing handwheel. The remaining members of the section should stay to the rear of the ramp until the howitzer wheels have cleared the ramp. Then they can assist in pushing the rest of the howitzer up the ramp.

Once positioned in the aircraft, they should exit through the rear and load through the right crew door. If the terrain is suitable, the howitzer can be reloaded by the gun section pushing it and the winch is not used. When the loads are tied down and the personnel

strapped in the CH-47s take off and, with the recrossing of the FEBA, the raid is complete.

### **Advance Party**

One important part of the mission has not been discussed—the actions of the advance party. A well-rehearsed advance party is an absolute necessity—it has less than five minutes to prepare for the landing of the CH-47s. The party consists of the battery commander, chief of firing battery, four gun guides and, in training, a safety officer. The FDC travels with the howitzers. As soon as the advance party lands, the battery commander must immediately analyze the position area and select gun positions. Taking the gun guides with him, he points out the howitzer positions and the location of the panel marker to insure the CH-47s land so that each howitzer ends up where the commander wants it. The gun guide must stake the panel down or the prop wash from the CH-47 will pull it up. Additionally, tall grass or weeds in the vicinity of the panel must be beaten down to insure visibility. The guide, wearing an air-to-ground jacket universal orange in color, must then position himself approximately 75 meters in front of the panel to allow the CH-47s to locate more readily the firing point and to line up on their respective panels during their approaches. The guides lie face down on the panels until just before the aircraft arrives to reduce the chances of the position being prematurely compromised. During the emplacement of the panels, the chief of firing battery and the safety officer orient their circles and check them. As all these actions are being completed simultaneously, the battery commander calls the Chinooks forward. After the mission is completed, rather than assisting his gun section, the gun guide must remember to return to the front of the position when march order is given to again serve as a guide for the extraction.


The method used by the aerial observer (AO) bears some consideration. In the 101st Division Artillery, the pop-up technique is being successfully used by the AOs. In this method the OH-58 remains below treetop altitude until the AO receives SHOT, at which time the aircraft pops up enough to allow the AO to observe the impact and make corrections. Then the OH-58 drops back down and repositions for another pop-up when a subsequent SHOT is received. Additionally, since the target location is generally accurate, the AO will normally use only one or two rounds in adjustment.

### **Secrecy and Speed**

There are two prime considerations in the raid. First, the battery must be inserted with as much secrecy as possible. After insertion, the overriding factor becomes speed. To insert with internal loads is probably most

tactically feasible given the high air defense threat of mid-intensity warfare. To cross the FEBA, nap-of-the-earth flying is a necessity for all aircraft. An internal load gives the CH-47s two advantages. First, they are able to fly at treetop level and are more maneuverable. Second, the aircraft can fly at a greater speed. These two facts should facilitate crossing the FEBA and allow flying below the level of radar acquisition. The extraction of that unit in the least possible time becomes the priority item when the battery has completed the mission. The extraction of the battery loaded internally is the method being used now in the 101st Division Artillery. However, extraction by external means has been tried to test the feasibility. Its advantage is speed in removing the battery from the position. The disadvantages are that aircraft must fly at higher altitudes and at slower speeds, thus increasing exposure to enemy air defense weapons. Depending on the security level at the FEBA, the risk is greatly increased when recrossing the boundary loaded externally. An alternative would be to stop short of the FEBA (or return to the hover holes, though they have been pretty well compromised by this time), drop the guns, reload them internally and then effect recrossing of the FEBA.

Other innovations in training being tried by the 2d Battalion, 320th FA, are landing on an observation post or direct fire range. When the indirect fire mission is completed, a platoon of the howitzers lowers its tubes and engages direct fire targets, simulated enemy tanks or other enemy vehicles entering the firing position prior to extraction.

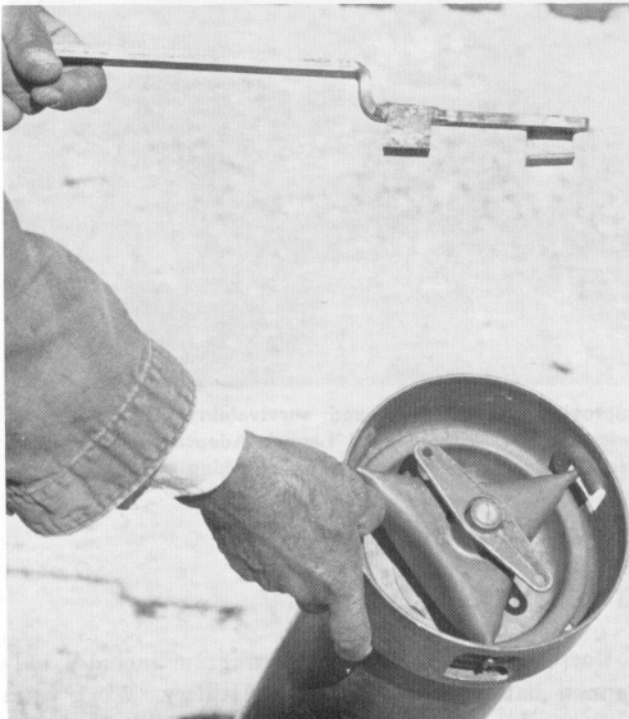
This, then, is the air assault artillery raid as conducted by the 2d Battalion. It is a practical, rapid fire mission, supplying neutralizing fires on a target of opportunity in the enemy rear. A realistic time, with trained howitzer and aircraft crews, from the first CH-47 down to the last CH-47 out is 10 minutes. (The fastest time to date in the 101st Division Artillery is seven minutes 45 seconds by Battery B, 2d Battalion, 320th FA. The raid was flown 4 December 1975. Additionally, the raid provides a great opportunity to the battery commander to fill the role of an air assault task force commander on an independent mission. 

**LTC(P) Albert E. Wolfgang, FA, is Commander of the 2d Battalion, 320th Field Artillery, 101st Airborne Division (Air Assault), Fort Campbell; and, CPT Ronald E. Spears, FA, commands Battery B, 2d Battalion, 320th FA.**

## Scrap Metal Recycled Into Tools

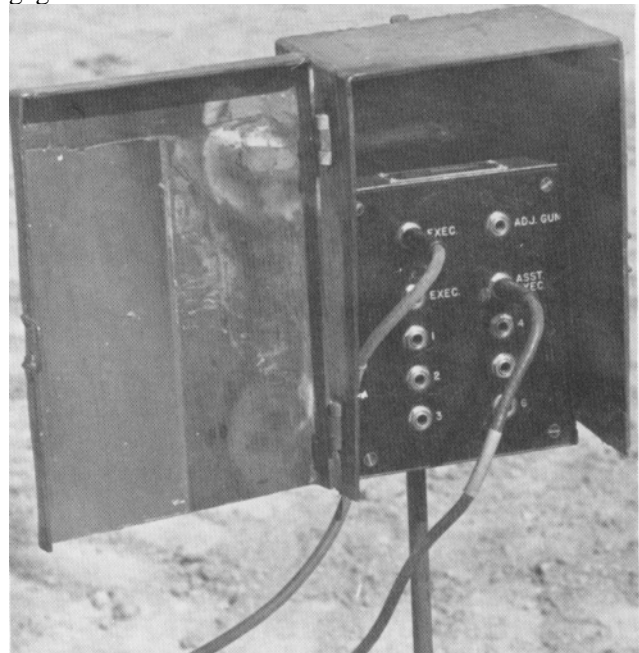
The use of scrap metal is getting a new twist in the Field Artillery Training Center's Self-Propelled Committee. Mr. Leo E. Cortez, a long time welder with the Committee, recently transformed the unit junkpile into a series of innovations which will interest any Redleg who has ever lost a knuckle to a powder cannister, inadvertently conducted voltage from a wet MX155 in inclement weather or, while in training, waited two hours for a five-minute look through an SP-mounted Panoramic Telescope (PanTel).

Made of 1/4-inch steel and measuring approximately 16 inches in length, the "powder cannister lid wrench" releases the commonly-used rubber mallet and screwdriver combination to more appropriate duties. Short, rectangular pieces of steel are welded at one bent end of



**Powder cannister lid wrench.**

the tool at intervals and angles necessary to facilitate easy rotation of the cannister seal. The opposite end of the piece is ground to a blunt edge and used like a crowbar to break the wire seal and pry the lid off. Now being issued as a regular tool in some units, the wrench should be coated with a non-sparking adhesive or constructed of materiel such as stainless steel or heavy gage aluminum.



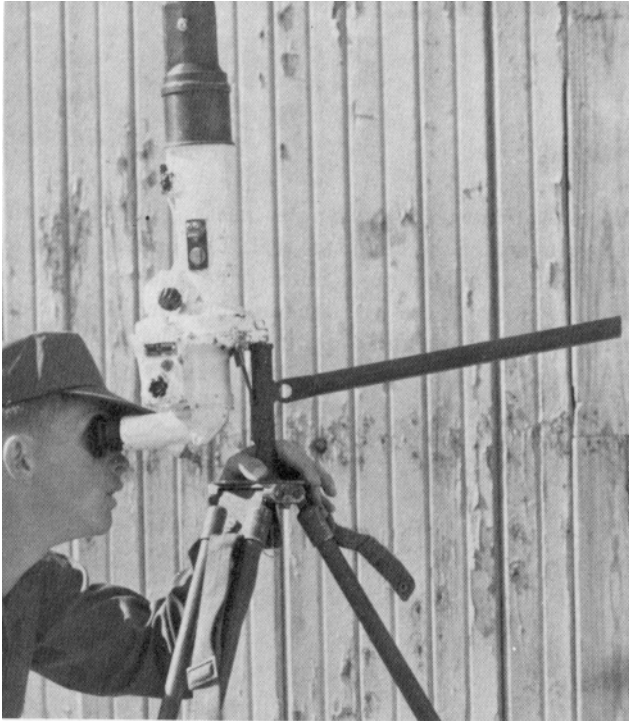
**Protective container for MX155.**

The "protective container for MX155" is an insulating, box-like device of scrap sheet metal fitted with a hinged and latched cover. The device is internally covered with non-conductive material (such as electric tape) and fitted with a simple hanging bracket for quick installation and removal. A medium length of bar stock, sharpened at one end, is welded along the back to secure the box to the ground. The device itself is open at the bottom to permit ample lead clearance.

The "tripod device" affords a realistic hands-on crew instruction outside the cramped quarters of SP weapons. Utilizing the M117 Pan Tel and normal field tripod, the device mounts the scope through a vertically welded

## Right By Piece

section of pipe the size of the Pan Tel's mounting pin. Another small length of pipe, welded at the front of the device, simulates the gun tube angle.



**Tripod Device.**

The designs of all three devices are currently under developmental consideration. Mr. Cortez's unique recycling campaign encourages similar efforts to convert unit clutter into needed tools and equipment for little or no cost.

## Pershing System

### Modular Improvement

FRANKFURT — The first units of new ground support equipment for the Pershing missile system were recently turned over to B Battery, 3d Battalion, 84th Field Artillery, during ceremonies officiated by COL Samuel Skemp, Pershing Project Manager, US Army Missile Command (MICOM). (See "View from the Blockhouse," November-December 1974 *Journal*.)

Designated the Automatic Reference System/Sequential Launch Adapter (ARS/SLA), the gear represents the latest modular improvement to the Pershing missile system. The ARS eliminates the requirement for launch from pre-selected and surveyed points. The SLA provides for countdown and launch of up to three missiles without uncabing and recabing

after firing. The addition of ARS/SLA, produced by Martin Marietta Aerospace for US and German Pershing units, reduces reaction time and enhances the total effectiveness and survivability of the weapon system.

ARS/SLA underwent final testing for operational readiness with the successful firing of four missiles at White Sands Missile Range, NM, in January 1976. Following evaluation of test results, MICOM officially released the apparatus for tactical use in Europe. The apparatus will eventually be allocated to all US and West German Pershing units.

The equipment is being fielded under the US Army Development and Readiness Command's "Project Hand-Off." LTC William A. Terrio and MAJ Douglas H. Barclay will head the team which will oversee fielding of the equipment and training of Pershing personnel in its use.



**Improving reaction time and survivability, the Automatic Reference System/Sequential Launch Adapter represents the latest modular improvement to the Pershing weapon system.**

## M-31 Mini-ARTEP a la V Corps Arty

Currently, the mini-ARTEP program includes only cannon batteries of the Corps Artillery. Work is in progress, however, to establish mini-ARTEPs for Lance batteries and for all headquarters and service batteries.



The early morning calm is broken by an urgent request for fire which energizes the battery fire direction center (FDC). In a matter of seconds the rounds are on the way. As the last rounds in fire-for-effect are fired, an umpire begins to mark counterbattery fire in the battery position. The battery commander decides to make a hasty displacement to his alternate position. The gun sections lift spades and are off. In short order the unit is in its new location — ready to continue its mission.

The West Range of Fort Sill? Grafenwoehr? Cost in excess of \$100 per round? NO!! This activity is repeated weekly by V Corps Artillery units in local training areas in Germany. The exercise that creates the activity is a corps artillery administered ARTEP based on draft GS ARTEP 6-165 utilizing the M-31, 14.5-mm field artillery trainer. Since the evaluation lasts only 12 hours and is conducted in local training areas using the M-31 trainer, it is called a "mini-ARTEP."

The program was developed under the direction of the V Corps Artillery Commander and initiated on 6 October 1975. The announced intent of the program is twofold: to provide an ongoing training exercise to familiarize units with the changing artillery doctrine and to monitor combat readiness. To insure a high state of readiness, each week one unit is selected from all eligible units to receive a mini-ARTEP. Units are exempt from eligibility-only for the most stringent reasons, i.e., Annual General Inspection, Technical Evaluation Inspections, etc. The unit is provided 24-hour notice and is required to be in the local training area prepared to receive a mini-ARTEP at a predesignated time.

The chief evaluator, provided by the Corps Fire Support Element, is responsible for preparing the scenario and for the overall conduct of the evaluation. The parent group headquarters of the evaluated unit is tasked to provide the other evaluators, drivers, safety personnel and the necessary vehicles and equipment. The following evaluators are currently being utilized: firing battery, fire direction, communications and NBC/aggressor. In addition, all evaluators provide input on the unit's maintenance posture.

The mini-ARTEP begins with an evaluator meeting, followed by a unit in-briefing which sets the tactical situation and the day's activities. The evaluation proceeds as the unit reacts to fire missions, aggressor attacks, NBC attacks and counterbattery fires. The unit receives all fire missions listed in ARTEP 6-165 (appropriate to the type battery) and executes a hasty displacement by day, a deliberate displacement by day and a deliberate displacement by night. After the night displacement and a fire mission, the evaluation is terminated and an oral critique is held for the unit. A written report is prepared by the chief evaluator from



**Battery C, 6th Battalion, 9th Field Artillery, fires a high angle mission during a mini-ARTEP.**

comments provided by the evaluators and forwarded through command channels.

One might ask whether the mini-ARTEP program is a valuable training tool or just another harrassment device invented by higher headquarters. Comments from battery commanders provide the answer:

CPT Gordan Bridgemen, Battery C, 6th Battalion, 9th Field Artillery, said just prior to departing for Grafenwoehr, "I had been a battery commander in Europe for 15 months when the mini-ARTEP program was initiated. It was my observation after two Grafenwoehr trips that our training readiness deteriorated significantly between trips to the Major Training Area (MTA), and that each time we went we had to start all over with basic crew drill. I feel that this year we will arrive at the MTA at the level of training we normally achieve after two to three weeks of intensive training. I feel the mini-ARTEP is directly responsible in that it forced us to utilize the ARTEP as a training guide. The Corps requirement to be prepared to receive an evaluation anytime causes me to spend much more time in the local training area than I normally would have. The mini-ARTEP program has also helped to raise the materiel readiness level in my unit."

CPT Glenn Lackey, Battery Commander, Battery A, 2d Battalion, 92d Field Artillery, upon returning from battery ARTEPs at Grafenwoehr: "When the ARTEP was published all I had was a huge document for a 155-mm direct support artillery unit and I was commanding an 8-inch battery, so all the ARTEP did was confuse me. Upon initiation of the mini-ARTEP, I was forced by higher headquarters to think, train and function ARTEP. Then one day my unit was selected for the mini-ARTEP during which we made our fair share of mistakes. Since I was subject to weekly evaluation, I continued to train, basing my training on the weaknesses discovered during the initial mini-ARTEP. When we

## Right By Piece

went to the MTA, I was well prepared for the actual ARTEP. It forced FDC training out of the classroom, as isolated training, and into fully integrated training in the field. An additional benefit of the mini-ARTEP program is that with Corps Artillery administering the evaluation, it forces the groups to be part of the program and, in turn, forces all levels of headquarters to be operating off the same sheet of music. This eliminates a lot of misunderstandings during ARTEPs.

"Since the mini-ARTEP program has been in effect it has caused me to maintain a much higher degree of training proficiency in my unit. Further, materiel readiness is up as you cannot pass an evaluation unless your equipment is in good operating order. In summary, the mini-ARTEP program has provided me with a focal point around which to construct my training program and serves as an excellent tool to motivate my soldiers in all areas of battery operations."

ARTEP requires a high degree of cross training and a thorough comprehension of the mission by each member of the battery. The mini-ARTEP program has been extremely successful in this aspect, as evidenced by the fact that when A Battery, 6th Battalion, 9th Field Artillery, was selected for mini-ARTEP on 25 February 1976, all commissioned officers had previous commitments and were unable to be present for the evaluation. The noncommissioned officers in the unit stepped in, assumed the officer positions and completed the evaluation with outstanding results.

Mini-ARTEP is a viable training device. The program will be continued with increased emphasis on modern battlefield techniques. (CPT William T. Henry, mini-ARTEP chief evaluator.)

## New Proximity Fuze

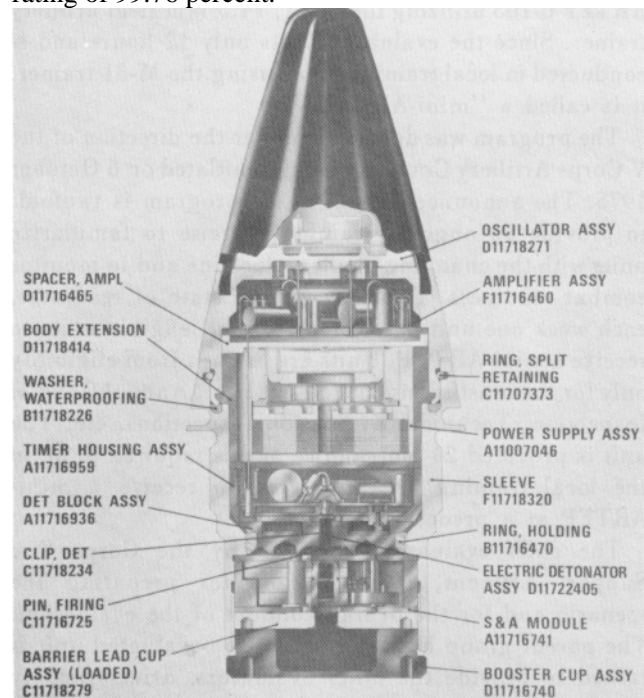
ADELPHI, MD — Unveiling a third generation of proximity firing devices designed by Harry Diamond Labs, the Army has type-classified the recently-developed M732 proximity fuze for high explosive field artillery use. Relative to its veteran predecessors, the M514A3 and M728 proximity fuzes, the M732 offers improved reliability and economy through the successful integration of engineering and materiel innovations.

The depth of projectile intrusion was reduced and standardized to that of point-detonating and mechanical time fuzes, minimizing the previous requirement for deep cavity shells or supplementary charges, and

effecting a cost savings of about 70 cents per round. The dimensions of the fuze were designed to circumvent the present restriction on firing older proximity fuzes at Charge 7 in 105-mm configurations.

Internally, the M732 utilizes a compact safety device to ensure approximately 500 calibers of safe air travel. An electronic arming timer negates the traditional demand for precision mechanical clocks. A mechanical impact element is incorporated to provide an auxiliary anti-dud function in the event of malfunction.

The dependability of the new fuze was well illustrated by the results of a recent series of performance tests. Of 830 rounds fired, 828 functioned (no "earlies") to qualify the M732 for an efficiency rating of 99.76 percent.



Replacing the older M514A3 and M728 proximity fuzes, the M732 achieves 99.76 percent reliability through effective integration of electronic and mechanical components.

**FORT POLK — The Leesville Impact Area reeled under the fires of active Army artillery for the first time in 12 years on 3 March 1976. As another step toward the complete reactivation of the 5th Infantry Division (MECH), MG Robert Haldane, Polk Commander, pulled the lanyard which sent the first round downrange from an M109 of Battery B, 2d Battalion, 21st Field Artillery. The ceremony and following fire mission signalled the initiation of an intensive training program which will prepare Polk artillery units for combat ready status.**

# Europe



## The Up - Load Exercise

by CPT Keith E. Predmore

Until a few years ago the majority of battalions in Europe maintained their basic load of ammunition under unit control. In most cases this ammunition was actually loaded on vehicles. There was a wide range in the quality of maintenance and service of ammunition within the theater since these activities were also performed at unit level.

With the reduction in overall Army funds came a loss of tactical vehicles in specific units. Also, inspections and surveys revealed a degradation in the care of ammunition. Units were becoming committed for unrealistic guard and custodial requirements at widely dispersed locations. As these commitments grew, the pressures for down-loading the basic loads prevailed. Down-loading resulted in the consolidation of ammunition into large ammunition supply points (ASPs) which, in most cases, were controlled by large ordnance elements. These elements now have the technical expertise (as well as the equipment and manpower) to maintain, control and service large quantities of ammunition. Over a few years, tactical units have lost much of the know-how to handle and care for ammunition. The loss of unit proficiency highlights the importance of training in unit up-load plans and procedures. Training

for and actual practice of the up-load insures continuity of ammunition within units and contributes to the overall combat readiness of the unit.

### Planning

The best planning procedure to use is the time-tested reverse planning process. The basic steps for the up-load exercise in Europe are:

- Organization of the battalion forward ASP.
- Movement of the initial basic load to the forward ASP.
- The actual up-load of ammunition in the rear area ASP and coordination for and entry into the rear area ASP.

A critical consideration must be logistical actions required to support each of the operational steps mentioned. As with most plans, certain modifications and changes are required to adapt to a specific unit. The procedures applied by the 2d Battalion, 92d Field Artillery "Red Devils," follow.

### Tactical Unit ASP Organization

Prime considerations in planning for a combat battalion ASP in the European environment are terrain and weather. Experience has shown that units in training

have become ineffective due to poor choice of terrain. The commander must consider the ideal operational/logistical factors in relation to limitations imposed on him by terrain and weather. Listed here are seven terrain and weather questions that must be answered prior to establishing a tactical ASP:

- Is the area large enough to segregate, if required, the ammunition by type and lot?
- Is protection available for the ammunition?
- Is the area adequate for night operations?
- Can the ammunition be camouflaged and concealed adequately?
- Does the terrain allow adequate spacing to use lifting equipment?
- Will the terrain and access routes support heavy ammunition vehicles?
- What effect will adverse weather have on the area?

The prime consideration in resupply operations is the resupply of the firing elements. In the 2d Battalion, 92d FA, organization each of the firing batteries has ammunition vehicles assigned. The battalion trains ammunition vehicles are assigned to the service battery. The battery ammunition vehicles should be dedicated to perform the resupply link between the battalion ASP and the firing battery. The battalion ammunition section is dedicated to the resupply link between the rear area Class V resupply point and the battalion ASP. This procedure allows each of the drivers to become familiar with his individual resupply route.

There is a possibility that convoy escort forces, route security forces and air cover will be limited, if nonexistent, for resupply operations. This situation will require that individual drivers of resupply vehicles be able to read strip maps with ease. They must also become familiar with routes and preplanned locations prior to the outbreak of hostilities. The requirements for petroleum products and maintenance operations to support resupply convoys must be considered. When planning resupply operations, one cannot plan on 100 percent availability of vehicles. Rotation of a certain number of vehicles allows for continuous operation. Maintenance is of paramount importance since the unnecessary loss of even one vehicle can drastically affect the operation.

### Initial Basic Load Movement

With the speed and design of the dropside 5-ton trucks, only these wheeled vehicles will move to the rear ASP. The tracked ammunition carriers (M548) are much slower and require longer loading times. Therefore, to preserve unit integrity, a transfer point for moving initial loads is utilized. The transfer point can be designated in one of two areas. The most effective area is the unit alert area (figure 1). The unit alert or rear assembly area as the transfer point has the following advantages:

- Battery integrity is maintained because the tracked

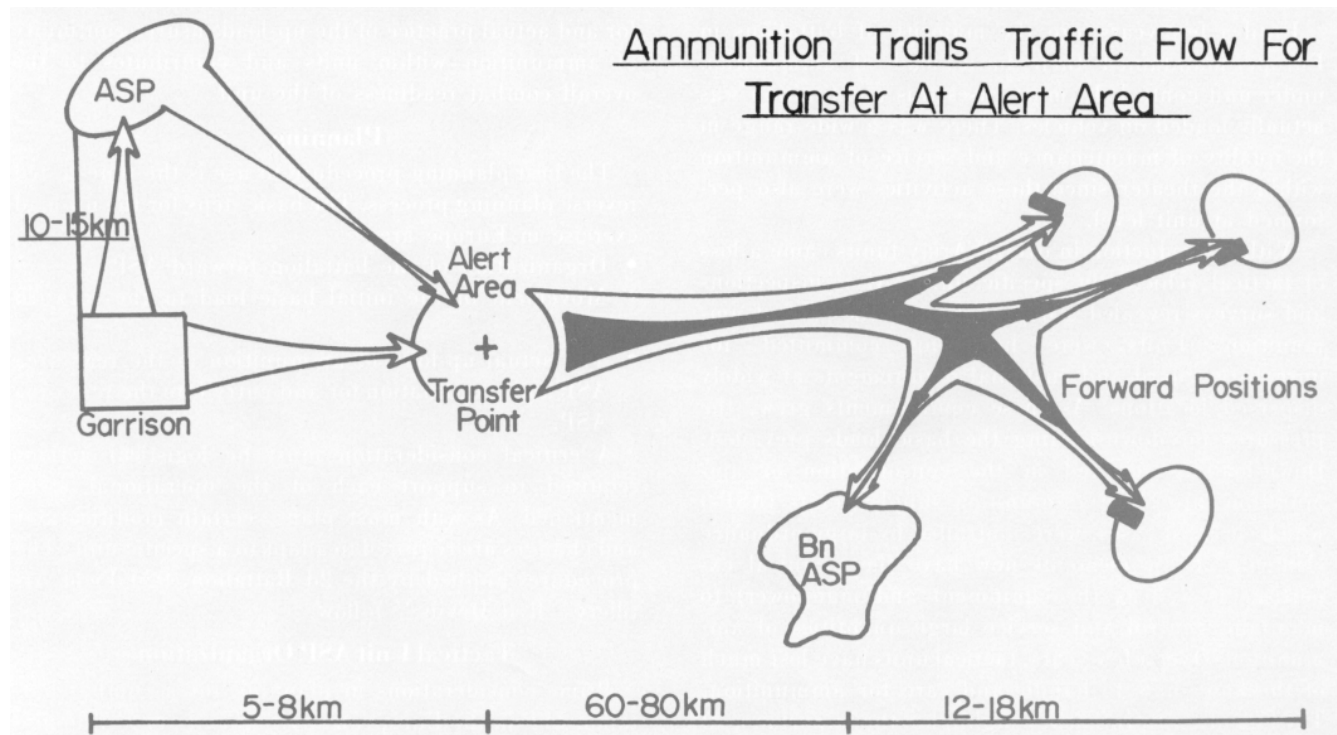
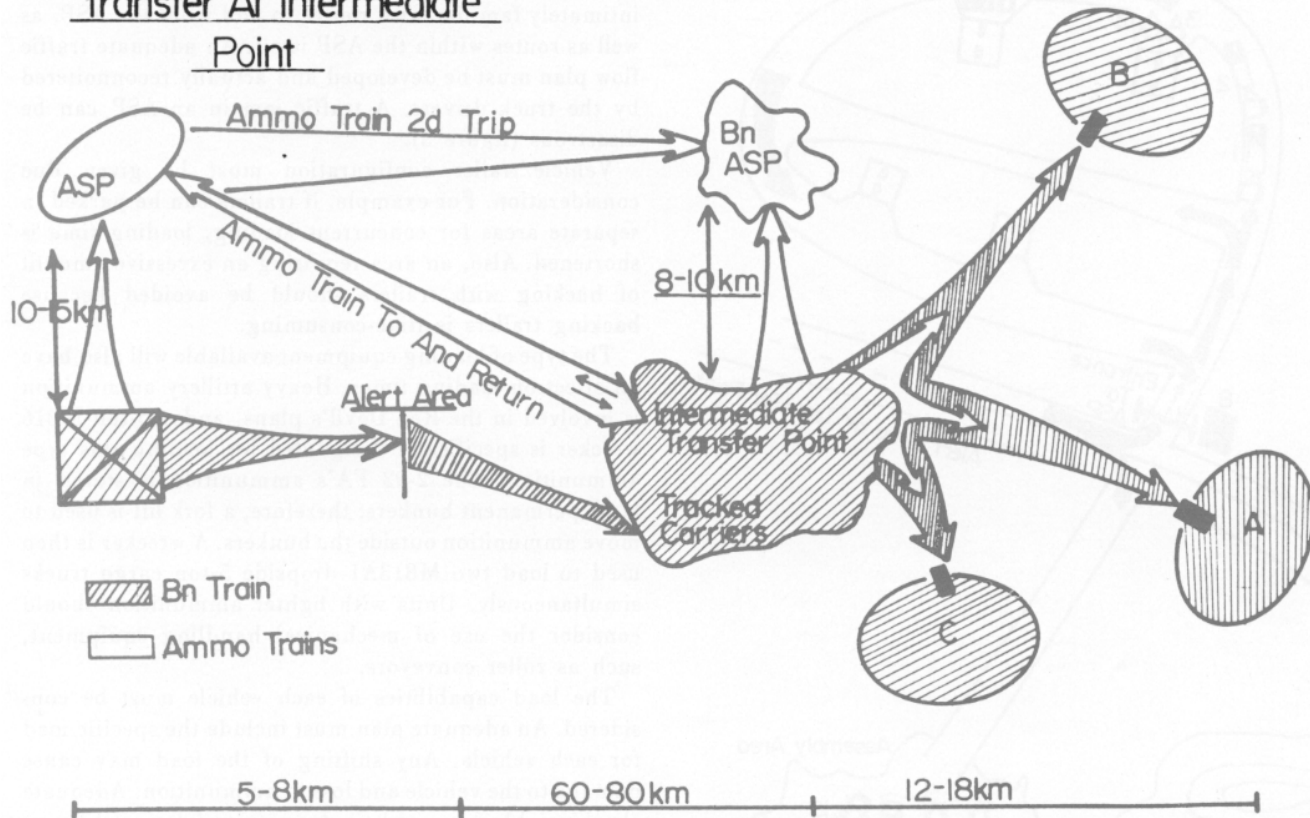


Figure 1.

## Ammo Train Traffic Flow For Transfer At Intermediate Point



**Figure 2.**

carriers are not separated from the howitzers.

- A convoy is not required since the ammunition trucks can move independently from the ASP to the alert area.
- Transfer of ammunition within the alert area facilitates the early return of the ammunition trucks to the ASP.

Two factors determine whether the alert area can be used as a transfer point: First, of course, is unit location at the time the ammunition is ready for transfer; and, second, is the time span from an alert posture to the outbreak of hostilities. In other words, will the unit be in the alert position long enough to effect the ammunition transfer?

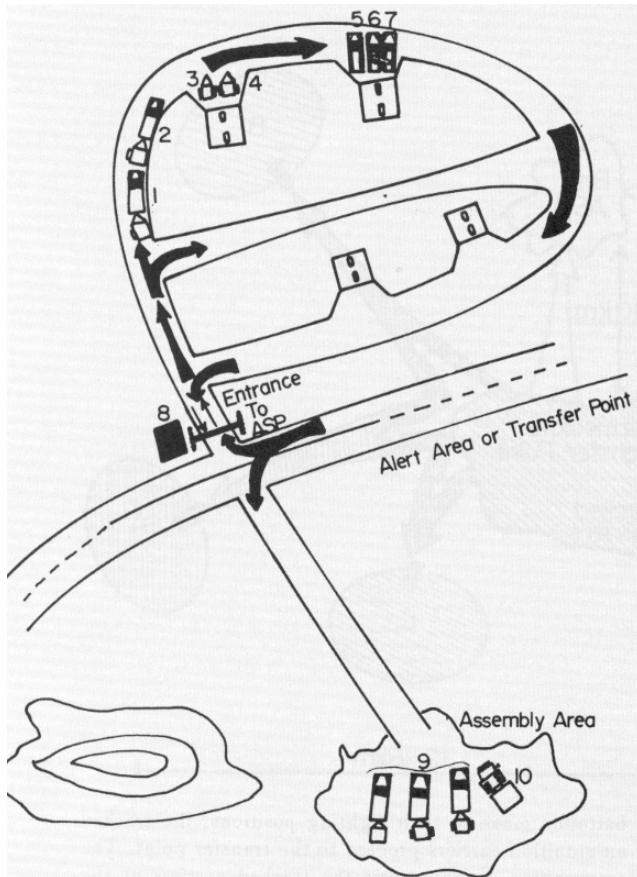
The second transfer point could be described best as an intermediate transfer point (figure 2). This area is used in an emergency deployment situation or when time prevents the transfer of ammunition in the unit alert area. The intermediate transfer point is a position previously designated somewhere between the battery garrison area and the fighting or hide position, closer to the forward position. As the firing elements of the battalion move to their fighting positions, the tracked

ammunition carriers proceed to the transfer point. The ammunition convoy meets the tracked carriers at the transfer point and transfers ammunition from battalion ammunition trains vehicles to battery tracked carriers. The battery ammunition trucks are released to each battery element for movement forward while the battalion ammunition trains vehicles return to the rear ASP for reloading. The advantages to this method of transfer are:

- The speed of the battalion ammunition trucks is much greater than that of the tracked vehicles of the battery. This saves time, since the firing batteries can be moving to their forward positions while the battalion vehicles are returning to the ASP for reloading.
- Ammunition up-load time and firing battery movement time are concurrent.
- Ammunition transfer is conducted at designated distances behind firing positions and survivability is enhanced.

### **Actual Up Load**

In most large ammunition storage areas, establishment of priorities is required with respect to the order of



**Figure 3. – (1) M813A1 waiting, loading. (2) M813A1 waiting, loading. (3) trailer loading. (4) trailer loading. (5) M813A1 loading. (6) M816 loading. (7) M813A1 loading. (8) traffic control point w/radio. (9) M813A1 waiting. (10) ammo control w/radio.**

unit up-loading. Also, priorities may be established on available handling equipment. Units will be required to assemble at a predesignated assembly or ready position area pending movement priorities. These factors must be considered when a unit is formulating plans and estimating times. For example, if it takes a unit three hours to up-load and one hour to link up with the battalion, the unit's total time is four hours (numerous other time factors are not considered in this example). However, if the unit has second priority to enter the ASP and the first priority unit takes eight hours to clear the ASP, then the time planning factor for the unit having second priority should be 12 hours.

The physical loading of ammunition is an exercise in methodology. Detailed loading plans are matters of unit preference, depending on a unit's mission and equipment on hand. Some comments are necessary, however, merely to illustrate that even the smallest detail can become a major stumbling block. The unit must be intimately familiar with routes to and from the ASP, as

well as routes within the ASP itself. An adequate traffic flow plan must be developed and actually reconnoitered by the truck drivers. A traffic jam in an ASP can be disastrous (figure 3).

Vehicle/trailer configuration must be given due consideration. For example, if trailers can be parked in separate areas for concurrent loading, loading time is shortened. Also, an area requiring an excessive amount of backing with trailers should be avoided because backing trailers is time-consuming.

The type of loading equipment available will also have an effect on loading times. Heavy artillery ammunition is involved in the Red Devil's plans, and a 5-ton M816 wrecker is specifically designated for loading this type ammunition. The 2-92 FA's ammunition is stored in large permanent bunkers; therefore, a fork lift is used to move ammunition outside the bunkers. A wrecker is then used to load two M813A1 dropside 5-ton cargo trucks simultaneously. Units with lighter ammunition should consider the use of mechanical handling equipment, such as roller conveyors.

The load capabilities of each vehicle must be considered. An adequate plan must include the specific load for each vehicle. Any shifting of the load may cause damage to the vehicle and loss of ammunition. Adequate chocking, blocking and tie-down material must be pre-cut and packaged for each type of load. Experience has shown that pallets of ammunition often vary in dimension by as much as two inches. This could mean changing chocks and bracing material for each load. Provisions must be made for on-site blocking and chocking material. Exact loading plans and diagrams are required for each vehicle.

### **Conclusion**

A plan may look excellent when it has been written, but no plan is complete until it has been exercised in a tactical setting. In overseas areas it is imperative that units use their up-load plans in training at least quarterly to insure continuity of operations. Quarterly upload training provides an environment to evaluate new procedures and examine equipment that is seldom used. The combat power of a battalion is limited to the amount of ammunition immediately available to each weapon!



**CPT Keith E. Predmore, S4, 2d Battalion, 92d Field Artillery, Giessen, Germany, has served four years in Germany and was previously 11th Aviation Group Operations Officer at Schwaebisch Hall.**

## Chapter Two



# Winning The West

by COL (Ret) Robert M. Stegmaier

The Indians in Canada, like those in New Mexico, were introduced early to artillery fire. The most notable example was the shot heard throughout the Iroquois nation in 1609, the year Jamestown was founded. Samuel de Champlain, the man who did the firing, stated: ". . . I saw the enemy [Iroquois] come out of their barricades to the number of 200; in appearance, strong, robust men. They came slowly to meet us with a gravity and calm which I admired and at their head were three chiefs. Our Indians [Hurons] likewise advanced, in similar order, and told me that those who had three big plumes were the chiefs . . . and I was to do what I could to kill them . . . . When I saw them make a move to draw their bows at us, I took aim with my *arquebus* and shot straight at one of the three chiefs and, with this one shot, two fell to the ground and one of their companions was wounded who died thereof a little later . . . ."

One other shot was made, and the Iroquois, exposed to firepower for the first time, precipitately retreated. The Iroquois, now befriending the English, became sworn enemies of the French. Carl P. Russell expresses one of the factors ". . . in establishing the white man as *manitou* was his possession of cannon and a comparatively few small guns which were but little advanced beyond the ancient hand-cannon stage."

In 1643, although New Amsterdam's fortifications were not complete, it had ". . . four regular bastions, mounted with several pieces of artillery." The garrison consisted of 60 soldiers. Even the Iroquois had built 10 posts manned by warriors stretching from present-day Ottawa to Three Rivers. The Iroquois, with these posts, funneled the fur trade through New York to the Dutch or English.

In 1651 the Iroquois were so strong they took prisoners from the Isle d'Orleans, besieged Three Rivers and threatened Montreal. The French considered abandonment of Canada because of the Indian threat. The course of the French empire, however, continued westward.

In 1656, Frenchmen under command of Dupuis traveled by canoe to Onandaga. They were received royally, greeted with cannon and musket salutes as the canoes approached. The French brought four bronze cannons to the fort constructed there called Ganentaa (present day Liverpool).

Ten years later, three French Jesuits — Fremin, Bruyas and Pierron — traveled by request to convert the Mohawks. Their reception in the Mohawk capital, Tionnontoguen, was royal: ". . . the sachems proceeded with admirable gravity to the entrance of the palisade, where we were received with a discharge of all the artillery

available, each one firing his musket from his cabin and two swivel guns doing duty at both ends of the village."

At Sault Ste. Marie, during a 1671 ceremony in which De Saint Luson proclaimed French control of the surrounding territory, ". . . the air resounded . . . with the discharge of musketry, to the delight and astonishment of those people who had never seen anything of the kind."

**I**n going to Fort Niagara in 1687, the boat carrying Father John de Lamberville was attacked by Iroquois. Aboard were ". . . four cannon called *pierriers* for discharging stones, 12 muskets, with two *arquebuses* and six grenades . . . Four canoes bolder than the rest came close up to us, but we stopped them with our *arquebuses* and the *pierrier*, which had 30 stones in it . . . then a chief started out with five or six canoes to head us off . . . one of our soldiers, a Breton, who had been in the German wars, rushed to the *perrier* and at the risk of his life, for he had to stand up, applied the match and in a flash a shower of stone balls sunk the [chief's] canoe to the bottom . . . It was the last effort of the savages . . ."

That the Iroquois were yet powerful is evident as, in French chronicles, 1689 is referred to as "the year of massacre." At La Chine, north of Montreal, the Iroquois took 120 Huron prisoners and killed 200. The Indians invaded up to the gates of Montreal; the French were frightened and did not retaliate. This lack of action caused most Indian nations to favor the English. Without Indian assistance, the French cause against England in Canada was hopeless; the French had 15,000 settlers against 200,000 from which the English recruited fighting forces. It should be noted though that the Iroquois did not assault the walls of Montreal; this tribe, as others, did not favor mass casualties.

**A**s late as 1727, the French stressed "bang" to impress the Indian. When Fort Beauharnois in Wisconsin was established, the celebration was with rockets. The French reported the event as follows: "What contributed much to the amusement was the terror of some lodges of Indians who were at the time around the fort. When these people saw the fireworks in the sky and the stars fall down from heaven, the women and the children began to 'fly,' and the most courageous of the men [began] to cry for mercy and implore us very earnestly to stop the surprising display of that wonderful medicine."

At Fort Rupert, Vancouver Island, there were two octagonally-shaped bastions. Four embrasures in each bastion lead one to believe that plenty of artillery was present. Two rusty carronades were the entire armament. Tradition says ". . . that, at some remote period, the guns

were actually fired, not at the rebellious natives, but over their heads; instead of being terror-stricken at the white man's thunder, away they all scampered in pursuit of the ball, found it and, marching in triumph back to the fort gate, offered to trade it, that it might be fired again."

**T**he British understood the awesome effect of artillery upon the natives. Out on the coast, when the British gave up Astoria (1845), its armament consisted of two 18-pounders, six 6-pounders, four 4-pound carronades, two 6-pound coehorns and seven swivels — quite an array of firepower. That the British truly realized the power of fire arms is shown by the following example:

In the Northwest, on 3 January 1814, Cascade Indians ambushed a group of 30 men carrying supplies, including 50 new rifles enroute from Fort George, Washington Territory, to Spokane and other outlying posts. The supplies were lost. Immediately, a British party of 69 was formed to recover the loot, especially the rifles, peacefully if possible. The dickering was done in daylight, the British in boats with loaded muskets and the Indians on shore behind trees with aimed arrows — the parley was a standoff. That night on an island, the British fired all their weapons, including a brass swivel, to demonstrate their firepower in case of war. On the following day, Casino, a local chief, with three other Indians appeared. Again the swivel was fired to show its widespread deadliness. The scene is described as seen by Alexander Henry: "We fired a swivel and sent up two sky rockets which must have alarmed the natives who had never seen or heard . . . anything of the kind." Most of the rifles were recovered.

**N**ot only was artillery used against the Indian, it figured strongly in the contest between the French and English for control of the central United States. In 1745, Americans attacked and captured Louisburg, even though this strongpoint on the St. Lawrence River was defended by 250 pieces of artillery. Quebec and Ticonderoga also were heavily armed to protect French westward routes of supply.

The English too believed in the efficacy of artillery. At Fort LeBouef (present-day Waterford, Erie County, Pennsylvania) in 1753 they installed eight 6-pounders in each bastion and one 4-pounder to guard the main gate.

George Washington, in building Fort Necessity (1754), had nine swivel guns for defense. Unfortunately, two events forestalled success. One was rain, which wet the powder, and the other was the erection of the fort in a hollow. In the last instance the French and Indians, having the heights, picked off the defenders and the artillerymen whenever they were unsheltered. The



French permitted the Americans to depart with arms but retained and sent the swivels to Fort Pitt and, subsequently, to Frontenac.

A year later Braddock, with 3,000 men supported by artillery strong enough to batter down the walls of Fort Pitt, traveled westward. The French, having only 200 men plus 600 Indian allies and knowing Fort Pitt could not withstand the concentrated artillery fire, decided to ambush the British and American force enroute. Through the dense woods, Braddock discovered that it was difficult to move his heavy artillery. He placed two cannon with the advance guard and the remainder with the supply wagons. When the ambush was sprung, the cannon had no field of fire but the report of the cannon was enough to frighten the Indians. The death of M. de Beaujeu, their French commander, aroused them sufficiently, however, to stand and fight. The British, accustomed to European warfare, stood upright in ranks and fired; their bullets made little impression on the trees or hummocks behind which the enemy hid. The whooping of the Indians as they advanced on the flanks added to the confusion of battle; the British relocated, but the French and Indian allies killed more than 1,000. Captured were six brass 12- and 6-pounders, four howitz-carriages and 11 small royal grenade mortars.

That French Indians did not like cannon fire was displayed by their attack on a British fort (1755) on Lake St. Sacrament. The cannon were not effective, but the unexpected noise caused the Indians to retire.

The French had continued success in 1756. The regiment of Bearn left Niagara 5 August with four cannon for Chonaguen, a British-controlled fort. The French had 4,300 men and some portative artillery in addition to the four cannon, amounting to 15 guns. They first captured Fort Ontario, forcing the British to retire to Chonaguen. Then the French constructed a barbette battery of nine guns which completely dominated the British fort. The British, seeing the hopelessness of the situation, surrendered. Taken were 1,658 prisoners, seven brass cannons and 48 of iron, 14 mortars, a brigantine with 14 guns, a schooner with eight guns, a sloop with 10 guns and another with four and a boat with 13 swivel guns.

In 1758, the British, capable of raising a total army of 200,000 colonists against a possible French one of 15,000, captured Fort Frontenac. Captured were 80 pieces of artillery including those taken by the French at Fort Necessity and Chonaguen.

Artillery had aided the French in spreading their trade westward to the Platte River and had made it possible for Louisburg, Quebec and Ticonderoga to withstand English pressure to absorb Canada into its kingdom for better than a century.

Both nations, by permitting arms trade with the natives, created a powerful Indian barrier to future westward expansion of the Americans beyond the Ohio River. ☒

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(continued from page 21)

In fact, there are times when we are going to have to say that we just aren't going to do something that they have asked for. We are not in business to please individual maneuver commanders, but we are in the business of satisfying them while meeting the needs of the entire force.

We must make our concepts of fire support a part of the everyday lives of the force commanders who will one day employ it in combat. That's why we came up with the fire support team (FIST) concept, which is being tested right now.

This job of getting maneuver commanders involved in fire support is a challenge — and perhaps the biggest one we face.

The central European battlefield of the 1970s and 1980s *demand*s the integration of all elements of combat power, especially fire support and maneuver forces. It *demand*s striking advances in firepower capability and effectiveness. It *demand*s a thorough knowledge of the

battlefield marked by a tough and capable adversary, a rapid tempo, a heavily urbanized environment, a level of lethality and violence heretofore unknown to our Army in war and the constant threat of nuclear escalation.

And most of all, this battlefield *demand*s that our system be simple — straightforward — understandable. If the maneuver commander doesn't fully understand the fire support plan, then it's wrong. When we fight outnumbered, every member of the combined arms team must understand the whole plan. Today the battlefield belongs to the tank — used in conjunction with all the other members of the combined arms team. As we continue to work toward the full understanding of fire support by *all* members of that team, as we make combined arms training the number one priority for our Army, and as we increase the accuracy of our indirect fire systems, we see a *revolution on the battlefield* coming. The battlefield of the 1980s may very well belong to those weapons systems which can reach out the farthest to deliver overwhelming *firepower*! ☒

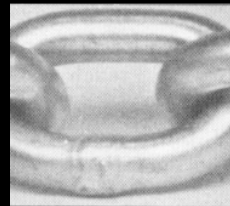
"The main link in the chain that connects the field artillery system to the maneuver unit company commander is the forward observer." (From "Evolving Field Artillery Tactics and Techniques," January-February 1975 *Journal*.)  
MG Vernon B. Lewis

A 21-year-old field artillery second lieutenant, newly married and a member of the USAFAS Officer Basic Course Class 4-76, did not feel well at all. As a matter of fact, he was downright miserable — miserable, confused and cold, his throat choked with dust, his eyes burned from smoke, his ears assaulted by noise, his ribs bruised by the unyielding edges of the M113 APC cargo hatch in which he was standing, holding on for dear life. The APC driver, seemingly bereft of his senses, was attempting to seek out every ditch, shell crater and depression on the East Range of Fort Sill, while apparently trying to set a new speed record. The personnel carrier bounced across ruts and rocks, through stream

unidentifiable armored vehicle lent an eerie sense of realism to the holocaust in which the lieutenant found himself. "Are they sure this is just an exercise? Are they sure someone is controlling this inferno?" If only he had the time to look at his map or the quiet to listen to the radio. The .50 caliber machinegun opened up with an explosive chatter and sent its bright red messengers of death, tracers, arching downrange with incredible speed and force. As these bullets hit the side of the hill, clouds of sand were kicked up, rocks went flying and tracers ricocheted into the sky, leaving what must have been a — "What did the instructor call the position from which a unit under cover and concealment supports another unit with fires? An overwatch position? That was it, an overwatch position." The APC charged across the terrain. Suddenly, there appeared two, three, five APCs, all churning up sand and rocks in their mad dashes. Leading this herd of iron monsters were four, no, five tanks, some stopping for a few seconds to fire their main guns, then rumbling forward. It was amazing. Where had all these vehicles been before their sudden appearance

## *forging the main link*

by LTC Serge P.C. Demyanenko



beds, across roads that seemed perfectly usable, and sped around ridges and hills and up narrow ravines. Explosions, which viciously attempted to crack the lieutenant's eardrums and threw sand and dust into his eyes, seemed to go off all around the APC; his knuckles were white as he held on to the edges of the hatch.

"What was going on? Had the driver lost his senses? Had the APC's huge engine run amuck? Was the driver wrestling with the controls to bring this modern steel chariot under control?" Apparently not, since the faces of the machinegunner behind his .50 caliber weapon and of the sergeant in the commander's hatch seemed calm, perhaps indifferent. Suddenly the APC jerked to a stop. "Thank goodness for a breather!" No sooner had this thought crossed his mind, than the APC sped off again on its wild cross-country race. And again the APC stopped suddenly.

"Where in the hell are we?" asked the totally confused junior officer. He couldn't hear anything over the engine noise and the explosions of the main tank guns, less than 50 yards away. The fiercely burning hull of an

on the scene? A steady stream of machinegun fire, punctuated with the deep boom of 106-mm recoilless rifle fire, was placed on the enemy whose tank turrets were now becoming barely visible on the objective. Suddenly the lieutenant had a strange thought: "I wonder who has been calling in the field artillery fire?" It was becoming ever more intense on the objective. "And who called in the smoke in the beginning when they crossed the line of departure (LD)? Surely there weren't any field artillery forward observers (FOs) calling in fires during this hair-raising scramble in an APC? Could you imagine anyone trying to read a map, determine location or estimate the range to any target in all this confusion? Ridiculous!" He had thought he heard the words "fire mission" on the radio a while back. But he had been too busy trying to hang on to follow the radio messages. "My God," the realization suddenly hit him with the blow of a sledgehammer, "that is precisely what I am supposed to do in the future . . . call in field artillery fires, quickly, accurately, professionally!" But he had never fully understood the

environment in which he would have to do this. It was total madness! His ears and his ribs protested. His eyes told him "no way," and yet he knew better! Someone must be controlling the rounds which he could now see falling on terrain features adjacent to the objective and on the objective itself. Someone had overcome this hostile environment and that someone was capable of calling fires despite all this confusion. He would have to find out who and how. And find out he did!

The "who" was easy: the lieutenant — that's who! Well, practically. During this exercise two fellow OBC students had been designated at the beginning of the exercise to call in all field artillery *and* mortar fires for the team commander. But it may have been any class member, to include our lieutenant. He knew that in the future he would be calling in fires on some "modern battlefield," as the instructor had termed it — where the stakes would be much higher, where the environment would be hostile in reality and where the enemy would fire back at you with weapons systems of stupendous lethality. And this officer would be that "link" between

of offensive operations on a simulated modern battlefield. The exercise was developed by the Tactics/Combined Arms Department at the direction of the School's Assistant Commandant. The intent was to get the OBC students and potential field artillery FOs off their wallets and out of the stands, placing them in the middle of the most realistic modern battlefield environment possible, consistent with safety requirements. The student is to *experience* the dust, smoke, noise, confusion and other environmental obstacles and difficulties that he might encounter when performing his duties as an FO. In this process, another objective is accomplished: The student, in experiencing the dynamics of the modern battlefield, is impressed with the interdependence of the various components of the combined arms team and how they seek to take maximum advantage of terrain, mobility and firepower, thereby shielding their mutual vulnerabilities and maximizing their capabilities. The students are exposed to the requirement for close and continuous coordination between these elements and the key role that the field

the maneuver unit in its wild dash toward a distant objective, taking advantage of every hillock, ravine and depression as they closed with the enemy, and the full angry might of the fantastic firepower generated by the field artillery. It was awesome even to think of this responsibility. He was going to be the link between success or failure — victory or defeat. Feeling a sense of pride at the trust and confidence in his abilities, he promised himself that he would learn to overcome not only the hostile environment he had experienced in this exercise, but also the environment that he would experience on any future battlefield. He would become a true professional, earning trust and confidence. In the future they could rely on him, for he would measure up as *The Main Link*.

**Field Exercise**

The description of the lieutenant's experiences refer to a live-fire field exercise, "The Combined Arms Team in the Attack." Scheduled monthly at Fort Sill, the exercise is designed to *involve* OBC students in the environment

artillery FO plays as the link between indirect support fires and the maneuver elements.

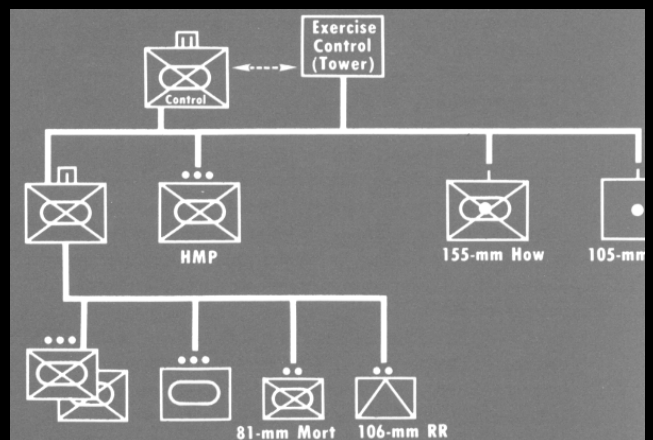


Figure 1 – Troops supporting the exercise.

Vehicles and personnel for this exercise are provided by an infantry-heavy tank/mechanized infantry team of the 4th Battalion, 31st Infantry. Two howitzer batteries (155-mm SP and 105-mm towed) provide the field artillery indirect fire support. Other troop units supporting this exercise are as indicated in figure 1. All troop units are members of III Corps Artillery at Fort Sill.

### Preparatory Training

The exercise is divided into two increments: The morning pre-exercise training phase and the actual live-firing portion. OBC students with little military experience gain greater benefit from a live-firing exercise following some preparatory training. Pre-exercise training is therefore conducted at various training stations where the students are oriented to organization, equipment, capabilities and procedures of the tank/mechanized infantry team, as well as a dedicated battery and the fire direction center (FDC).

A typical schedule of events is: Students are trucked to arrive on the range at 0800 hours. They dismount at a tank/mechanized infantry assembly area where they are organized into up to nine groups, depending on the size of the OBC class (classes vary from 50-120 students). They are led through the assembly area by lieutenants from the 4th Battalion, 31st Infantry. Crew members and vehicle operators brief students concerning their tactically emplaced weapons and equipment. This training takes from one to two hours.

OBC students are then organized into three groups of equal size which are trucked to three concurrent training stations.

At the Suppressive Fire Station on Blockhouse Ridge (see figure 2), students receive a terrain orientation and other instruction:

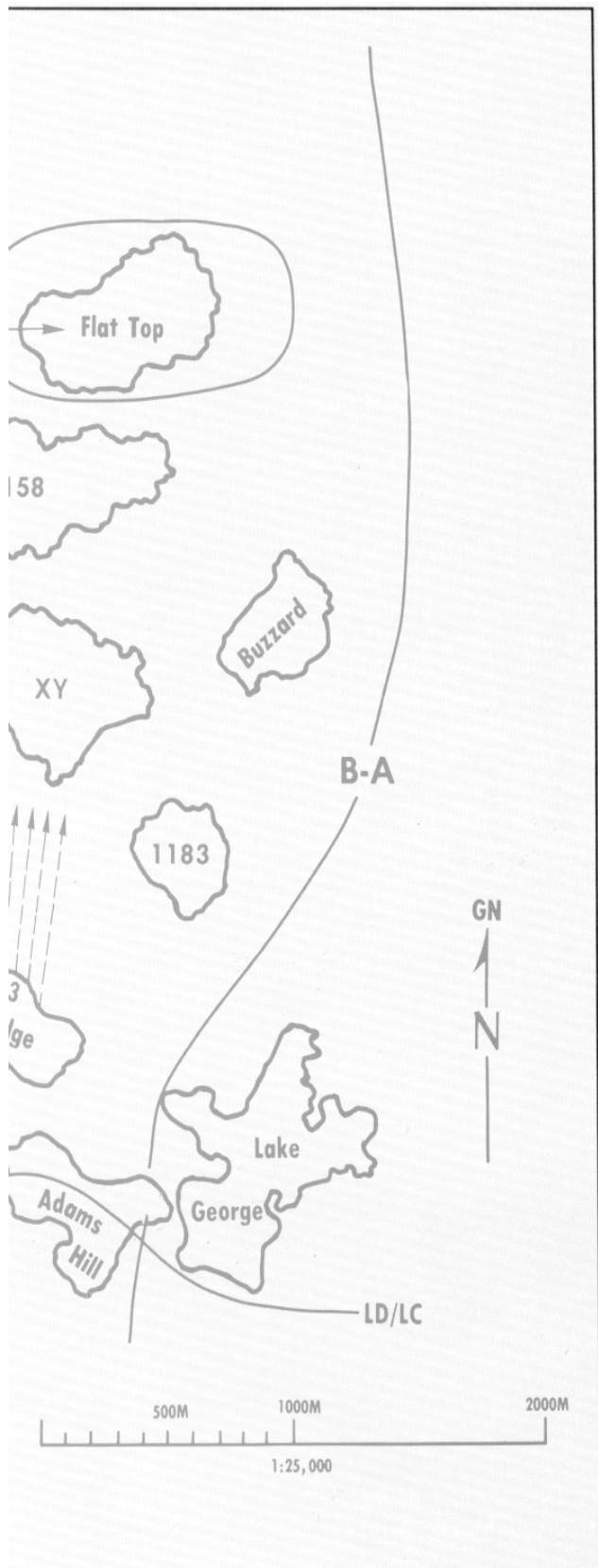
- The students confirm the fire plans they began in the classroom. Selected students request suppressive fires on enemy antitank guided missile positions corresponding to one of their preplanned targets.
- The suppressive fire capabilities of various weapons are demonstrated. Students observe an M60A1 tank and a mechanized infantry squad with APCs employ their weapons in a direct fire suppression role.

At the Dedicated Battery Site, students observe a dug-in, camouflaged firing battery prepare for and respond to suppressive fire requests by student FOs from the Suppressive Fire Station.

At the third concurrent training station, the FDC, students observe an FDC processing suppressive fire requests from the Suppressive Fire Station. Reinforcement instruction is presented on the seven principles of instantaneous fire response as outlined in TC 6-20-1, "Field Artillery Suppression of Direct Fire



Figure 2 – Scheme of maneuver.



Weapons." Students are rotated between the concurrent training stations every 50 minutes.

### Attack Order

As this instruction ends, the students return to the team assembly area to participate in the team's preparation for the attack. The team attack order is issued. Students finalize previous fire planning accomplished during classroom instruction and at the Suppressive Fire Station observation post (OP). Two students are selected at random to serve as FOs with the team commander whom they accompany to the battalion command post (CP) to make final coordination with the battery commander of the dedicated battery. At 1330 hours the team crosses the LD. The scheme of maneuver is as illustrated in figure 2.

One tank platoon and two mechanized infantry platoons form the team conducting the attack. The team is supported by its organic 81-mm mortar section and the battalion heavy mortar platoon. A battery of self-propelled 155-mm howitzers represents the direct support (DS) battalion, and a battery of towed 105-mm howitzers represents the fires of a reinforcing battalion. The 105s are used to keep the cost of the exercise to a minimum.

Four students ride in each squad and platoon APC, observing from the cargo hatches. Remaining students ride in M548 ammunition carriers which accompany the attacking platoons. A loudspeaker is rigged on each vehicle so that all students monitor the team command net. The students selected to ride with the team commander actually request the mortar and field artillery fires for the exercise.

### Mission

The mission of Team Bravo is to attack at 1330 hours and seize Objective Alpha located on Flat Top Hill. The team moves from its assembly area using the TRAVELING OVERWATCH technique. Upon approaching the LD the team changes its movement technique to the BOUNDING OVERWATCH. The tank platoon leads and moves to an overwatch position on Feigel Point. The objective and other likely enemy antitank guided missile (ATGM) locations are obscured by smoke. The first mech infantry platoon bounds forward to occupy overwatch position number 3 on Blockhouse Ridge. The second mech infantry platoon then moves forward and positions itself on overwatch position number 2 at the west end of Blockhouse Ridge. While these platoons are crossing the LD and moving forward toward Blockhouse Ridge, a number of salvage APCs are smoking or burning fiercely. A blockhouse located on Blockhouse Ridge is also burning. All of this

simulates the atmosphere of combat. Also, incoming artillery is simulated by the detonation of demolitions located in 64 demolition pits throughout the impact area. Enemy ATGM fire is simulated by firing 3.5-inch rocket launcher training rounds. The rounds are modified by the addition of a trip flare in the nose of the projectile and leave a clearly discernible signature.


At this juncture the tank platoon attempts to bound forward around the west end of Blockhouse Ridge toward overwatch position number 4. However, enemy ATGMs prevent the tanks from moving forward. The mechanized infantry platoons, located in overwatch positions on Blockhouse Ridge, open up with suppressive fires. Indirect suppressive fires are also placed on enemy positions, and the tank platoon succeeds, as a result of this fire support, in bounding forward. As the preponderance of enemy activity has been observed on Hill XY, not Objective Alpha, the team commander is faced with reassessing the situation: Does he bypass or does he conduct a hasty attack? He decides that, if he bypasses the enemy, the enemy could adversely affect the accomplishment of his mission: seizing Objective Alpha. He therefore decides on a hasty attack on Hill XY. He orders the second platoon, located on Blockhouse Ridge, to move forward and join the tank platoon and assault Hill XY. During this assault, indirect fires are shifted to deeper targets. When the assaulting force closes with Hill XY, two salvage tank hulls located on Hill XY, in hull defilade, are exploded and begin to burn, adding to the realism. A number of explosives are detonated on Hill XY to simulate close field artillery support which cannot be provided live

because of safety considerations; however, indirect fires are brought close enough to the maneuvering troops to provide a taste of steel — at least an awareness of steel.

Upon seizure of Hill XY, the team commander prepares to continue the attack, but he receives a fragmentary order from the task force commander instructing him to hold in place until further orders. The team commander, in preparation for securing Hill XY, orders the first platoon to close in with the assaulting elements, and the exercise terminates. Students are transported to a bleacher area where a critique is held.

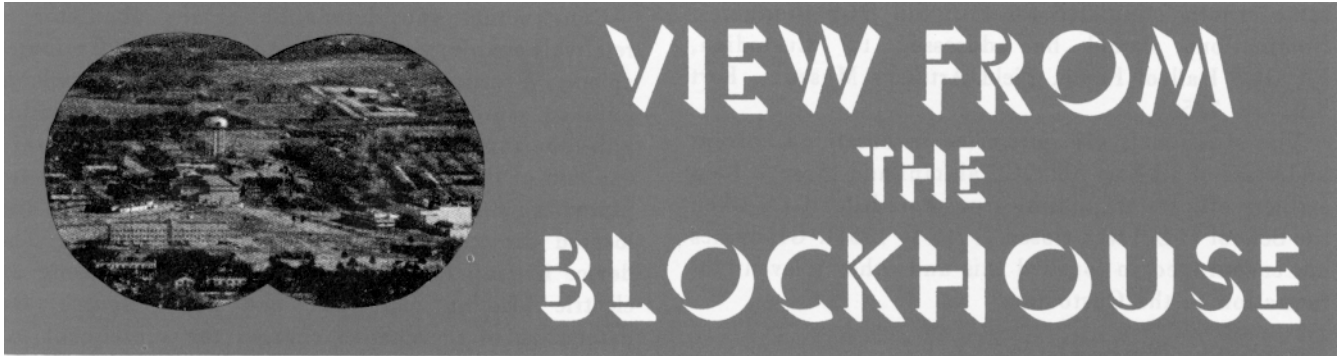
### Critique

The critique is kicked off by asking the two student FOs who were required to call in all indirect fires to describe their experiences. These students usually do a fine job of relating their difficulties in the form of war stories. No disagreements are heard from the remainder of the students who ate their share of dust, whose ears are still ringing from the realism and whose confusion throughout the exercise has served as an eye opener for what the modern battlefield will be all about.

At Fort Sill the field artillery FO camp stool on top of the OP has been laid to rest; a number of tanks and APCs, along with a strong mixture of imagination, have been substituted. As a result, the main link, that is, the field artillery FO, has been forged to take on a new dimension which will make that link stronger, more motivated and, therefore, more proficient. On the modern battlefield, nothing less will do. 

LTC Serge P. C. Demyanenko, INF, is Chief of the  
Maneuver Division, Tactics/Combined Arms  
Department, USAFAS.

## Notes from the School



### Secretary Hoffman Joins Hall of Fame Role

Secretary of the Army Martin R. Hoffman, a graduate of Fort Sill's Field Artillery Officer Candidate School (OCS) in 1955, recently returned to Fort Sill for two days of briefings on current activities and a tour of the post. The highlight of the Secretary's visit occurred as he was inducted into the Field Artillery OCS Hall of Fame by MG David E. Ott, Commandant, USAFAS. During the ceremony the Secretary recalled several memories of his OCS days, including the infamous 4.2-mile "Jarks" (jogs) to MB4. Secretary Hoffman was the 235th graduate to be inducted into the Hall of Fame.

OCS was established at Fort Sill in 1941 to produce qualified junior artillery officers for a rapidly expanding Army. LTG (Ret) Carl H. Jark, then captain, served as the OCS's first commandant. The School closed at war's



**In a ceremony officiated by USAFAS Commandant MG David E. Ott, Secretary of the Army Martin R. Hoffman was inducted into the Field Artillery OCS Hall of Fame on 5 March 1976. A distinguished OCS graduate in 1955, Secretary Hoffman became the 235th member of the Hall of Fame since its inception in 1968.**

end in 1946 but was later reopened for the same purpose in 1951 during the initial stage of the Korean mobilization. It functioned continuously from that date until 6 July 1973 when General Jark officially closed the doors at the final graduation ceremony. All OCS training thereon has occurred on a branch immaterial basis at Fort Benning, GA.

In its 32 years of existence, spanning three wars, the Fort Sill OCS produced 47,479 lieutenants from the ranks of warrant officers and enlisted men. Two graduates, 1LT James E. Robinson Jr. and 2LT Harold B. Durham Jr., were awarded the Medal of Honor posthumously for actions "above and beyond the call of duty."

COL Marlin W. Camp (now BG, Ret) initiated the first steps to commemorate the service and achievements of outstanding OCS graduates through the establishment of an Artillery Officer Candidate Hall of Fame. The Hall was formally opened in the OCS area in 1968. Following the deactivation of OCS in 1973, the Hall was maintained by USAFAS until administration was permanently transferred to the Field Artillery Museum in 1975. The Hall of Fame was reopened in July 1975 under Museum auspices in Building 441, an Old Post cavalry barracks located east of McNair Hall.

Any individual may nominate a graduate of the Field Artillery Officer Candidate School, Fort Sill, for induction provided the nominee meets one of the following requirements:

- Has received the Medal of Honor or Distinguished Service Cross.
- Has attained the rank of colonel while serving on active or inactive duty.
- Has been appointed or elected to a public office of national prominence.

Any graduate of the Fort Riley, KS, OCS between 12 December 1946 and 21 February 1951 who was commissioned Field Artillery on graduation and immediately *attended the Fort Sill Field Artillery Officer Basic or Associate Basic Course* may be nominated under the

## View From The Blockhouse

same criteria stipulated for Fort Sill OCS graduates. Nominations should be addressed to: Custodian, FA OCS Hall of Fame, Field Artillery Museum, Fort Sill, OK 73503.

The Museum is also interested in obtaining current addresses of all Fort Sill OCS alumni and those of field artillery officers originating from Fort Riley OCS when the School at Sill was closed (1946 to 1951). Graduates are encouraged to forward this and other relevant information to the Custodian.

## Target Acquisition Now Counterfire Department

On 20 February 1976 the name of the School's Target Acquisition Department was officially changed to the Counterfire Department. The change was a natural evolution based on new doctrine and the major role the department played in the development and implementation of that doctrine. While all academic departments teach portions of counterfire, the new doctrine impacts mainly on the old Target Acquisition Department.

The previous name dates back to 1958. The lineage of the organization can be traced to the Sound and Flash Section of the Gunnery Department organized in 1942 and the Department of Observation established in 1943.

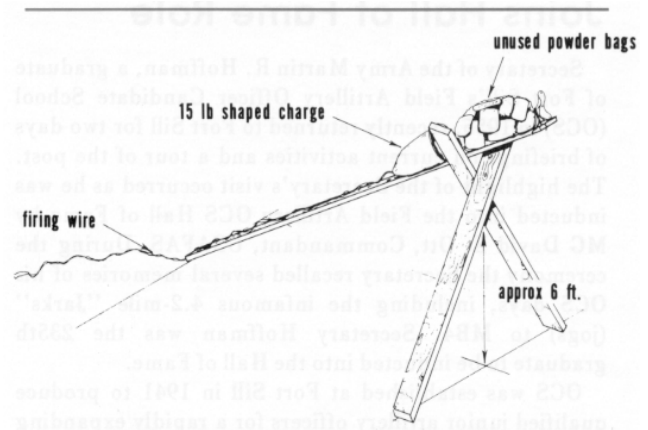
Counterfire will maintain three instructional divisions — targeting, survey and meteorology. Advanced, individual and NCO training will be conducted on all systems employed by the new target acquisition battery, target processing techniques and on the use of all-source intelligence for targeting. Officer instruction will include the counterfire threat, all-source intelligence, new target processing and production procedures as well as the employment of target acquisition systems and the division artillery TOC.

## Counterbattery Confusion

The Maneuver Division of the School's Tactics/Combined Arms Department recently introduced an inexpensive but extremely effective heavy artillery muzzle flash simulator for counterbattery deception.

Standard issue pyrotechnic devices in the current inventory (i.e., the M110 Gunflash Simulator) produced satisfactory results under certain conditions but lack the powerful explosion required to successfully imitate the signature effect of heavy artillery. The new simulator integrates the basic design of much smaller devices with a significantly larger explosive charge consisting of a 15-pound shaped charge and 10 increments of green bag powder.

Construction and detonation of the simulator is relatively simple, set-up time requiring about 20 minutes apiece. A crude tripod is fashioned from available building material and tilted in a manner to resemble gun-tube angle. The shaped charge is positioned toward one end of the tilted centerpiece. The powderbags are placed in a suitable container, such as a plastic bag, and located directly forward of the shaped charge. The device is detonated by the common method using an electric blasting cap, wire and power source. On detonation of the shaped charge, the subsequent explosive jet ignites the powder container and produces the report and elongated flash of an actual artillery piece. Personnel should be at least 275 meters clear at detonation.



As an additional deceptive measure, the simulator can be positioned and fired with a delay mechanism or timer.

Current plans call for the use of the simulator in future night live-fire exercises at Fort Sill. The item will be used as a flash-bang device to approximate friendly and enemy fires in the exercise area and will also be utilized as an instructional vehicle to stimulate imagination and creativity among students toward the construction of other deceptive devices.

Though the reasonably trained observer is capable of effectively distinguishing between simulator and actual artillery fire, his accuracy at extended range in the context of a dynamic situation will be confused and impaired. Within this framework, the results of recent tests of the simulator appear to be most encouraging.

## The FA Cannon Battery

Now at press, FM 6-50, *The Field Artillery Cannon Battery*, not only refines many familiar concepts and



procedures of the cannon battery but also introduces several new ones including the creation of a new 13B E7 and a significant change in the use of flank artillery pieces during battery adjustment.

Relieving the often fatal bottleneck between E6 and E8 in the 13B career field, the position of "gunnery sergeant" (E7) was established in anticipation of the unique mobility requirements of the modern battlefield. Among other benefits to be realized, the improved command integrity resulting from the presence of another senior battery NCO promises to be particularly advantageous when the battery operates in split or roving configurations.

Enhancing battery responsiveness, the commander has been given the option of leading flank pieces during the battery adjustment phase. The new procedure can hasten fire missions by about 30 seconds, delivering the instantaneous firepower of the full battery on fire-for-effect.

Other changes involve the issue of additional equipment and some new duties for certain battery personnel. Distribution for FM 6-50 is scheduled for 1 July 1976.

## Modified Call For Fire

Since the publication of TC 6-40-4, *Fire-for-Effect*, in August 1975, the call for fire has been modified to allow fire direction centers to process fire missions more rapidly.

In the initial call for fire, the warning order FIRE MISSION has been replaced by ADJUST FIRE, FIRE-FOR-EFFECT, SUPPRESSION or IMMEDIATE SUPPRESSION as appropriate. The target location method remains as before, thus FIRE MISSION, SHIFT 712 becomes ADJUST FIRE, SHIFT 712. This change will appear in FM 6-40-5, *Modern Battlefield Cannon Gunnery*.

## TACFIRE Training Update

A major milestone in the evolution of the modern Field Artillery System was passed on 1 March 1976 when the Field Artillery School began the first in a series of detailed courses of instruction on the Tactical Fire Direction System (TACFIRE). All 1976 and 1977 TACFIRE classes are booked to capacity with personnel who will be participating in or evaluating the TACFIRE system as it undergoes its final stages of testing which culminates in Developmental Test III (DTIII) and Operational Test III (OTIII).

The 1st Cavalry Division Artillery at Fort Hood, TX, was designated recently by the Department of the Army as the player unit for the TACFIRE OTIII. A total of 259 player personnel from the division artillery will undergo training at both Forts Sill and Hood. To minimize personnel turbulence and to export as much TACFIRE training as possible to the field, two command and staff courses and all of the OTIII firing battery fire direction courses and forward observer courses will be taught at Fort Hood.

The first group of resident students is now attending the 11-week TACFIRE *Fire Direction Course* designed to train division artillery and battalion-level operations personnel in the doctrine, tactics and operational-organizational concepts pertaining to TACFIRE employment. This course will develop the technical skills required to operate and maintain equipment utilized in the division artillery and battalion operations centers. Four additional fire direction courses will be presented in 1976 and 1977.

The first TACFIRE *Command and Staff Course* will begin 3 June 1976. Selected commanders and operations/intelligence staff personnel attending the two-week course will be trained in the skills required to perform normal division artillery and battalion-level operations and intelligence staff functions utilizing TACFIRE. Two additional command and staff courses will be presented in 1977.

Two TACFIRE *Fire Support Coordination Courses* will be taught in the May-July 1976 time frame. Each four-week course is designed to train fire support element (FSE), brigade and battalion fire support section personnel to perform fire support coordination functions utilizing TACFIRE devices. This course will develop the technical skills required to operate and maintain the Variable Format Message Entry Device, the primary input-output device used to coordinate fires and perform the FSE functions.

The Field Artillery School will present three additional TACFIRE training courses in 1977. The courses, lengths and objectives are:

- *Forward Observer Course* (three days): The objective is to train qualified forward observer section personnel to perform forward observer functions with the Digital Message Device (DMD). The course will develop the technical skills required to operate and maintain the DMD.
- *Firing Battery Fire Direction Course* (four days): The objective is to train battery fire direction center personnel to perform battery fire direction functions with the Battery Display Unit (BDU), to include technical operation and maintenance.

(continued on page 50)

# The Warlock

by CPT John R. Shelton

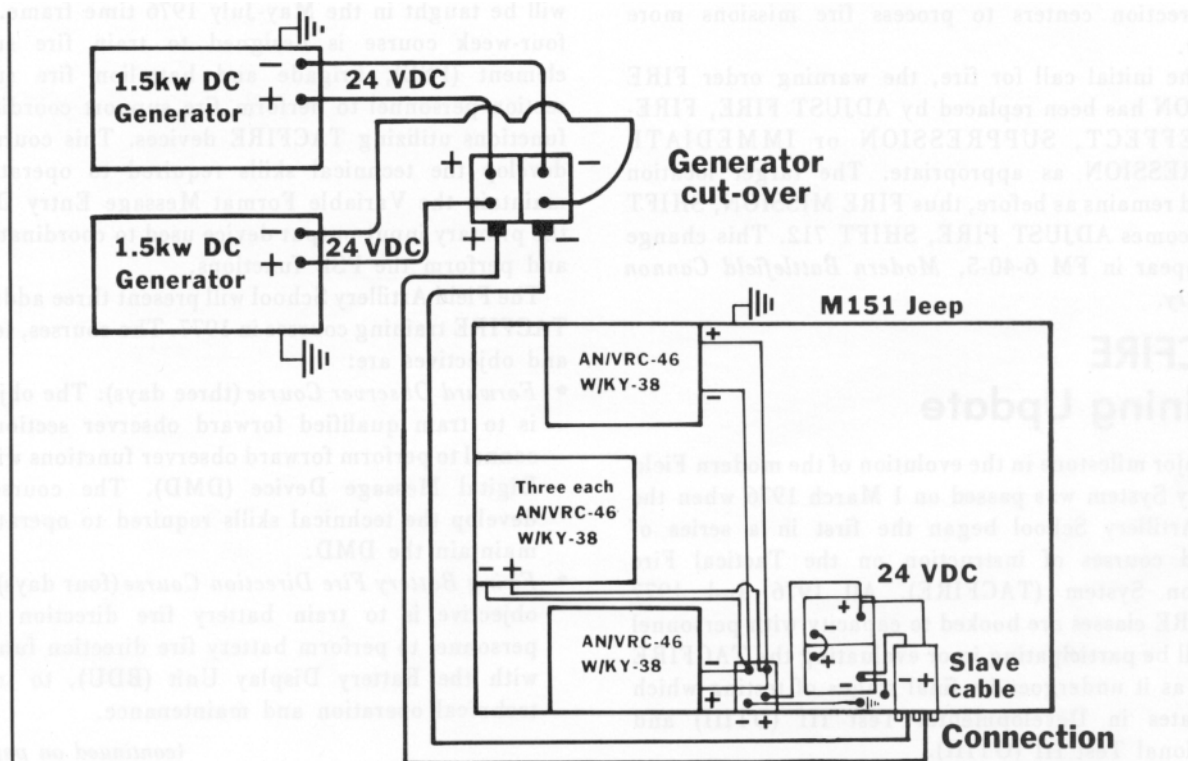
What performs magical acts? What every commander could use? The 101st (Screaming Eagles) Airborne Division (Air Assault) Artillery has the answer — the WARLOCK! What is the Warlock and where did it get its name?

In ancient mythology, a warlock was a person or "thing" who performed magical and mysterious acts and knew the secrets of the universe. The act of providing communications, especially radio, has often been thought of by many as a magical and mysterious act. But radio communications are understood by a few and are provided under all types of conditions. Today's Warlock is a complete remote radio system that supports the 101st Airborne Division (Air Assault) Artillery during tactical operations.

For air assault operations, the Screaming Eagle Division Artillery needs a secure FM radio communications system that can be remotod (up to one kilometer away), is self-contained, self-supporting and can be transported internally or externally by CH-47 helicopters. In addition, this system must be able to

furnish the div arty tactical operations center (TOC) instantaneous radio communications. It must also be capable of rapid displacement on the road or in the air. The Warlock was designed to meet these criteria. The present system evolved from testing several systems configurations, each trial system providing data and engineering experience that were incorporated into the Warlock.

Present TOE authorizations do not provide for a remote radio system such as the Warlock. The 101st Div Arty consolidated FM radios and secure devices to provide necessary equipment to operate all required radio nets from a remote site. The div arty must operate in four separate secure FM radio nets to accomplish its combat mission. These nets are Division Command/Operations, Division Intelligence, Division Artillery Command/Operations and Division Artillery Intelligence. The Warlock provides the capability to operate these nets. In addition, the Warlock has one radio that can be used either as a "hot spare" or in meeting additional mission requirements, i.e., assuming

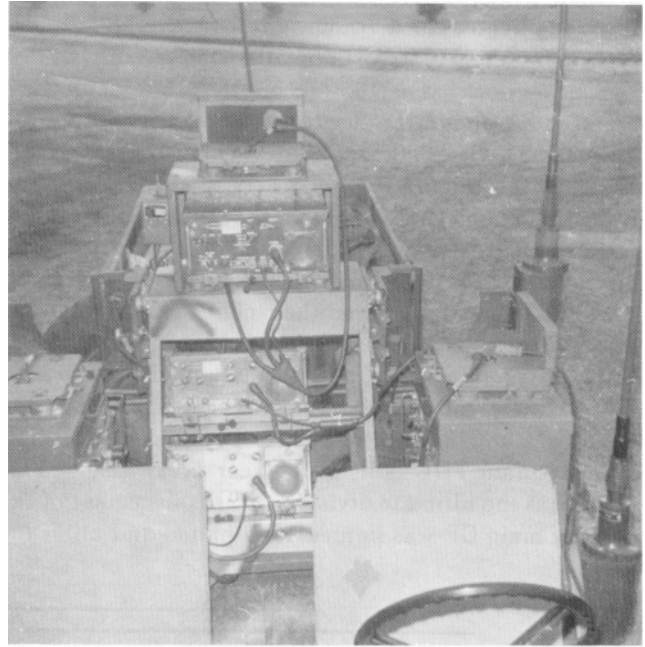


a division alternate mission, net requirements to corps, etc.

The basic item for the Warlock is a salvaged AN/ASC-11 command and control console frame. This item was built by Lexington Bluegrass Army Depot in Kentucky to be used in helicopters as an airborne command and control console. Originally, it was designed for two RT-524 FM radios. Some of the AN/ASC-11 frames can still be found in depot salvage as was the one located by 101st Div Arty. The AN/ASC-11 is a nonstandard item. TM 11-5821-279-35 (August 71) provides specifications and maintenance information.

Modifications were made to the frame so that three FM radio mounts could be installed; KY-38 mounts were installed on both sides and the top of the frame. Modifications and wiring complete, the rear seat of an M151 was removed and the frame was bolted to the floor of the jeep. Frame floor space required is 23-1/2 inches wide by 25-1/2 inches deep. On each rear wheel well is an AN/VRC-46 radio with secure mount. This configuration gives a total of five FM radios with secure capability. All power lines for this system are connected to a terminal strip on the front of the right rear wheel well. A single line runs from this to the vehicle battery system. The negative side is bolted to the frame to preclude a possible reversal of polarity which would damage the radios or secure devices. This also facilitates ease of installation and removal of the power lines.

Normally only two regular vehicular whip antennas (AS-1729) are installed on a jeep. For the Warlock, two additional antennas are installed in front of each rear wheel so the Warlock can be operated in a mobile mode. The vehicular antenna used, the 1/2-length whip prototype antenna AS-2731, is a new design replacing the AS-1728 whip antenna. Electronics Command (ECOM) furnished information on the prototype antenna and contacted the manufacturer to borrow it for field testing. A recommendation was forwarded to Army Materiel Development and Readiness Command/ECOM to adopt the new antenna as a Standard A item. The antenna is of single piece design and, when mounted on a vehicle, it is equivalent to the RC-292 antenna. For stationary operation, both the RC-292 and the five-foot log periodic AS-2169 antennas are employed. For radio communications up to 50 miles, the log periodic antenna should be used in the vertical plane. All necessary and associated equipment is carried in the M151 jeep and trailer when deployed for tactical operations. Two operators can install and operate the equipment to provide communications for the TOC. Equipment carried to support operations can be transported either internally or externally by organic CH-47 aircraft. When the Warlock arrives, the power and antenna system of



**The complete remote radio system installed in a jeep.**

the M151 are used for radio operation. After the radio nets are operational, the radios are remoted to the TOC, necessary base antennas are erected, camouflage nets are placed over the M151 and generators are dug in. The power system is configured so the Warlock can operate indefinitely using either the M151 power system or the generators. By connecting the generator to the battery system of the M151, the batteries are constantly charged and an external power source is provided. If the generators fail, the charged batteries have enough power to maintain all radio systems for approximately one hour.

The electromagnetic signature of the div arty TOC has been reduced because this system is never closer than one-half kilometer to the TOC. The system is positioned in the treeline and camouflaged with nets and vegetation. All antennas are erected through the trees to reduce the radio system's outline. If enemy fire knocks out the system, it can be reconstructed by using the jump Command Post (CP) radio system (a mini-Warlock) which is prepositioned near the landing or pickup zone (approximately one-half to one kilometer away prepared for a jump move).


The Warlock was field tested during Orbiting Eagle V, a six-day division FTX, and a two-day division communications exercise which tested all communications systems within the division. It will also be used during all div arty CPXs, FTXs or ARTEPS.

When the Warlock was put on display in front of

division headquarters January 1976, the G3 of 101st Division directed the division signal office build a similar system for the 101st Airborne Division assault CP.

The Warlock went to war on the air assault field exercise Sovereign Eagle I on 6-9 April. Operating during the full length of the exercise, its greatest test came late on the 8th. The div arty jump TOC with all communications contained on the Warlock displaced forward internally in a CH-47. Three minutes after driving off the CH-47 ramp in the forward CP area all secure radios had reentered their nets and complete FM communications were established before the Warlock reached its final position in the heavily foiled forward area. Minutes after the Warlock stopped, the division main CP was rendered ineffective by a gas attack. The div arty main TOC (still in the rear area) assumed its mission as the ultimate division CP. Displacement of the div arty main CP was immediately

halted and all of the numerous actions that are initiated by the major change in command CPs were begun. One transmission from the div arty main CP to the Warlock resulted in the light forward TOC assuming the full functions of div arty command and control, with zero loss in communications capability or time. The Warlock remained the voice of div arty throughout the remainder of the exercise.

The new system is alive and operating in the 101st Airborne Division (Air Assault) Artillery — providing the most effective and reliable communications possible. It isn't magical. It isn't mysterious. It isn't a myth. It's just good communications. 

**CPT John R. Shelton, SC, is serving as the Division Radio Officer, 101st Airborne Division (Air Assault), Fort Campbell.**

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(continued from page 47)

- *Direct Support/General Support Maintenance Course* (nine weeks): The objective is to train selected maintenance personnel in the repair and replacement of components and end items on the TACFIRE system. This includes performance of direct and general support-level maintenance actions in accordance with the TACFIRE maintenance allocation chart and established maintenance procedures.

The Field Artillery School has been tasked by TRADOC to deploy a 14-man training assistance team to Fort Hood by 15 May 1977. Headed by a lieutenant colonel, this team will:

- Develop, in conjunction with the test division artillery, a unit training program for the pre-OTIII training.
- Provide technical assistance to the unit during the critical period of initial receipt and checkout of the equipment.
- Provide the unit commanders with a technical training base they can use during the pre-OTIII training period.
- Allow development/validation of the concepts to be used for New Equipment Training Teams in support of world-wide deployment.

The present schedule to accomplish the training assistance mission is:

- July 1976 — Team personnel available at Fort Sill for formal classroom/laboratory training.
- October 1976 — Begin team on-the-job training and

development of player unit training program.

- May 1977 — Deployment to Fort Hood.
- June 1977 — Begin player unit field training.
- November 1977 — Validate training for selected elements of the test division artillery.
- December 1977 — Training assistance team returns to Fort Sill.

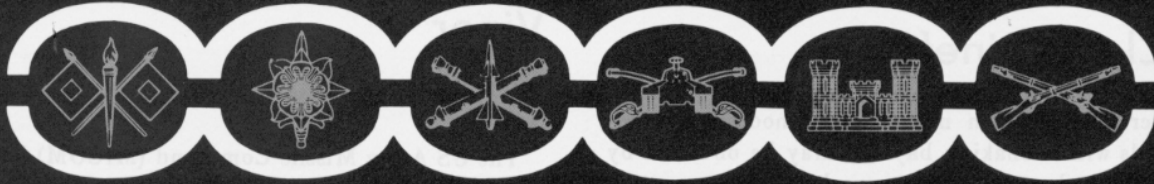
During OTIII, the performance of unit personnel trained by the School will be monitored and evaluated, creating a basis for validation of USAFAS TACFIRE training concepts and programs. The DT/OT III training concepts and programs then will be revised and refined based on OTIII results and will serve as a basis for development of the full-scale USAFAS resident and nonresident instructional program to support worldwide system deployment.

### **ARTEP Hotline**

A quick-response, 24-hour telephone recording service for information concerning field artillery ARTEPs is now being offered by the Directorate of Training Development's Collective Training Team. Questions and comments may be placed day or night by calling AUTOVON 639-2064 or commercial (405) 351-2064.

Written correspondence is also invited and should be addressed to: Commandant, USAFAS, ATTN: ATFS-TD-CT, Fort Sill, OK 73503.

*with our comrades in arms*



## Multi-Option Fuze Proves Adaptable

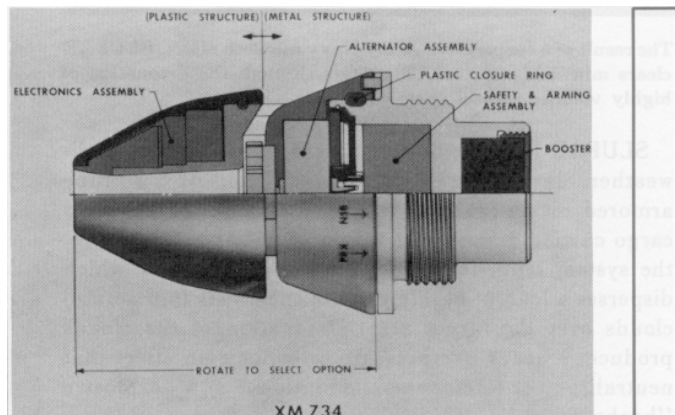
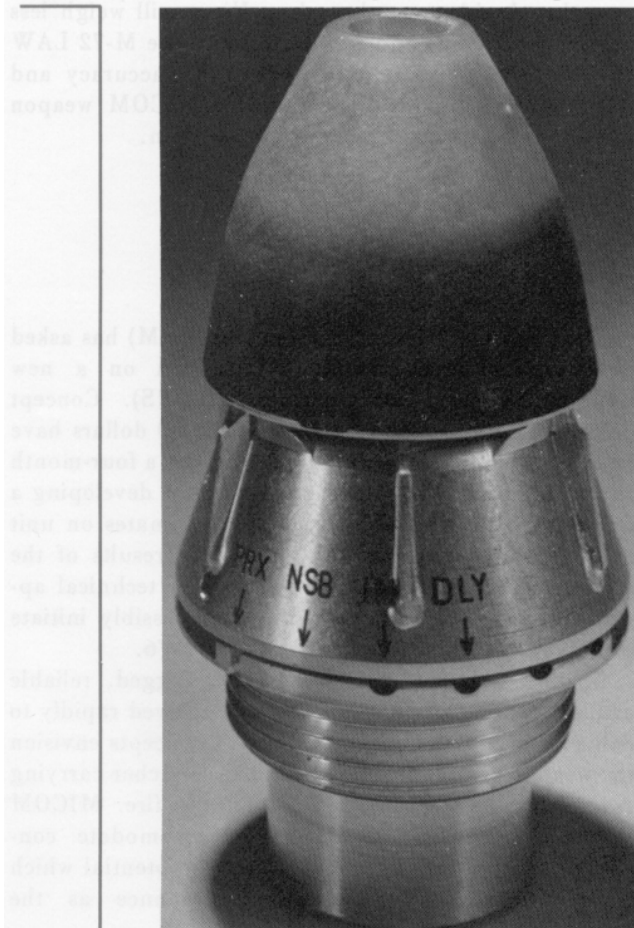
The adaptability of the XM734 Multi-Option Fuze to the 81-mm mortar and the new 60-mm lightweight company mortar system was successfully demonstrated by Harry Diamond Labs, Adelphi, MD, during recent

feasibility testing. The positive results of the exercises, witnessed by representatives of the US Army Materiel Development and Readiness Command, TRADOC and the US Marine Corps Development and Education Command indicate the eventual availability of a single adjustable mortar fuze which will allow the gradual elimination of seven currently used single-purpose fuzes from the inventory.

The XM734 achieves a new degree of support flexibility through the integration of various fuze functions into one single firing device including air, near-surface and delay burst, warhead detonation, proximity and impact detonation. Given a specific fire mission, the round is tailored quickly to target requirements by adjustment of a rotating function selector band.

Safety and reliability are enhanced by the incorporation of state-of-the-art devices such as a fluidic sensor which provides an arming signature at minimum safe arming distance and a safety and arming mechanism designed with an independent setback sensor

**The XM734 promises an unprecedented degree of logistical simplicity and support flexibility for the 81- and 60-mm mortar systems.**



## With Our Comrades In Arms

which recognizes proper sustained launch acceleration.

The XM734 is scheduled for type classification around mid-1976.

## New Methods To Clear Minefields

The crude but often necessary method of clearing minefields with a shaking bayonet may be obviated by the recent development of a new rocket launcher system by the US Army Missile Command (MICOM) at Redstone Arsenal, AL.

Christened the "SLUFAE" (Surface Launched Unit, Fuel Air Explosive), the system will be employed by combat engineers to breach minefields at ranges up to 1,000 meters in support of attack and pursuit operations.



**The result of a cooperative Army-Navy research effort, SLUFAE clears minefields up to 1,000 meters through the detonation of highly volatile aerosol chemical clouds.**

SLUFAE is being designed as a quick-response, all-weather, day or night system, consisting of a 30-tube armored rocket launcher mounted on an M548 tracked cargo carrier. Capable of single or variable ripple fire, the system launches a fuel air explosive round which disperses a load of highly volatile chemicals into aerosol clouds over the target area. Detonation of the clouds produces a heavy overpressure or concussion effect that neutralizes or detonates landmines and explosive "booby traps."

System development is a result of a cooperative Army-Navy research effort. MICOM will likely assume

program management, however, when the system goes into final production.

## Viper On The Way

The US Army Missile Command (MICOM) has given the green light and approximately 10.5 million dollars to General Dynamics to begin engineering development of the new light antitank weapon, Viper. Terms of the recently awarded contract call for development and testing of a viable Viper prototype and delivery of a Technical Design Data Package which will support final production of the weapons system.

Advanced development and feasibility demonstrations of the new tank killer were conducted almost completely within the Army laboratory system from propellant formulation to a complete weapon prototype.

Light, compact and shoulder-fired from a throwaway case that doubles as a launcher, Viper will weigh less than seven pounds and figures to retire the M-72 LAW beside the bazooka in terms of power, accuracy and effectiveness. Viper will be the first MICOM weapon system developed using the metric system.

## Under Study GSRS System

The US Army Missile Command (MICOM) has asked industry for developmental information on a new General Support Rocket System (GSRS). Concept definition study contracts totaling 855,000 dollars have been awarded to five companies to perform a four-month study outlining technology approaches for developing a free flight artillery rocket, including estimates on unit and life cycle program costs. From the results of the studies the Army will determine the best technical approach for developing the GSRS and possibly initiate prototype development by the fall of 1976.

GSRS is intended to be a simple, rugged, reliable artillery rocket system which can be deployed rapidly to deliver a high volume of fire. Present concepts envision the weapon system as being a mobile launcher carrying several rockets capable of quick ripple fire. MICOM engineers look for the design to accommodate conventional munitions and have a growth potential which could integrate future terminal guidance as the technology evolves.

## Part V

# The Hot War (continued)



## 1968-69

# A Shau Valley

by MG David E. Ott  
Commandant, USAFAS

**W**ith the exception of the defense of Khe Sanh, post-Tet operations were similar to past counter guerrilla actions. The enemy, badly shaken, again eluded massed allied forces. It was necessary to hunt him in search and destroy operations conducted over large land areas. The two largest of such operations took place in the III Corps area and were known as QUYET TONG (Resolve to Win) and TOAN THANG (Complete Victory). Both took place in and around Saigon and were aimed at destroying enemy forces that had participated in the Tet attacks and were then hiding in the area. Operation TOAN THANG involved 42 US and 37 Vietnamese maneuver battalions and was the largest operation of the Vietnamese war. Artillery support was provided by 81 batteries of US artillery and all of the Vietnamese artillery in the area.

Though not the largest, perhaps the most significant operation of the period immediately following Tet was DELAWARE-LAM SON 216. This operation, in April 1968, took friendly forces into the A Shau Valley, which had been controlled by the enemy since 1966. The operation, like PEGASUS, was preceded by intelligence acquisition by the 9th Cavalry. Antiaircraft weapons were pinpointed and destroyed by artillery, tactical air and B-52 strikes. Two battalions of the 3d Brigade air-assaulted into the northern portion of the A Shau Valley on 19 April. Hampered by extremely bad weather in the objective area, the brigade did not close in until 23 April. On 24 and 25 April the 1st Brigade was deployed in the central portion of the valley. On 29 April, one battalion of the South Vietnamese 3d Regiment was airlifted into the southern part of the valley and, by the end of the month, most elements of the regiment were operating in the south central portion.

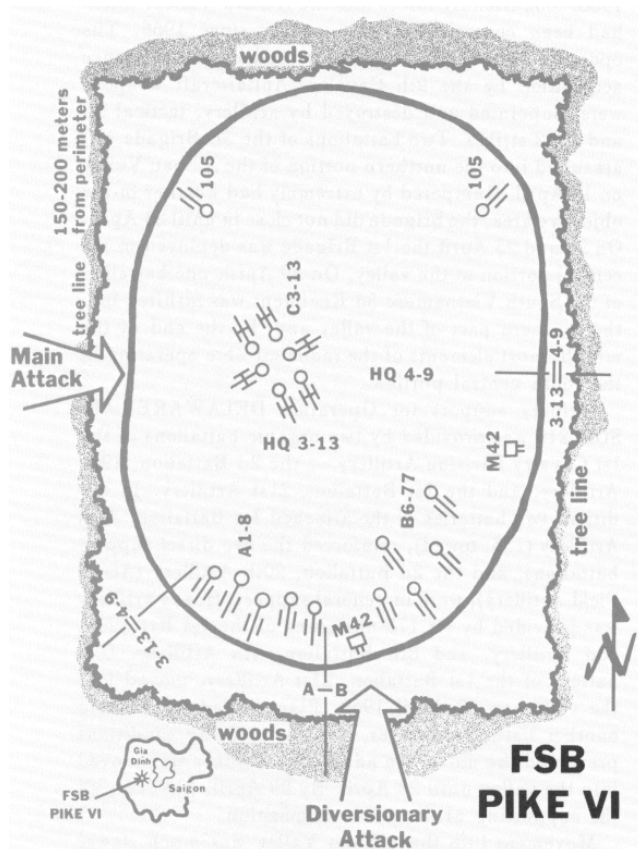
Artillery support for Operation DELAWARE-LAM SON 216 was provided by two organic battalions of the 1st Cavalry Division Artillery — the 2d Battalion, 19th Artillery, and the 1st Battalion, 21st Artillery. In addition, two batteries of the attached 1st Battalion, 39th Artillery (155, towed), reinforced the two direct support battalions, and the 2d Battalion, 20th Artillery (Aerial Field Artillery), were in general support. Heavy artillery was provided by six 175-mm guns of the 1st Battalion, 83d Artillery, and 8th Battalion, 4th Artillery. One battery of the 1st Battalion, 21st Artillery, moved into the valley on 19 April 1968. Plans called for moving another battery; however, hazardous flying conditions prevented the move. No additional artillery was moved into the valley until 23 April. By 29 April, however, all the supporting artillery was in position.

Movement into the A Shau Valley was much slower

than planned because of enemy antiaircraft fire. The enemy air defense was composed of relatively sophisticated weapons and fire distribution means, served by well-trained and disciplined crews, and an effective communication system. Despite attacks by tactical aircraft and artillery, the air defense weapons took a heavy toll of US aircraft on the first day of the operation.

The entire operation by the 1st Cavalry Division was conducted by air. Positioning and supporting the artillery were hampered not only by enemy antiaircraft fires but also by difficult weather conditions. The operation was successful only because of feats of airmanship performed under instrument flight rule conditions by aviators of the 11th Aviation Group, the 9th Cavalry Squadron and the 2d Battalion, 20th Artillery. Despite their efforts, however, careful management of ammunition and supplies by all supporting artillery units was necessary. On one occasion, water to swab the tubes of the 155-mm howitzers was in short supply.

Fire bases throughout Vietnam sustained numerous



attacks in this period of maximum US troop commitment. The fire base concept surpassed the most optimistic expectations. Occasionally the enemy was able to penetrate the defenses and take a heavy toll of personnel and equipment, but he never was able to take an American fire base. At the same time, lessons learned in countering enemy attacks during this period suggested further refinements of procedures for establishing and defending a fire base. For instance, actions at fire support bases MAURY I and PIKE VI provided valuable insights on the proper positioning of artillery when several batteries occupied the same fire base.

Batteries B and C (105-mm), 7th Battalion, 11th Artillery, and Battery A (155-mm, SP, 3d Battalion, 13th Artillery, were occupying MAURY I, a 25th Infantry Division Artillery fire base. Although the base was located in what was probably the most available area, bamboo thickets and wood lines surrounded the clearing. The three field artillery batteries had been arranged in a triangle within the perimeter, with one battery at each point. The 155-mm battery was to the west, and the 105-mm batteries were to the northeast and southeast.

On the night of 9 May, MAURY I came under heavy attack. The enemy began his attack at 0200 with an intense mortar and RPG (Russian-made antitank grenade) barrage. He launched a diversionsary attack against the northeastern and southwestern portions of the perimeter followed by the main attack directed against the western portion of the triangle, where the 155-mm battery was located less than 200 meters from the tree line.

The 155-mm battery, between the two 105-mm batteries and the attacking enemy, took the brunt of the attack. The RPG fire had a devastating effect on the 155-mm howitzers. At 0330 an attempt was made to move two 105-mm howitzers to the southwestern side of the perimeter to aid the medium battery. By this time, only one of the 155-mm howitzers was serviceable; of the others, three had been completely destroyed, as had two M548 ammunition vehicles. Flaeships and gunships arrived by 0330 and Air Force fighter aircraft by 0500. At 0530 a relief element of the 4th Battalion, 23d Infantry (Mechanized), arrived and battered its way into the beleaguered base. The attack was finally repulsed.

All Beehive ammunition had been expended but, because of the speed and accuracy of the assault against the medium battery, less than 10 rounds of 155-mm ammunition had been fired before the destruction of the howitzers. Eighteen Viet Cong were confirmed dead, and friendly losses numbered 10 killed and 66 wounded. Four men died of wounds received in battle. These,



along with seven others killed and 39 wounded, were artillerymen. Five M109 howitzers were destroyed; one serviceable howitzer was later pieced together from two damaged howitzers. Two M548s were destroyed, and one 5-ton truck was severely damaged. Fourteen M16 rifles were either lost or destroyed.

The defenders had been aggressive and determined in withstanding a heavy enemy attack. Despite their success, as with any action, there were lessons to be learned. An analysis of the battle suggested techniques that might reduce American losses and increase enemy casualties in a similar situation. No bulldozer had been available to construct berms around the howitzers; ammunition was protected on the sides only; the medium battery situated at the point of the triangle should have been more centrally located within the perimeter and away from a tree line; and, poor fields of fire reduced the effectiveness of the Beehive rounds. Positions that would have allowed maximum use of the Beehive round should have been chosen early in the occupation of the fire support base.

On the morning of 11 May, Fire Support Base PIKE VI was occupied by Battery B, 6th Battalion, 77th Artillery (105-mm); Battery A, 1st Battalion, 8th Artillery (105-mm); and, Battery C, 3d Battalion, 13th Artillery (155-mm, SP). The commander set up the base using the valuable experience gained from the attack on MAURY I. The batteries entered the fire support base early in the afternoon, and a bulldozer immediately began constructing berms for the 155-mm howitzers. By nightfall only the turrets of the howitzers were exposed. The 105-mm batteries had been carefully positioned to allow maximum use of Beehive rounds, and two 105-mm howitzers, one from each battery, had been placed at strategic points along the perimeter some distance from the rest of the battery positions. Although the terrain was much the same as that at MAURY I, the nearby wood lines were covered by two attached Dusters. The light batteries enjoyed excellent fields of fire. The medium battery was positioned between the two light batteries and thus was able to support equally well in all directions.

At 0130 on 12 May 1968 the enemy attacked with a mortar barrage of approximately 400 rounds, all falling within 30-60 minutes. Once again, the enemy began a diversionary attack from the south. The Duster position on the southern tip of the base took 60-70 Viet Cong under fire with its M60 machinegun and 40-mm cannon. The crew managed to fire only 12 rounds of 40-mm ammunition, however, before the Duster was silenced by an RPG round. Leaving 16 enemy bodies in their wake, the crew fell back to a 105-mm howitzer pit directly to their rear. The enemy managed to reach the

Duster, but small arms and a few well-placed Beehive rounds from the 105-mm turned him back.

As the main attack was starting from the west, artillery shells from adjacent units were already impacting around the perimeter. Support was called for and received from 155-mm howitzers of Battery B, 3d Battalion, 13th Artillery, near Saigon. The entire western approach was covered by a 105-mm battery which fired round after round of Beehive and time rounds, all with very short fuze settings, into the attacking enemy. The defense was entirely successful, and the attack ended in just two and one-half hours. Mop-up operations in daylight produced a body count of 110. Friendly force losses amounted to five killed and 30 wounded. Of these one killed and five wounded were artillerymen. No equipment was lost. The damaged Duster was easily repaired, and two vehicles sustained minor damage.

The 25th Infantry Division conducted an appraisal of its fire support bases in late 1968, after many of the bases in the Tay Ninh area had been attacked, and made two major recommendations. First, commanders were to insure that, insofar as possible, a fire base be constructed in a circle and be small enough for one rifle company to defend. Both recommendations were in accord with what was already considered correct procedure. Apparently there were sufficient deviations from correct practice to warrant further emphasis. The circular shape permitted equal firepower in all directions and allowed for faster emplacement. The reduction in construction time became essential because the enemy began to deviate from his normal two- or three-day reconnaissance and to attack bases on the first or second night after the base was occupied. The smaller sizes of the bases also freed more companies for night ambushes and mobile patrols and reduced the number of enemy shells that landed in the area. These modifications proved highly successful in a series of engagements fought along the Cambodian border in early 1969. Each base was manned by one rifle company and one howitzer platoon. The apparent vulnerability of these small positions was tempting, and the enemy seized the opportunity to try to destroy them. But his forces ran into a storm of carefully preplanned firepower, which not only broke the assault but also shifted to attack the enemy and his supporting weapons as he retreated.

The second major recommendation was that the activities of fire bases be viewed as offensive operations. The base was considered the anvil and the maneuver force, the hammer. Fire support or "offensive fires" were planned for the entire battle area. Enemy troops, attack positions, supporting weapon positions and command centers were struck simultaneously, and then,

when activity declined, the routes of withdrawal and likely assembly areas were attacked.

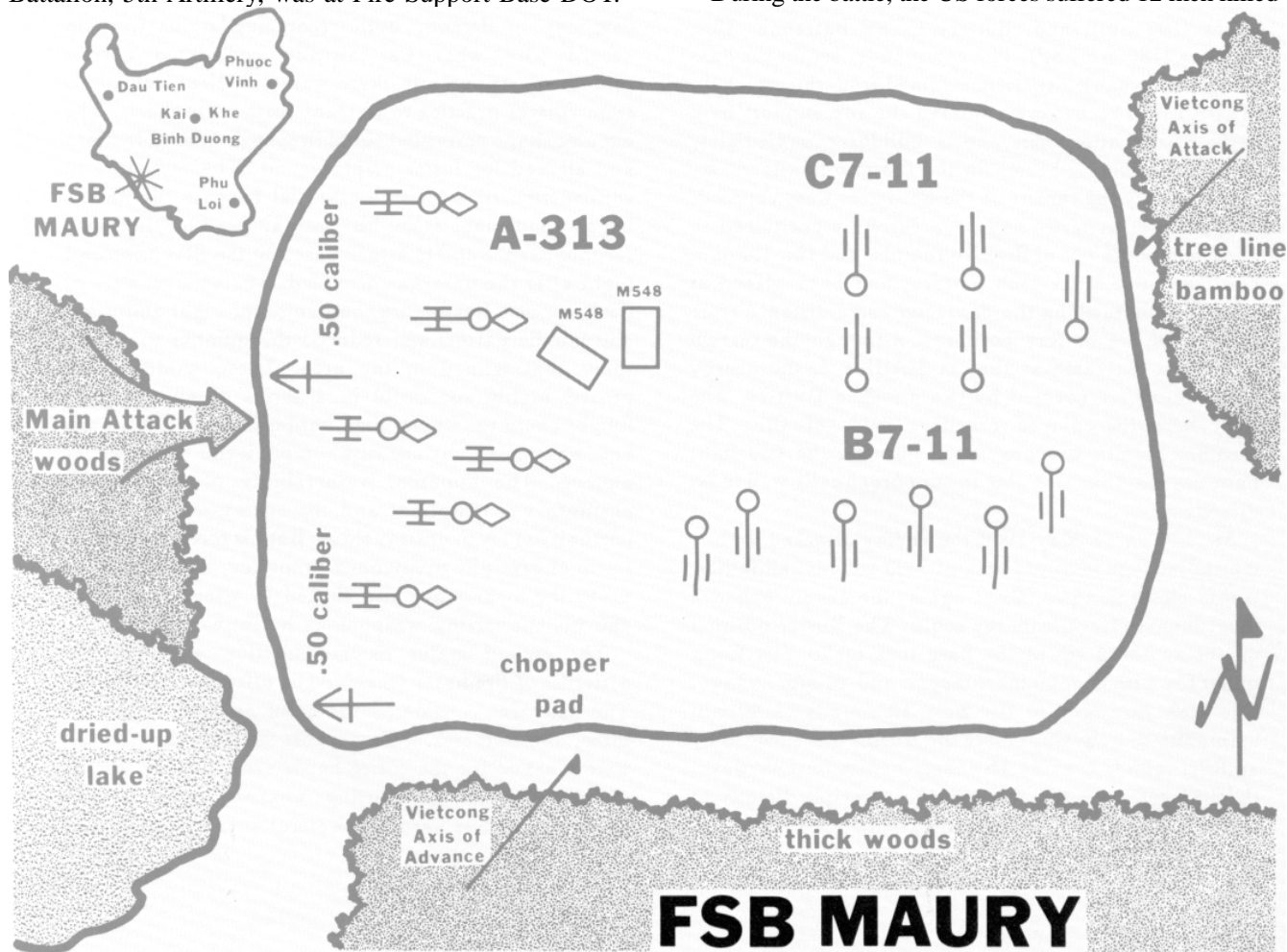
Perhaps the best example of the damage that could be inflicted on the enemy by the determined defenders of a well-established fire support base occurred in late 1968 during Operation FISHHOOK. The operation, along the Cambodian border, was in an area astride a primary infiltration route running through War Zone C into the Saigon complex. Two fire support bases, RITA and DOT, and one night defensive position were established to obstruct and interdict enemy movement south from Cambodia. They were so located that each fire support base could mutually support the other with artillery fire and both could support the infantry position.

Headquarters and Battery B of the 1st Battalion, 5th Artillery (105-mm, towed), commanded by LTC (now MG) Charles C. Rogers, and Battery C, 8th Battalion, 6th Artillery (155-mm, SP), were located at Fire Support Base RITA. This base, with two batteries and the artillery tactical operations center (TOC), was the key position. The base was also occupied by one cavalry squadron and one infantry company. Battery D, 1st Battalion, 5th Artillery, was at Fire Support Base DOT.

During the period 25-30 October, there were enemy mortar and ground attacks on all three bases. Artillery support called in on all these attacks resulted in a Viet Cong body count of 105.

On 1 November 1968 at 0330, the west-northwest perimeter of Fire Support Base RITA was attacked by a North Vietnamese Army force of an estimated 800 men. The attack immediately followed a "mad minute" reconnaissance by fire by the friendly forces. The enemy, initially surprising the friendly forces with the intensity of his attack, penetrated the defensive perimeter and was inside the position of the 155-mm howitzer battery. A counterattack was mounted and the bunkers were retaken. A second attack and penetration were made at 0515 by the enemy against the southwest perimeter. Again, the enemy was beaten back by an aggressive counterattack and the defensive positions were reestablished. When the enemy attempted to regain the initiative by attacking the northern perimeter with a third charge, the 105-mm howitzers were swung to the north and lethal barrages were fired into the massed assaulting enemy.

During the battle, the US forces suffered 12 men killed



and wounded. The enemy body count could not be obtained, but it was estimated that at least 200 bodies lay in the woods around the fire support base. The ferocious intensity of the battle, which raged from 0330 until 0645, with frequent concentrations of mortars impacting in the fire support base until 0800, was attested to by the massive quantity of ammunition expended by friendly forces. The field artillery fired 1,300 rounds in direct fire and 800 rounds in indirect fire. In addition, the defense was supported by air strikes and innumerable strikes by helicopter gunships and fire teams from the 1st Infantry Division. Lieutenant Colonel Rogers directed the defense of the base with such heroism as to be awarded the Medal of Honor.

On 4 May the enemy launched another wave of nationwide attacks against 109 cities and military installations, including 21 airfields. These attacks lacked the intensity and coordination of the Tet offensive. Bien Hoa Air Base was the hardest hit installation; strong attacks occurred in Binh Duong and Hou Nghia Provinces. The enemy also tried to seize the Saigon-Bien Hoa highway bridge near Saigon. Heavy fighting continued near Dong Ha in northern I Corps on 6 May, and moderate to heavy fighting persisted around Saigon. Because of the attacks on Saigon, another task force was formed to control US units in the Capital Military District. The task force was commanded by MG John H. Hay Jr., deputy commander of II Field Force, Vietnam.

The buildup of US forces continued through most of 1968. Between February and July, four additional artillery battalions arrived. Two were 155-mm towed battalions, which were assigned to the 41st Artillery Group and the 54th Artillery Group. One was a 105-mm towed battalion which was assigned to the 108th Artillery Group. The fourth was a 155-mm towed and 8-inch self-propelled battalion which was assigned to the Americal Division as its general support battalion. During July the 1st Brigade of the 5th Mechanized Division arrived with its 155-mm self-propelled direct support battalion. The 1st Brigade was the last major US Army maneuver unit to be deployed to Vietnam.

Later in the year, two additional artillery battalions arrived together with more support units and infantry battalions. These were National Guard units, the first to be deployed to Vietnam. The two artillery battalions were the 3d Battalion, 197th Artillery, from New Hampshire, and the 2d Battalion, 138th Artillery, from Kentucky. They were assigned to the 23d Artillery Group and the Provisional Corps, Vietnam, respectively. The 4th Battalion, 77th Artillery (Aerial Rocket Artillery), arrived in December 1968 and was assigned to the 101st Airborne Division (Airmobile). With its arrival, the field

artillery was at its maximum strength of the war.

During the latter part of 1968, some major troop realignments took place. In September the 1st Brigade, 101st Airborne Division, moved to I Corps to rejoin the rest of the division, and the 3d Brigade, 82d Airborne Division, moved from I Corps to III Corps. In October, over the objections of the Commanding General, XXIV Corps, and Commanding General, III Marine Amphibious Force, the 1st Cavalry Division began the move from I Corps to III Corps. The move was completed in November 1968, and the division began to operate in III and IV Corps areas. With these operations the 1st Cavalry added another first to its list, that of being the first division-size unit to operate in all four corps tactical zones.

On 8 June 1969, President Richard M. Nixon announced plans for returning 25,000 US troops from Vietnam. One month later, a C-141 Starlifter jet left Bien Hoa Air Base with members of the 3d Battalion, 60th Infantry. On 12 June the 9th Infantry Division received notification of its selection as the first major US Army unit to leave the Republic of Vietnam. The first field artillery unit to redeploy was the 3d Battalion, 34th Artillery, which left Vietnam on 26 July 1969. It was followed in mid-August by the 1st Battalion, 11th Artillery; 1st Battalion, 84th Artillery; and, the 9th Infantry Division Artillery. Since the 3d Brigade, 9th Division, was remaining in Vietnam, the 2d Battalion, 4th Artillery, also remained as its direct support battalion. The next redeployment of artillery units took place in September and October, when the 3d Battalion, 197th Artillery, and the 2d Battalion, 138th Artillery (the two National Guard units), were returned to the United States. The 2d Battalion, 12th Artillery, and 1st Battalion, 39th Artillery, were activated in Vietnam as replacements.

The enemy Tet offensive and the allied counteroffensive propelled the artillery toward increased sophistication. During the period, the artillery was exposed to essentially three types of major operations, each with its own peculiar demands. Because of the proximity of friendly forces and civilians, solving clearance problems was crucial in Hue and Saigon. The defense and relief of Khe Sanh resembled a conventional situation with requirements for large volumes of supporting fires concentrated in a relatively small area. Operations into A Shau Valley were highlighted by movement and supply by air and by support of dispersed ground forces. The period thus offers an interesting study of the actions taken by field artillerymen to optimize the effectiveness of supporting fires in all situations. ☒

# REDLEG Newsletter

## CGSC Selections

DA Circular 351-68, dated 17 December 1975, announced those officers selected for CGSC-level schooling starting in August 1976. Field artillery statistics are:

Number Selected: 118

Component:

RA—104

OTRA—14

Civilian Education Level:

<u>PHD</u>	<u>MA/MS</u>	<u>Postgrad</u>	<u>BA/BS</u>	Two years college or <u>less</u>
1	28	1	83	5

Selections by School Year Group:

<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u>	<u>66</u>	<u>67</u>
11	13	9	20	31	22	12

Selections by Age (Average Age — 34.9 years)

<u>41</u>	<u>40</u>	<u>39</u>	<u>38</u>	<u>37</u>	<u>36</u>	<u>35</u>	<u>34</u>	<u>33</u>	<u>32</u>	<u>31</u>	<u>30</u>
1	3	4	4	15	18	20	15	21	7	7	3

Breakout by School:

CGSC	—80
AFSC	—28
Air C&S	— 9
School of Americas	— 1

## Senior Service College Selections

The names of 63 Redlegs selected for attendance at the FY 77 Senior Service Colleges were released by DA message in late December 1975. These officers were selected without regard to availability. Redlegs worldwide will be proud to note that there were more field artillery lieutenant colonels selected than any other branch.

All but one of the field artillery selectees had commanded, or were in command, at the battalion level. Thirty-three selectees have advanced degrees; 29 have baccalaureate degrees. The field artillery selectees by basic year group are:

<u>54</u>	<u>55</u>	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>	<u>61</u>
1	3	12	16	10	13	5	3

Average age of the lieutenant colonel selectees was 41. About half (30) of the selectees are currently stationed in the Washington, DC, area with the remainder overseas (14) or elsewhere in CONUS (19).

Congratulations to these outstanding Redlegs!

## FA Selectees to Colonel AUS

Names of 66 field artillery lieutenant colonels selected for promotion to colonel AUS were recently released by Department of the Army. Analysis of the Army/WAC selectees indicates an overall selection rate of 38.7 percent for those considered for the first time.

The selection rate for Redlegs first time considered was 43 percent, highest of all the combat arms. Six Redlegs who had previously been considered were selected, and seven Redlegs were selected from the secondary zone. A review of the selectees' records indicates all had served in a variety of challenging assignments in their primary and alternate, or related, specialties, although not all had commanded at the battalion level.

## Redesignating Aviator OPMS Specialties

The records of all field artillery aviators, basic year group 1968 and earlier, are presently being screened by MILPERCEN's Officer Personnel Management Directorate (OPMD). These officers already had OPMS specialties designated before aviation became a specialty. Field artillery aviators who eventually are chosen for this new advanced entry specialty will be required to substitute

aviation for one of their two currently designated specialties.

Redesignation of commissioned aviators into the aviation specialty will depend on the following factors:

- Army requirements.
- Utilization standards under the Aviation Career Incentive Act.
- Experience and potential in all specialties under consideration.
- Year group strength requirements.
- Officers' preference for aviation specialty designation.

Naturally, Army requirements for commissioned aviators will exert the greatest influence over the number of officers who can be selected for the specialty. Since advanced entry specialty designations are determined by the need to have sufficient officers trained to meet field grade requirements, the prime consideration when revising originally designated OPMS specialties of commissioned aviators is the number of current and projected Army requirements compared with the current aviator population.

Projections based on current inventory and present training rates indicate that most majors and lieutenant colonels will be selected for redesignation and that virtually all aviators in year groups 1972 or later will be designated into the aviation specialty at the eight year point. Current projections also indicate that 50 percent or more of the eligible captain aviators from the aviation overstrength year groups (1966-1970) will be designated into the specialty.

Plans for designating the aviation specialty closely parallel those which were used to designate all other OPMS specialties. Once the records of all aviators have been reviewed, based on known Army requirements and the officer's experience to date, OPMD career divisions will determine the combinations of OPMS specialties tentatively considered most appropriate for future designation. During March 1976, each aviator was advised by letter of these tentative designations and was asked to comment by expressing agreement or by citing his preference for appropriate alternatives. These factors also will be considered by the board of officers in making final designations. Commissioned aviators will be informed by approximately 30 June 1976 of the two specialties in which the board decides they should expect future management.

Once redesignated into the aviation specialty,

officers will be managed in aviation and one other OPMS specialty; those not selected by the board for redesignation will continue to be managed in their currently identified primary and alternate specialties.

All aviators — including those involuntarily precluded from having aviation as one of their OPMS specialties — will be entitled to continuous monthly flight pay for the first 12 years of aviation service provided they maintain Class 2 physical standards, complete the annual written examination and do not request indefinite suspension from the Army Aviation Program. Although no commissioned aviator can be guaranteed of making the Aviation Career Incentive Act pay gates and thus receiving monthly flight pay beyond his 12th year of aviation service, those selected for the aviation specialty will have the greatest opportunity to meet gates since they will receive intensive management into positions requiring qualified commissioned aviators.

### **Promotion Of Active Duty Officers**

The Army regulation governing promotions has been completely revised. The new AR 624-100, effective 1 December 1975, incorporates several significant changes that will have a far-reaching effect on promotion procedures. The principal changes are:

- Promotion to temporary first lieutenant upon completion of two years active commissioned service or three years cumulative commissioned service (based on the officer's reserve promotion eligibility date), whichever comes first.
- Letters sent to promotion selection boards by officers in the primary zone will become a permanent part of the Efficiency File of the Official Military Personnel File.
- Regularly submitted OERs must arrive at MILPERCEN *prior to convening* of the selection board to be considered. In accordance with the new regulation, special efficiency reports should not be submitted within six months of a routine report.
- A Regular Army officer who is twice considered and not recommended for permanent promotion to captain, major or lieutenant colonel will be discharged on the first day of the seventh month after approval of the list unless he has *18 years active federal service on the day the list is approved*. (The old regulation required 18 years *as of the date of discharge*.)

# Reflections\*

By CPT Edward W. Pogue

Being a lieutenant in Germany is:

being told your battalion motto is "Flexible" and then finding out why.

reading seven pages of battalion orders assigning officers to additional duties and realizing your name is the only one on it.

determining how to give orders to an NCO twice your age with the least chance of looking foolish.

learning, after all your efforts have failed, that tube sleeves are stored at the same supply dump as sky hooks, left-handed screwdrivers, lanyard grease and group tightener.

being told that every couple who goes to Germany either buys a grandfather clock or has a baby — and deciding that clocks don't have 2 am feedings.



arriving at "Graf" with your first convoy only to be told that your truck containing all the classified material took a wrong turn and is trying to cross into East Germany.

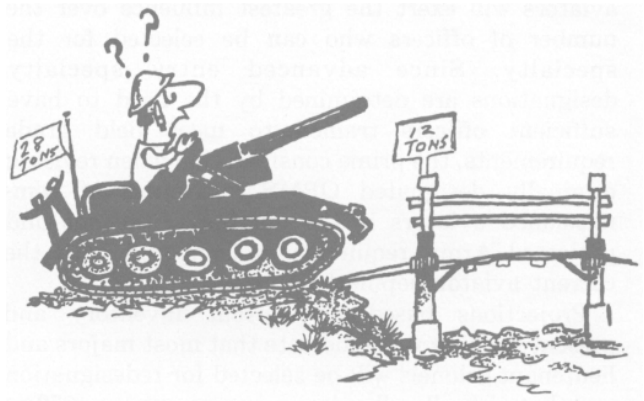
finding out your motor sergeant jumped at D-Day and hasn't been sober since.



discovering that personnel at the Finance Office get terribly excited when you clear your .45 without taking the clip out — thereby giving them a new entrance to the second floor.

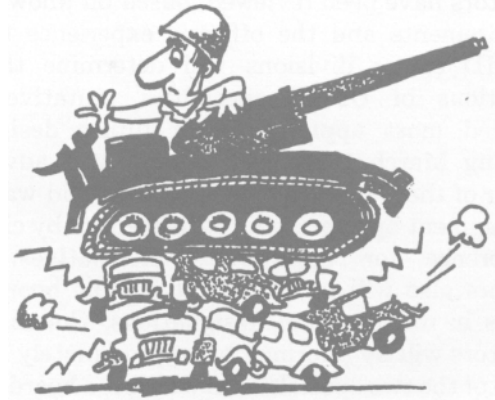
learning that green cloth tape will fix anything provided you have a bottle of scotch to barter for it.

finding nothing but 12-ton bridges when you have 28-ton howitzers.



answering the phone at 3 am and being told that you have a message to break, an alert to go on, a troop to pick up at the MP station, etc., etc., etc.

finding out that the track that just sideswiped and/or crushed seven parked cars is yours — and realizing for the first time that an Army career is a fragile thing.



working for two months to locate the battalion's PA set, only to learn that it was bolted to the division headquarters building three years ago.

*\*on being a lieutenant in Germany*

not having to maintain training records under the new decentralized training concept — except — Drivers' Training, Semiannual Rifle Qualification/Familiarization, CBR Refresher Training, UCMJ Classes, PT Testing, etc., etc.

learning that "crisis management" is not only a viable system but can be your lifestyle.

a three-day pass to Paris involves 40 hours of driving.

discovering that an unbelievable number of people will buy diamond rings from comic book ads and then not make the payments.

proving conclusively that a 12-foot wide howitzer will not fit between two buildings 11 feet apart, and afterwards, listening to the Burgermeister's 30-minute lecture on the historical significance of each building while you try to extricate said howitzer.

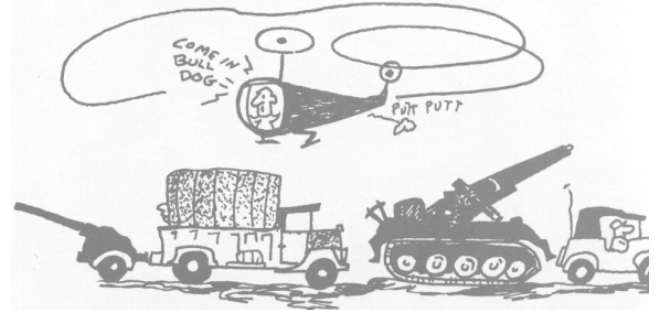


being thankful for being back in garrison so you only have to put in a 70-hour work week.

being assigned as OIC of the gas chamber due to your "expertise and outstanding performance last year" and remembering that last year it was because you needed the "experience."



realizing that the helicopter frantically circling your convoy is the div arty commander's and your radio is on the wrong frequency.



trying to maintain a sense of humor while all about you are losing theirs.



each year spending 60 days at Graf, 25 days on Reforger, 40 days on staff duty, 7 days at TDY school, 40 days on site duty; and, trying to remember what your wife looks like.

going through a USAREUR alert, an AGI, a TPI and an MAIT visit within 20 days and being proud that you still have the same battery and battalion commanders.

going through 6 "Graf" trips, 12 move-out alerts, 8 FTXs, 6 CPXs, 60 "good-bye scenes," 6 MAIT visits, 6 "mandatory good time" formals, 3 visits by 4-star generals and innumerable counselling sessions with PVT Tentpeg reference personal hygiene — and still believing the whole experience was worth it. ☒

**CPT Edward W. Pogue, FA, is now serving in the Counterfire Division, Counterfire Department, USAFAS.**

Art by Patsy Teel