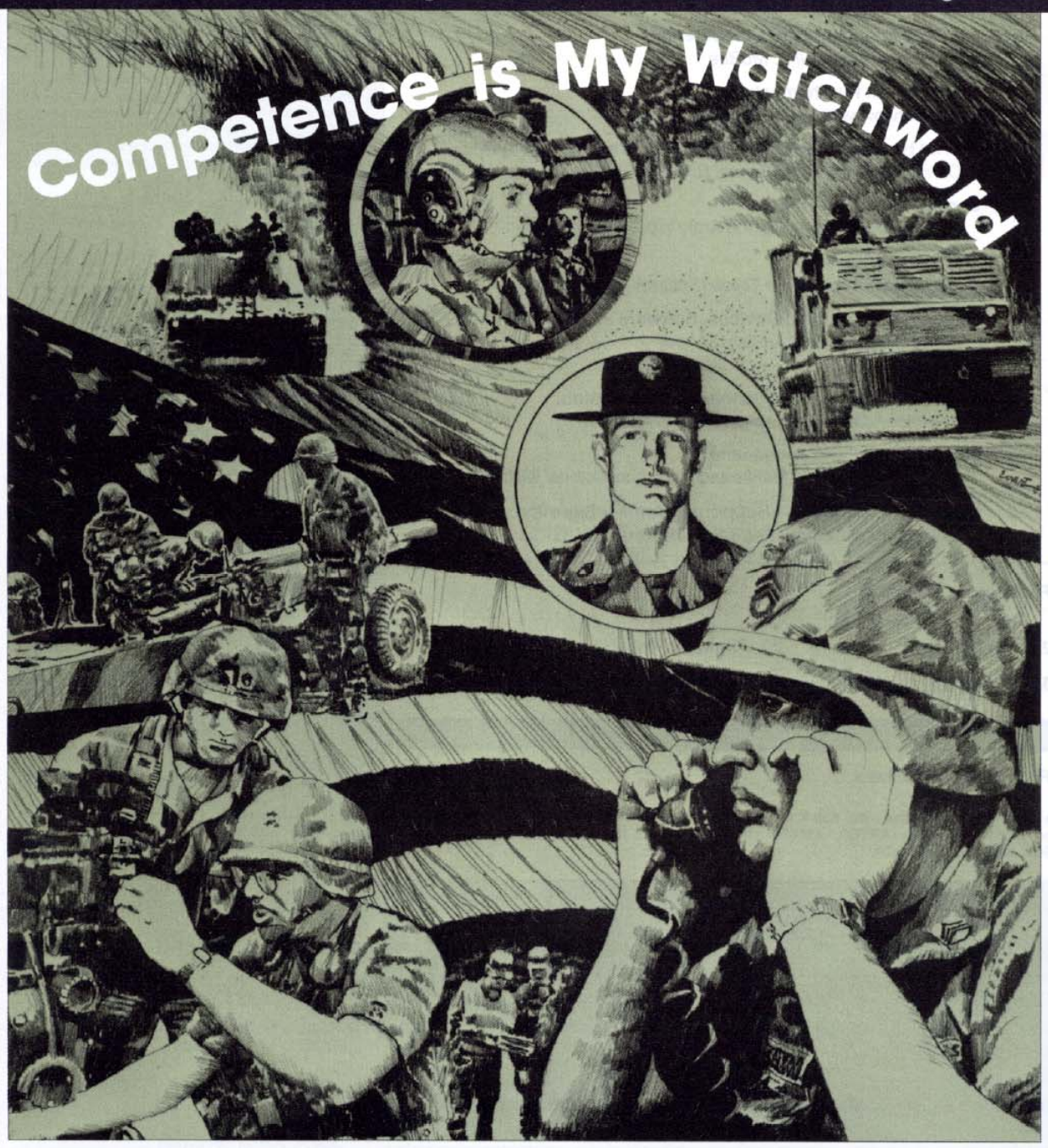
Field Artillery

A Professional Bulletin for Redlegs

August 1989



Approved for public release; distribution is unlimited.

HQDA PB6-89-4

Field Artillery

August 1989 HQDA PB6-89-4

Articles

Features

Field Artillery Hotlines

- Unit Training Hotline–AV 639-5004 or (405) 351-5004: ARTEP, AMTP, SQT, MQS, TEC and ACCP.
- Redleg Hotline–AV 639-4020 or (405) 351-4020: NTC, JRTC and Other Artillery Subjects.

1990 *Field Artillery* Themes

Publication Date	Theme	Article Deadline
February	Allied Artillery	2 Oct 89
April	Low- to Mid-Intensity Conflict	4 Dec 89
June	The Field Artillery Commander	5 Feb 90

NOTE: The rest of the 1990 Themes will appear in the 1989 December Red Book.

PURPOSE (as 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 power 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*.

SUBSCRIPTIONS: May be obtained through the US Field Artillery Association, PO Box 33027, Fort Sill, OK 73503-0027. Telephone numbers are AUTOVON 639-5121/6806 or commercial (405) 355-4677. Dues are $16.00 per year ($31.00 for two years and $46.00 for three years) to US and APO addresses. All other addresses should add $9.00 per subscription year for postage.

SUBMISSIONS: Address all letters and articles to Editor, *Field Artillery*, PO Box 33311, Fort Sill, OK 73503-0311. Telephone numbers are AUTOVON 639-5121/6806 or commercial (405) 351-5121/6806. Material submitted for publication is subject to edit by the *Field Artillery* staff; footnotes and bibliographies may be deleted due to limitation of space.

REPRINTS: *Field Artillery* is pleased to grant permission to reprint articles. Please credit the author and *Field Artillery*.

POSTMASTERS: Second-class official mail postage is paid by the Department of the Army, DOD 314, at Lawton, OK 73501. Send address changes to *Field Artillery,* PO Box 33311, Fort Sill, OK 73503-0311.

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:
William J. Meehan II
Brigadier General, United States Army
The Adjutant General

RAPHAEL J. HALLADA
Major General, United States Army
Field Artillery School Commandant

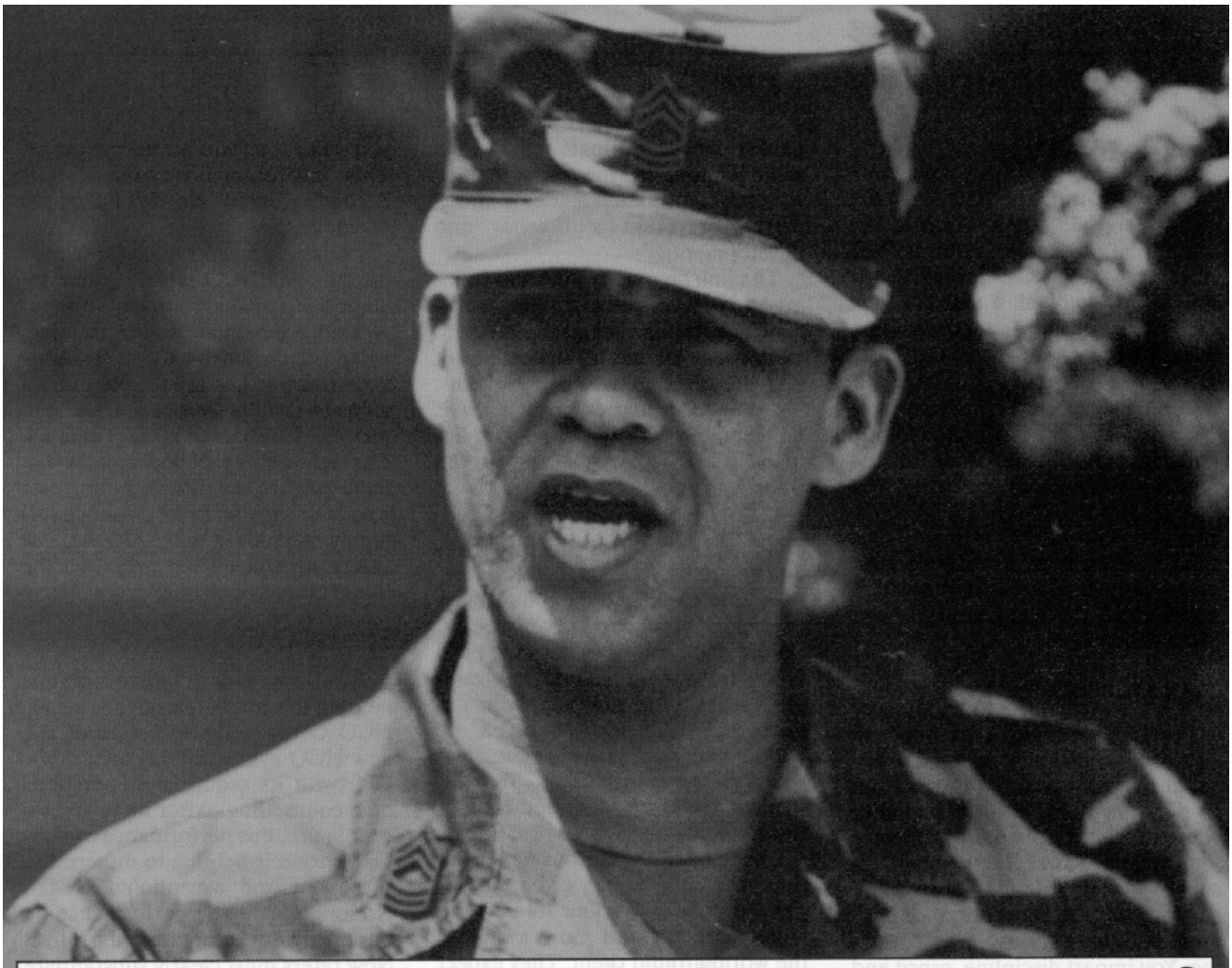
Staff

Editor:
Major Charles W. Pope, Jr.

Managing Editor:
Patrecia Slayden Hollis

Art Director:
Donna Jeanne Covert

Assistant Editor:
Joanne Alexander Brown



Creed of the Noncommissioned Officer

No one is more professional than I. I am a Noncommissioned Officer, a leader of soldiers. As a Noncommissioned Officer, I realize that I am a member of a time-honored corps, which is known as "The Backbone of the Army."

I am proud of the Corps Noncommissioned Officers and will at all times conduct myself so as to bring credit upon the Corps, the Military Service and my country, regardless of the situation in which I find myself. I will not use my grade or position to attain pleasure, profit or personal safety.

Competence is my watchword. My two basic responsibilities will always be uppermost in my mind — accomplishment of my mission and the welfare of my soldiers. I will strive to remain tactically and technically proficient. I am aware of my role as a Noncommissioned Officer. I will fulfill my responsibilities inherent in that role. All soldiers are entitled to outstanding leadership; I will provide that leadership. I know my soldiers, and I will always place their needs above my own. I will communicate consistently with my soldiers and never leave them uninformed. I will be fair and impartial when recommending both rewards and punishment.

Officers of my unit will have maximum time to accomplish their duties; they will not have to accomplish mine. I will earn their respect and confidence as well as that of my soldiers. I will be loyal to those with whom I serve: seniors, peers and subordinates alike. I will exercise initiative by taking appropriate action in the absence of orders. I will compromise neither my integrity, nor my moral courage. I will neither forget, nor will I allow my comrades to forget that we are professionals, Noncommissioned Officers, leaders!

This creed crystalizes the role and importance of our Noncommissioned Officers better than any words I might offer. We dedicate this edition of ***Field Artillery*** *to them.*

Editor

On the Move

MAJOR GENERAL RAPHAEL J. HALLADA

Salute to NCOs

It's very fitting that the Army has declared 1989 the "Year of the NCO." Throughout our nation's history, NCOs have provided the grass-roots leadership that has kept our Army strong and our country free. To the members of the NCO Corps, **I salute you!**

From its birth in 1775, the American Field Artillery has looked to you, its sergeants, to train, care for and lead its soldiers. In executing this charge, you have never let us down. In fact, your role has grown over time, and we now, more than ever, count on you to be the foundation upon which the competency of our force depends.

Your Multifaceted Role

From the gunner in a howitzer section to the senior command sergeant major, you're the on-the-spot leader, the doer, the implementer who translates command guidance into action. You're the primary assessor of your soldiers' morale and capabilities, the condition of equipment and the status of soldier training. You impart discipline, esprit and confidence. You serve as your officer's trusted advisor. But above all else, you are the *trainer*.

Trainer. The Army's training philosophy, as expressed in *FM 25-100 Training the Force*, is clear: training is our number-one priority in peacetime, and in time of war, it's second only to the fight itself. Preparing our soldiers to fight to win and survive on the battlefield is our ultimate charge and, in fact, the greatest way in which we ensure their welfare. In this, you play the pivotal role.

In battle-focused training, a unit concentrates its efforts on those tasks essential to success in its wartime mission. You as NCOs receive from your commanders the mission analysis and those collective training tasks. You then select the individual tasks needed to support the collective tasks. Section chiefs conduct the individual and crew training, concentrating on hands-on, performance-oriented techniques. Senior NCOs evaluate and coach their juniors in the execution of training and conduct leader training, furthering their proficiency and development.

The link between individual training and unit collective training is crucial. The standards must be met and continually increased. In this age of increasingly sophisticated systems, the need for soldier proficiency is more important than ever. The demand is all the greater on you, the trainer, to ensure this proficiency.

Mentor. Training is not, however, a sterile, mechanical process. It requires great personal involvement. As you teach the skills, you also act as mentor. You have the very special charge of developing those who will follow in your footsteps. The example you set, the discipline you enforce and the pride you instill are building blocks in the professional character of your soldiers. Your influence, good or bad, directly affects the quality of the Army of the future.

This aspect of your business is all the more challenging, given our superb soldiers today. Our soldiers are more educated and more aware of the world around them. They expect more from themselves, their jobs and their leaders. You must channel these energies by continually challenging and keeping the interest of these soldiers.

NCOES Initiatives

Recognizing the need for technically and tactically proficient, battle-competent NCOs who are well-grounded in the principles of leadership, the Army is moving to improve the NCO education system (NCOES). The NCO academies are concentrating on providing you the skills you need to lead soldiers and effectively train in the warfighting skills of your specialty. These institutions are working on the NCO career development courses — the primary leadership development and the basic and advanced NCO courses — to ensure the training is progressive and sequential. These courses build upon one another and prepare you for the leadership roles you will fill as you advance in rank. This institutional training also is becoming more closely linked to promotions.

Initiatives currently under way to improve our NCO school system include using small group methods, integrating common leader training, using scenario-driven field training exercises and using after-action reviews to solidify lessons learned and provide feedback to the students. The schools are choosing only the most highly qualified instructors who have proved themselves by serving successfully in the leadership positions for which they are preparing their students.

The NCO-ER

Another recent development helping to ensure the quality of our NCO Corps is the initiation of the new NCO evaluation report (NCO-ER) with its requirement for periodic counselling. After more than a year in use, this performance evaluation system is helping to discern the successful and exceptional NCOs. No longer can true performance be buried in an ambiguous narrative. Now raters must clearly substantiate excellence as well as the need for improvement. The required counselling forces a dialogue between the NCO and his supervisor, allowing expectations and concerns to be spelled out up front. We'll see great benefits from this system as it matures over the next few years.

Conclusion

I congratulate all of you in this Year of the NCO — may you find this year, above all others, very professionally rewarding. I urge you to take time to reassess your career and your place in the NCO Corps. Consider the opportunities for increasing your education, proficiency and ability to care for and lead your soldiers.

We're the best we've ever been, but we can always get better. You remain the backbone of the Army and, as ever, the future of our Army is in your hands.

Incoming

LETTERS TO THE EDITOR

Mortars *Are* Field Artillery Weapons

I am responding to two letters concerning my submission "Mortars — A Field Artillery Weapon" (Incoming, February 1989).

Before I do that, however, I must say it's my impression that both acknowledge training inadequacies in the mortar and fire support areas. Likewise, although both scrutinized the issue closely, they failed to refute the need to consolidate mortars into an organization that can be task organized to provide more fire support to the most critical areas of the battlefield.

The first letter from Colonel A.W. Kremer, Jr., Armor, [June 1989] reflects a sincere attempt to fix the problem from a maneuver point of view. The Armor and Infantry Schools' involvement with Close Support Study Group IV at Fort Sill is welcome. There are, however, other ideas in his letter I will address.

"...technical skills of individuals and units might increase if artillerymen were involved. However, involvement of artillery personnel can occur today without drastic organizational changes."

I maintain that ***standardized*** technical training and doctrine development can't take place without mortars' being integrated into the Field Artillery in a combined, indirect fire support program directed by USAFAS [US Army Field Artillery School].

"...the true strengths of mortars are their assured availability and responsiveness to maneuver commanders."

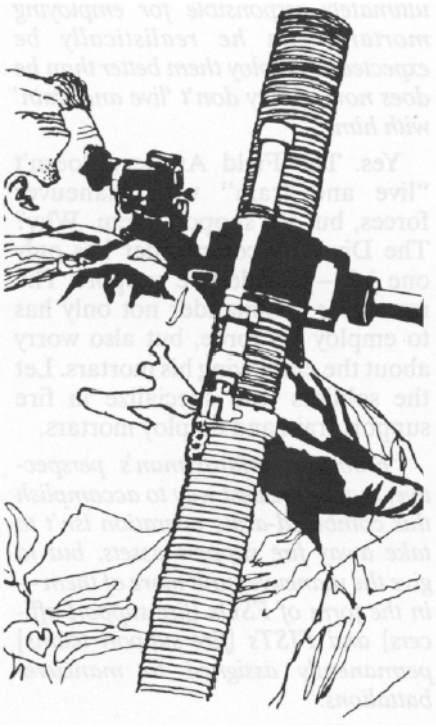
Mortars aren't necessary when a battalion is in reserve. They can be better used ***in the fight***. If I were a brigade or fellow battalion commander in combat, I wouldn't be interested much in their assured availability or responsiveness to a battalion in reserve.

"...normal operations must be planned on the premise that mortars fight for specific battalion and company commanders."

I believe this to be a faulty premise. Mortars, like any other indirect fire asset, should fight where needed most, not necessarily for a specific unit. The current system doesn't allow this.

I disagree with more points in the second letter "Are Mortars *Really* A Field Artillery Weapon?" from Colonel (Retired) Irwin M. Jacobs and Captain Jeffrey A. Jacobs, both Infantry, [June 1989].

"...mortars support battalions and, by virtue of that fact, were never intended to be Field Artillery weapons."



Field Artillery batteries support battalions. Mortars, as "batteries," still would support battalions and do it better because of the reasons my concept outlined.

"...he's quick to take the maneuver arms to task for 'inadequate training,' [he] conveniently overlooks the Field Artillery's responsibility in this regard."

I don't overlook it, but technical and tactical training of the mortars lies with maneuver, while fire support integration lies with the Field Artillery. I contend Field Artillery can train mortarmen technically and tactically and integrate them into fire support training if they're consolidated as Field Artillery assets. We would do it more productively because mortar training is a lower priority for maneuver.

*"As set forth in **FM 6-20 Fire Support in AirLand Battle**, the Field Artillery's own 'Bible,' the mortar mission is 'to provide immediate and close supporting fires to the maneuver forces in contact'...this mission isn't identical to the Field Artillery mission."*

I don't believe the concept of consolidation of mortars in any way detracts from this mission. Indeed, all Field Artillery missions should be oriented toward this goal.

"Accomplishment of the mortar mission mandates a responsiveness that can only be achieved by having these close-support weapons under the direct control of maneuver unit commanders."

How responsive to the fight are a brigade's worth of mortars under the control of their respective battalion commanders in an "R and R" center? Put mortar batteries under the control of the Div Arty commander and see if they aren't more responsive to the needs of the maneuver commander ***in the fight***.

"Taking mortars away from maneuver battalions will decrease the responsiveness of these weapons..."

Mortars are easily transported. Given a shift in mission, as with other artillery weapons, they can be moved rapidly about the battlefield, improving their ability to support the force as a combat multiplier.

"...the flexibility belongs to the maneuver commander, not the Div Arty commander, and because mortars are a battalion-level fire support system, that's where the flexibility belongs."

They are confusing control with flexibility. There is no flexibility where each battalion commander controls an asset whose use possibly could save his fellow maneuver commander in contact.

"The maneuver battalion commander has unlimited flexibility to move mortars and their fires anywhere within his [my emphasis] area of operations

and faster than could be accomplished were they division assets."

This seems to say that the battalion is more important than the brigade or division and that consideration for its fire support is more important than that of the force as a whole.

"...the mortar mission, per FM 6-20, isn't the same as the Field Artillery mission, any more than the missions of other fire support assets — naval gunfire, tactical air, Army aviation and electronic warfare..."

True. However, the characteristic all these assets share with Field Artillery is their capability to be task organized or assigned support missions for the ***force as a whole.*** Mortars can't be; they're inflexible to any force larger than a battalion. Make them Field Artillery assets and let us assign them missions to improve fire support to other battalions, brigades or the division. We'll make them combat multipliers.

"Consolidation would cause undue headaches...given that it would require a command and support relationship to be established with the maneuver battalion."

A command relationship with maneuver would not be necessary. Support through a traditional Field Artillery relationship would prove sufficient.

"...the logistical burden on the artillery would be increased unless mortars were attached to the maneuver unit..."

The assets currently in place to support mortars in maneuver units could be transferred to the head-quarters and headquarters battery of a Div Arty or a service battery could be formed to support the mortar units. Air Defense Artillery (ADA) assets, such as the Vulcan, Stinger teams and Chaparral support maneuver battalions and brigades with little trouble; mortar "batteries" could do the same.

"...when a maneuver unit is placed in reserve, its mortars go into reserve with it. True, but this doesn't violate the precept that artillery is never placed in reserve..."

The issue is that several battalions' worth of mortars in reserve is a terrible waste of firepower and too important to ignore. My concept would eliminate such a situation.

"...should a unit find itself in reserve, it's probably preparing for some other contingency on the battlefield, and it must retain control of its mortars so it can be immediately responsive when committed."

One of artillery's inherent responsibilities is to plan to facilitate future operations. Commitment of maneuver doesn't happen in seconds. The Div Arty commander could "keep a string" on the mortars through assignment of missions. Mortars could be "returned" in a change of mission, just as we do Field Artillery units now.

"The maneuver commander is still ultimately responsible for employing mortars; can he realistically be expected to employ them better than he does now, if they don't 'live and train' with him."

Yes. The Field Artillery doesn't "live and train" with maneuver forces, but we support them. Why? The Div Arty commander has only one job — provide fire support. The maneuver commander not only has to employ his force, but also worry about the employing his mortars. Let the soldiers who specialize in fire support train and employ mortars.

"From an infantryman's perspective, maybe the best way to accomplish this combined-arms operation isn't to take away fire support assets, but to give the maneuver unit more of them — in the form of FSOs [*fire support officers*] *and FISTs* [*fire support teams*] *permanently assigned to maneuver battalions."*

The FIST once was assigned permanently to maneuver battalions. We called them *mortar* FOs [forward observers]. The Army "took" them and gave them to the Field Artillery.

Both letters misunderstood, I believe, the intent of my concept. I don't want to take mortars away from maneuver to reduce fire support, but rather to increase it. Neither letter viewed the other side of the employment question. That is, rather than one mortar unit "organic" to their battalion for support, they might have three or four assigned a support mission from their Div Arty.

I tried to address what I believe to be misconceptions on the part of the maneuver community. I realize mortars aren't, in fact, Field Artillery weapons, but maybe they should be. Both the maneuver letters talk about a need for a change of emphasis in the integration of mortars into fire support. But it's more than that. A change of attitude must occur; a new attitude that says "mortars as an indirect fire system capable of putting great volumes of steel on the target need to be available at all times to support the ***force as a whole wherever they are needed.*** They'll be task organized and assigned missions to enhance their capabilities as combat multipliers on the battlefield. ***They will not be allowed to lie fallow with a maneuver unit in reserve."***

How can that attitude be reflected best for improved fire support? Give the mortars to the Field Artillery. We can train them technically as we do other artillery systems. Artillery sergeants and lieutenants can train and lead mortar "batteries" tactically. They can be integrated into standardized fire support training at Fort Sill rather than having to wait until the FSO or FIST gets to a unit where mortars are.

As Field Artillery weapons, they can be controlled by the Div Arty that can assign them traditional artillery missions to maximize fire support on the battlefield, wherever it's needed, in keeping with the Field Artillery's mission. Mortar fire planning and mission assignment would be governed by the same inherent responsibilities other Field Artillery has — most important of which is to provide adequate support for the committed forces.

Taking the mortar FOs from the maneuver forces and giving them to the Field Artillery as FISTs improved fire support for the maneuver battalions. Moving mortars to the Field Artillery would do the same.

Major James O. Harrison III, FA
XO, 3d Bn, 3d FA
Fort Hood, TX

Response to "Mortars — A Field Artillery Weapon"

Major Harrison's letter to the editor concerning mortars discussed some important issues. Mortars are often the most mishandled, misunderstood systems with the most poorly trained soldiers in maneuver units. Mortar soldiers are often "stepchildren" who are always available to do details. Often their training needs take second seat to anything else the unit is doing. National Training Center [Fort Irwin, California] reports from as early as 1983 show mortar performance problems have existed for a long time.

But, the situation isn't the fault of maneuver commanders. The problem is inherent in a system that makes maneuver commanders responsible for an asset they're not familiar with.

In the 2d Armored Cavalry Regiment (West Germany), the Commander emphasizes mortars to ensure his soldiers are well-trained and mortars are well-integrated into fire support. He does this almost totally by using fire support officers from the howitzer batteries in coordination with the squadron fire support officers [FSOs].

The point is professional indirect fire officers train the soldiers on mortars because mortars are more like artillery than tanks. The lieutenants in the howitzer batteries spend lots of time training soldiers to live fire mortars, supervising the live-fire at Grafenwoehr Training Area [West Germany] and, of course, training their 13F soldiers to engage targets with the mortars.

While assigned to the Berlin Brigade, my battalion and company FSOs and NCOs also spent much of their time training with their units' mortars. This included planning, executing and evaluating mortar ARTEPs [Army training and evaluation programs] at Wildflecken Training Area.

I think the idea of making the Infantry's mortar MOS a Field Artillery MOS is an excellent one. Mortars are an indirect fire weapon that indirect fire professionals should take charge of. Mortar platoons and batteries should be commanded by Field Artillery officers. There is a variety of possibilities for organizing mortar units and integrating them into current Army organizations. Perhaps the best would be to integrate mortars into the fire support organizations with mortars in a battery.

The battalion FSO also could function as the battery commander. Being in command of such an important asset would provide more incentives and responsibilities to ensure the best officers are selected to be FSOs. In fact, I can see the command of a combined mortar and fire support team battery could quickly become a prestigious second command where the most able captains could prove their abilities to train all elements of the fire support team.

In units with mortars usually organic to maneuver companies as well as to the battalion, the FIST [fire support team] lieutenants could be the platoon leaders with mortars and their FISTs as members of the platoon. The fire support NCO for the battalion also could be the first sergeant by making that an E-8 billet instead of an E-7 one. This would put them on an equal footing with the other E-8s working in battalion TOCs [tactical operations centers]. Likewise, platoon sergeants could be either FIST NCOs or mortar NCOICs. An added benefit would be to get the green tabs on the shoulders of our fire support personnel.

Capabilities also could be enhanced, depending on what type of service and support assets were provided to the battery. For example, supply sections could be responsible for resupplying ammunition to mortars in the field. These units could be assigned as individual batteries in the maneuver battalions, batteries within a Field Artillery battalion or as batteries in a mortar battalion.

Assigning mortars as organic elements of Field Artillery units would provide several advantages. During training, the artillery battalion commander could supervise and control the entire spectrum of indirect fire support. Units would be able to train in a variety of combined missions, such as mortar illumination with artillery high-explosive fires or delivering FASCAM [family of scatterable mines] fields under mortar smoke. Fire support personnel could live-fire mortars and artillery at the same time. Field Artillery officers could supervise the live firing of mortars. Requirements for training resources and time, as well as coordination problems, could be reduced. Field Artillery battalions also could have more assets to provide a better resupply of mortar ammunition, not that the resupply problems of the current artillery battalions have been solved. The artillery community could tailor mortars to meet specific objectives and support the maneuver commander's intent. The artillery commander could be more flexible as he prepares to use his available forces to influence the battle.

In any instance, the value of these organizations is clear. The fire support assets that support the maneuver battalion would all be assigned to the same unit. Training could be at the lowest levels to increase the band of excellence of the indirect fire team. Battle tasks could be developed closely between those who plan and direct the fires and those who deliver them. The FIST chief assigned to a company would *know* mortars. As the mortars platoon leader, his movement guidance and other orders for a battle would be better understood. The battalion FSO, who commands the mortars, also would be better able to task organize, move and direct the mortars during combat. This would certainly improve the agility and synchronization of the fire support systems. The maneuver commander could depend on a totally trained system.

CPT Eugene F. Burwell, FA
Cdr, How Btry
3d Sqdn, 2d ACR

Response to "3x8 Synchronization on the Battlefield"

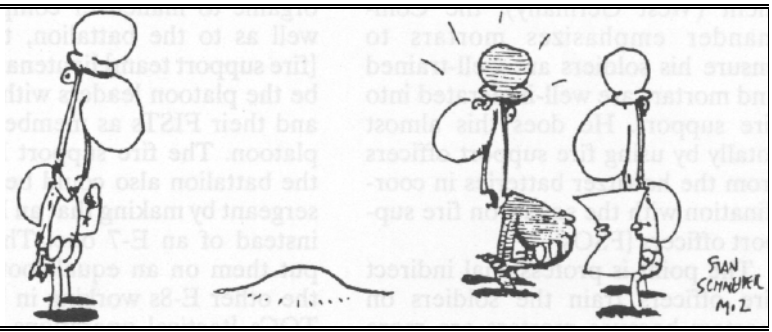
Captain [William R.] Lodwick's article "3x8 Synchronization on the Battlefield" [February 1989] offers positive input on how we as artillerymen can best support our maneuver brothers by using 3x8 tactics, not only in heavy and light units, but in cavalry units as well.

However, I disagree with Captain Lodwick on one point. I feel the platoon leader must go with the advance party. The platoon leader could meet with the commander at the next position, be updated on current events and then place the gun guides in the howitzer positions. The platoon sergeant (formerly called the gunnery sergeant) must conduct the security sweep, supervise the advance party and set up the aiming circle. He has too much to do to perform the officer's duties as well.

The platoon leader isn't needed in the platoon area. His platoon sergeant (formerly the chief of the firing battery) should be able to control his platoon. If he can't, he shouldn't be a platoon sergeant. The fire direction officer can bring the platoon forward. Let people have some responsibility and do their jobs.

Captain Edward J. Boylan, FA
Fire Support Instructor
Fire Support and Combined Arms Operations Department
Field Artillery School

"Are you sure this is Hill 215?"



Response to "Training for 3x8: The Shape of Things to Come"

Staff Sergeant [Glenn A.] Garrison's article "Training for 3x8: The Shape of Things to Come" [February 1989] deals with some sticky problems. The transition to 3x8 isn't simple, and the HIP [howitzer improvement program] upgrade will be even tougher.

To accomplish these transitions, we need to address certain areas. Training our future leaders has to be a top priority; section chiefs will have to be the best we've ever fielded. Staff Sergeant Garrison is correct. We need to implement more effective training plans. Our NCOs must work with little guidance, but I don't see their shooting, moving and communicating semiautonomously. Even the HIP howitzers still will function in platoons and batteries.

The 4th Battalion, 3d Field Artillery's unit training plan sounds great. Defense and survivability training usually are important only around ARTEP [Army training and evaluation program] time. More emphasis should be placed on section-level NCOs' organizing and directing their members. However, we must be realistic. A battery's best defense against a determined ground attack is to gain information early enough to get out of the way. We only can deal with a small, lightly armed ground threat. Any modern armored vehicle can defeat our howitzers.

Staff Sergeant Garrison is obviously a professional soldier. He should be commended for his ideas, and other units would do well to copy the 4th Battalion, 3d Artillery's training plan.

Captain J. M. Lance, USMC
Fire Support and Combined Arms Operations Department
Field Artillery School

The Commander and NCO Professional Development

This article was written by Lieutenant Colonel Daniel L. Breitenbach in a cooperative effort with the Field Artillery Enlisted Branch Professional Development NCOs at the US Total Army Personnel Command (PERSCOM), Alexandria, Virginia.

The NCO professional development program required to support Field Artillery combat readiness is more than a monthly NCOPD class taught by the first sergeant or command sergeant major. It's a comprehensive training and education program that integrates the NCO education system (NCOES), unit-level training and the leadership and expertise gained from Field Artillery assignments to achieve the goal of developing a professional NCO Corps. At each skill level, the program develops NCOs who are tactically and technically proficient, have the leadership and training skills required to achieve unit combat readiness and demonstrate the moral and ethical values of today's Army. The role of NCOES in meeting this goal is readily apparent, but the role of the assignment process, both at PERSCOM and at the unit level, is not. At PERSCOM, the Enlisted Field Artillery Branch seeks to assign soldiers so they can serve in positions in the Field Artillery that provide them practical experience in their military occupational specialties (MOSs).

The Commander's Role

It's the commander, however, who plays the key assignment role in the professional development of his NCOs. He determines the duty position a soldier will serve in. This decision affects the soldier's professional development at skill-level one but begins to mold him significantly when, as a sergeant, he must lead soldiers.

Just as the commander guides the professional development of his officers, he must discuss in detail the development of his NCOs with his command sergeant major or first sergeant. With his help, he sets goals for his NCO development program and defines the role the unit assignment process will play in accomplishing those goals.

NCO Development

The Enlisted Field Artillery Branch has made some observations on the professional development of Field Artillery NCOs. We made these observations while working with all aspects of the enlisted personnel management system (EPMS) — from screening the results of the various enlisted promotion boards to working the daily requests from soldiers and commanders concerning enlisted assignments, promotions, schooling and development. We offer them as a view of NCO professional development that we hope will lead to a higher level of consciousness in the Field Artillery.

TOE Assignments

A Field Artillery NCO must serve in key NCO leadership positions if he expects to learn his trade. Using MOS 13B Field Artillery Cannoneer as an example, a sergeant must serve one two-to-three year tour as a gunner; a staff sergeant, one tour as a section chief; and a sergeant first class, one tour as a chief of firing battery or gunnery sergeant. At each level, the soldier gains the technical and tactical experience and leadership skills upon which to build additional skills.

The NCO's failure to gain the experience and skills creates shortfalls in his abilities as he gains increasing responsibilities in larger

units. These shortfalls often manifest themselves in significant failures in leadership and combat readiness and frequently can lead to the relief of the NCO or his non-selection for advancement.

The professional development of NCOs as they move toward the two senior NCO ranks is more complex. Up to this point, he has served principally at section and platoon levels. Now, he must move up to battery-level leadership and responsibility and, for the first time, face staff duty at battalion or higher levels. A master sergeant who only has served in a firing battery or platoon with limited tactical and technical scope often is unprepared to deal with the challenges of duty at battalion or higher levels. Commanders can help by supporting PERSCOM recommendations for such duties and providing their exceptional sergeants first class and master sergeants opportunities to serve at battalion, division artillery or brigade levels.

SP4 John Dawson

Soldiers from 1-39 FA, Fort Bragg, North Carolina, push a jeep from its packing materials after a heavy drop.

While an E-8, an NCO must serve one or more tours as a first sergeant to gain battery-level experience in administration, logistics and leadership. Those with potential for even higher-level service should serve at least one year on battalion staffs as operations or intelligence NCOs. In these assignments, the NCO can closely observe the battalion commander, the command sergeant major and the battalion staff in action. The result is a better Field Artilleryman who understands the operation of larger units and the role of artillery in support of maneuver.

TDA Assignments. While soldiers can perceive this emphasis on TOE leadership duty as being prejudicial to those working in tables of distribution and allowances (TDA) organizations, this isn't the case. Duty in a TDA organization is frequently the only way to give the NCO a broader view of the Army from outside the perspective of battery- and battalion-level organizations. Duty as an instructor or inspector or on an installation or other staffs is important in professional development.

Duty in a TDA organization is only detrimental when it excludes the soldier from a reasonable period of service in a TOE unit at a given grade or if the assignments are repetitive and lead to no increase in responsibilities.

One young sergeant first class is a prime example. He entered a new, technical MOS just as the system was fielded. As a member of the team that conducted the operational tests, he quickly was selected as an instructor in the MOS.

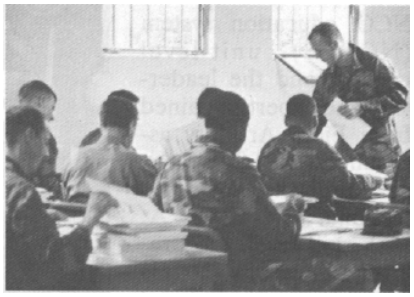
Rising to staff sergeant while an instructor, he was ordered to US Army, Europe (USAREUR). An officer on the new equipment training team (NETT) heard he was enroute overseas and arranged for him to be diverted from a TOE unit to the NETT. He spent an additional three years as a NETT instructor, and upon returning to Fort Sill, Oklahoma, his experience in USAREUR got him selected again as an instructor. Fortunately, he was selected for sergeant first class. But he has no leadership experience in TOE units. Though he's highly qualified technically, his chances for promotion to master sergeant are greatly reduced.

Performance. The NCO's performance is critical. But if the soldier does well in TDA assignments and doesn't do well in TOE assignments or doesn't serve in TOE units, he's at risk. Most centralized sergeant first class and master sergeant promotion boards have selection rates well under 15 percent, and boards reward the "fighter" in the combat-arms MOSs. For these reasons, the Field Artillery Enlisted Branch doesn't support consecutive TDA assignments when reviewing permanent change of station (PCS) assignment nominations. This includes consecutive assignments in drill sergeant, instructor and recruiting duties.

Commanders should use these NCOs coming from TDA organizations in positions in which they can impart their knowledge to their soldiers and junior NCOs and, again, practice their troop-leading skills. For example, a commander should assign an NCO who served as an instructor to a leadership position where he can share his excellent technical knowledge with his soldiers.

Assignments Outside the PMOS

Related to assignments in TDA organizations are assignments outside a soldier's primary MOS (PMOS). The soldier is the commander's asset, and the commander may assign him in his secondary MOS (SMOS) or any other job that falls within the guidance in AR 614-200 Selection of Enlisted Soldiers for Training and Assignment. To do so, however, often deprives him of the opportunity to gain the TOE experience necessary for professional development and increased promotion potential.



SFC John Morris

Duty as an instructor or inspector or on a staff is important in NCO professional development.

Commanders must limit the time a soldier serves in his SMOS or in an MOS-immaterial position, especially while he's in a TOE unit. This is a particular problem with soldiers in space-imbalanced MOSs (SIMOS).

A similar practice that clearly hinders a soldier's professional development is assigning him full time to "additional duties." The presence of repeated NCO efficiency reports (NCO-ERs) in a soldier's record citing duty performance as a Reenlistment NCO, Repair and Utilities NCO, NCOIC of Security Police or Athletics and Recreation NCO can compromise a soldier's professional development and promotion potential.

The Field Artillery Enlisted Branch recently received a call from a Field Artillery commander about

(Continued on Page 10)

How to Get Promoted

The centralized enlisted promotion system is designed to select the best-qualified NCOs for advancement while maintaining a close alignment by MOS to the budgeted authorizations within a MOS. This goal of aligning the NCO force by MOS and grade is the key difference between the officer and the enlisted promotion programs and results in considerably lower selection rates for NCO promotions than for officers. For example, the selection rate for a recently released lieutenant colonels list was 68.3 percent, while the selection rate for sergeants major was 8.3 percent. The selection rate for majors was 54.7 percent, compared to the rate for sergeants first class of 10.3 percent. Within a given MOS, the rate varied significantly.

Given the constraints of the force-alignment process, the selection board usually has a specific select objective by MOS rather than just a floor. They must, therefore, operate on a "best-qualified" basis. In the NCO force, now more than ever, a significant number of fully qualified NCOs are not getting promoted.

Why NCOs Are Selected

It's difficult to say exactly what it takes for you to be promoted. The Field Artillery Professional Development NCOs of PERSCOM review the results of each centralized promotion list. They have contacted many of the members of the selection boards to determine why NCOs were selected beyond the minimum criteria for eligibility. Some things are obvious. You must —

1. Demonstrate outstanding performance and potential in a variety of Field Artillery TOE positions. Outstanding performance in a line unit can sometimes mitigate mediocre performance in staff or TDA positions. The opposite is seldom true.

2. Serve successfully in a duty position of the next higher grade for a secondary-zone promotion.

3. Round out your record with a successful assignment as a drill sergeant, detail recruiter, instructor or staff NCO, providing such duty isn't for an excessive period and doesn't prevent you from demonstrating performance and potential in line units.

Why NCOs are Not Selected

It's somewhat easier to say what will keep you from being selected for promotion. Many reasons are obvious. You may not be promoted if you —

1. Have a poor photograph or are overweight.

2. Have Article 15s or other disciplinary actions in your performance fiche ("P" fiche). Under certain conditions, you can have the record removed from the "P" fiche and placed in the restricted fiche ("R" fiche). While a board does not routinely see the "R" fiche, the members can request it if they want to. Awards, decorations and letters of commendation won't overcome a record of disciplinary action.

3. Have inaccurate or confusing DA forms 2 and 2-1 Personnel Qualification Records. You have the opportunity to review these forms at your personnel service company (PSC) before submission to the board. Frequently, these forms are submitted with the annotation that the soldier was not available to review the forms. Sometimes an NCO reviews and signs forms that are illegible, confusing or clearly inaccurate. A board perceives such forms as demonstrating the NCO's apathy.

When faced with poorly prepared DA Forms 2 and 2-1, you should demand the form be redone. A letter prepared by the US Army Enlisted Records and Evaluation Center (EREC), ATTN: PCRE-B, Fort Benjamin Harrison, Indiana 46249-5301, Subject: "Information Guide to the HQDA Enlisted Centralized Promotion/Selection Process," provides detailed guidance on how to review DA Forms 2 and 2-1. Soldiers can write EREC for copies of the letter.

4. Have inaccurate NCO-ERs. The duty description on the NCO-ER determines the scope of your responsibilities. For example, if you've frequently served as acting platoon sergeant or first sergeant when the regularly assigned platoon sergeant or first sergeant is absent, it should be on your NCO-ER.

5. Fail or fail to attend NCOES courses. The military education

code entered on DA Form 2 is the official statement of your education level, which the PSC updates during your quarterly audit. The importance of properly updating this information as well as your critical qualifications can't be overstated.

6. Don't have enough civilian education. If you don't have a high school diploma, you're not competitive for sergeant first class. Without any college education, you're eligible for promotion to master sergeant, but the fact is that 36 percent of the E-8s in the Field Artillery have one or more years of college and the average education of the sergeant first class selected on the last promotion list was one year of college. A master sergeant without any college clearly isn't competitive for promotion to sergeant major.

Conclusion

Not every qualified NCO is selected for promotion. Many highly qualified NCOs fail to be determined as "best qualified," and the differences between those selected and not selected are marginal at best.

To be selected for promotion, you must demonstrate continued outstanding performance and potential for increased reponsibility. The bottom line is your record must speak for you — ***it will speak to the board***.

one of his NCOs. His staff sergeant was about to enter the promotion zone for sergeant first class and had submitted a request for reclassification into an administrative MOS. A review of his record revealed he had last served in a howitzer section in 1974. After that, he was a unit's full-time Reenlistment NCO for three years. Then, at another installation, he was the personnel action center (PAC) supervisor for a Field Artillery battalion.

When told that the NCO had been moved from one installation to the commander's installation to give the NCO the opportunity to serve as a gun chief, the commander said he had had no PAC supervisor and "had to survive." Unfortunately, the soldier is not combat ready in his MOS and probably won't "survive" the next promotion board. Incidentally, the reclassification request was turned down by the administrative MOS branch. The NCO lacked the professional development it expected of its senior NCOs.

Commanders should review the assignments of soldiers they're considering for these positions to determine the professional development impact. If such an assignment is necessary, it should be limited to six months on a short tour and nine months on a long tour.

Clearly in all these cases, the commander isn't the only "culprit." Field Artillery NCOs know that continually accepting duties outside their PMOSs jeopardizes their skill development and promotion opportunities. Many still accept them for various reasons. But both officers and NCOs must understand NCOs pay a price for continually accepting such duties.

When I joined the 3d Infantry Division as a Second Lieutenant, my BC would not see me until I spent two weeks in each section and each NCOIC "chopped off" that I was qualified. That was 50 years ago! The NCO is still the linchpin of the Army—that hasn't changed.

General (R) Walter T. Kerwin, Jr.
Former Vice Chief of Staff
of the Army

Drill Sergeant and Recruiter Duty

Drill sergeant and recruiter duties are two assignments that decidedly are career enhancing. As the written instructions to promotion boards outline, recruiting and training new soldiers are critical to the readiness of the Army. The prerequisites for these duties are tough, and only the best Field Artillery NCOs are selected for and assigned to these duties.

But these soldiers don't get to choose their assignments. Some drill sergeants can maintain their MOS-specific skills by serving in one-station-unit-training (OSUT) or advanced individual training (AIT) batteries. Others serve their two-year details in basic training units at installations such as Forts Jackson or Dix that have no Field Artillery units to help maintain their MOS proficiency. Likewise, recruiters have no opportunities to maintain MOS proficiency.

The Field Artillery Enlisted Branch tries to assign soldiers completing such details to installations or commands where they can get back into the Field Artillery. Many soldiers receive refresher, additional skill identifier (ASI) or other functional training in their MOS before returning to operational Army units.

Nevertheless, the Field Artillery Enlisted Branch has noted a trend that the NCO-ERs soldiers receive in their first assignment after successfully completing these duties often are substandard. It appears they need some additional training. But clearly these soldiers must return to the leadership positions necessary to fulfill their potential. It takes the commander's help to train these NCOs and develop their potential.

Military Education

The NCOES provides the NCO Corps the professional and military education to meet the challenges of today's Army. Unlike officer education, attendance at many of the NCOES courses is a requirement for NCO promotions. The primary leadership development course (PLDC) is a prerequisite for promotion to sergeant, effective October 1989. The basic NCO course (BNCOC) and the advanced NCO course (ANCOC) are prerequisites for sergeant first class and master sergeant, respectively. No commander would deprive one of his officers from the opportunity to attend the Combined Arms and Services Staff School (CAS^3) or the Command and General Staff College (CGSC), both at Fort Leavenworth, Kansas. But can the same be said for NCOES?

The "no-show" rate for BNCOC and ANCOC courses scheduled by PERSCOM is abysmal and has led to a considerable backlog of selectees. Of the 580 sergeants first class and staff sergeants scheduled for ANCOC in FY 88, 130 (27 percent) were no-shows. Of the 472 NCOs in the eight centrally controlled BNCOC courses scheduled in FY 88, 238 (50 percent) were no-shows. There are similar trends in FY 89. Of equal concern is the large number of NCOs who arrive for NCOES unqualified for the courses, most frequently because they're overweight.

The Field Artillery NCOES courses are currently programmed at maximum capacity. Every vacant training seat is lost — never to be regained. The number of ANCOC selectees in any given year is based on the training seats available and the number of soldiers still requiring training from prior-year selections. With this increasing backlog and the limited training seats, is it any wonder that Field Artillery ANCOC selection rates are falling?

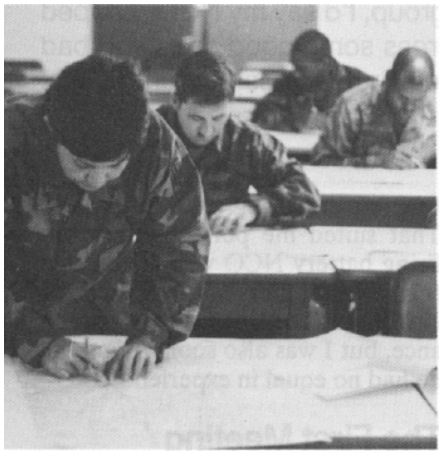
Commanders and command sergeants major should know who in their commands are BNCOC and

Rules for Commanders to Influence Soldiers' Careers

1. Work soldiers in their primary MOSs.
2. Counsel them on a regular basis.
3. Develop them by enforcing high standards.
4. Get them into NCOES courses, and ensure their NCOES codes are updated promptly.
5. Provide good soldiers opportunities to further their civilian educations.
6. Ensure they periodically review their official military personnel files (OMPFs) and update critical documents as necessary.
7. Help them remove adverse material from their OMPFs.
9. Write and review their efficiency reports for administrative correctness and appropriate scores and comments.
10. Teach them how to work and grow in the enlisted personnel management system.

ANCOC selectees and should periodically review their qualifications to ensure they're still qualified. Those who no longer are qualified should be removed from the list, and those who have attended must have their personnel records updated to reflect their completion. Selection boards use the NCOES code on DA Form 2A Personnel Qualifications Record to determine completion of ANCOC, and PERSCOM uses it to schedule soldiers for NCOES.

Finally, when a NCO is scheduled for training, he must not be deferred; he must attend. Only in this way can our NCO Corps receive the training to meet the leadership, tactical and technical challenges of the modern Field Artillery.



Attendance at many NCOES courses is a requirement for NCO promotions.

Civilian Education

A recent trend in centralized NCO promotions, particularly to E-8 and E-9, is increased emphasis on civilian education. A prime example is the recent sergeant major selection board results. Every master sergeant selected had at least one year of college, and the vast majority had well over two years of college. With the funding cutbacks in educational programs and the heavy readiness demands in TOE units, many of our best NCOs are effectively denied educational opportunities.

There's no ready solution for this problem, but the college-level examination program (CLEP) tests offer a potential short-term solution. These tests grant college credit for knowledge the NCO already has. In the long term, commanders should encourage NCOs to improve their civilian education by attending college courses in the evenings or on weekends. They should press education centers to provide the services our NCOs require to improve their performance and promotion potential.

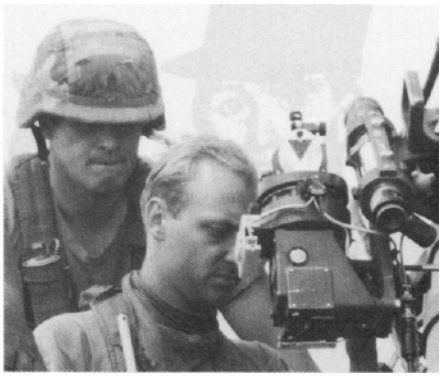
Homesteading

With the recent changes in Army policy to reduce turbulence and promote bonding by keeping soldiers and their leaders together longer, many soldiers are spending more time on station. Remaining on station for extended periods of time doesn't hinder a NCO's professional development unless he doesn't have the opportunity to demonstrate his potential for increased responsibility. In fact, these soldiers may be better prepared to lead because of their opportunities to fully develop cohesive units.

Extended time on station in TDA units may hinder an NCO since it could deprive him of opportunities to serve in the leadership positions required to fully develop his potential. Inevitably there comes a time when the professional development of the soldier begins to stagnate because of excessive time on station.

The overseas replacement requirements tend to move soldiers overseas after two to three years in the continental US (CONUS), and the foreign service tour extension (FSTE) initiatives are keeping outside CONUS (OCONUS)-based soldiers overseas longer. One commander, citing a sergeant first class who had been overseas since AIT, asked a member of the Branch briefing team what the personnel system did to prevent this version of "homesteading." The answer is simple. The personnel system listens to the commander who recommends approval or disapproval of FSTE or consecutive overseas tours (COT).

A commander should look closely at the contribution a FSTE or COT makes to a soldier's professional development as well as to the unit as a whole. If the soldier will gain in experience and be positioned for increased responsibility in the unit, he should approve it. But, if the soldier is stagnating in the unit with little likelihood of increased responsibility, perhaps it's time for a new opportunity for development.



Combat-ready NCOs can pass on technical skills to their soldiers, as this one does in C/1-12 FA. Fort Sill, Oklahoma.

Conclusion

An NCO's professional development isn't something that simply occurs. It's the product of NCOES, the assignment process as administered by PERSCOM and the opportunity for tough, demanding duty offered by the commander. He and his senior NCO are the ones who develop our NCO Corps. Just as no one would consider assigning an officer without a "hard" look at his officer record brief (ORB), no commander should assign an NCO duty without a hard look at his DA Forms 2A and 2-1.

A properly developed NCO should be able to assume the duties and responsibilities of his immediate superior — officer or enlisted. If he's to meet that challenge, his development at all levels should be focused on that goal.

Lieutenant Colonel Daniel L. Breitenbach commands the 4th Battalion, 27th Field Artillery part of the 72d Field Artillery Brigade in West Germany. He recently served as the Chief of Field Artillery Branch, Enlisted Personnel Management Directorate, US Total Army Personnel Command Alexandria, Virginia. Lieutenant Colonel Breitenbach has commanded both cannon and Pershing firing batteries and served as a Pershing battalion S3 during the transition from Pershing Ia to Pershing II in US Army, Europe. A graduate of the Armed Forces Staff College, Norfolk, Virginia, he holds a Master's of Business Administration from Boston University.

Six Feet, Four Competence

by Colonel Marshall R. McRee

Many people and events have shaped my career as an Army officer. But if I had to single out one group, I'd say my NCOs shaped me more than any other. I've run across some good ones and bad ones. But there's one I'll never forget. I ran across him on my first assignment in early 1962.

There he stood, bigger than life — all six feet, four inches — gravelly voice, smoking a Lucky Strike cigarette. Starched fatigues, boots polished to the point they looked like mirrors and his Ridgeway hat cocked slightly to the right. A pocket full of keys and carrying that old dilapidated clipboard literally chocked with what he called "important notes." He proudly wore the 82d Airborne Division patch on his right shoulder, a distinction he earned during World War II. I later learned he also wore two stars above his master airborne insignia for combat jumps. Master Sergeant Russell C. Hammonds was truly an impressive soldier — the epitome of an NCO.

Fresh from the Officer Basic Course at Fort Sill, Oklahoma, I was anxious to get into my job in my first unit — Combat Support Company, 2d Battle Group, 31st Infantry Regiment, Fort Rucker, Alabama. We had six M101A1 howitzers and six 4.2-inch mortars. Technical and tactical proficiency was a must.

An interview with the battery commander resulted in my being the OIC of the firing battery platoon. That suited me perfectly since my firing battery NCO was none other than Master Sergeant Hammonds. Not only was he impressive in appearance, but I was also soon to find out he had no equal in experience.

The First Meeting

Here was a professional, ready to "break-in" a new officer. After the morning work formation, Master Sergeant Hammonds asked me to go to the mess hall for coffee. We sat down and he spoke his first "official business" words to me.

"Lieutenant," he said, "we can do this one of two ways." My reply was a simple, "What do you mean?"

"Well, you're the OIC now. You gotta decide how you want to run this outfit."

I said that if things were working well, I saw no need to change.

"No, that's not what I mean — how do you want to learn this job? You're the OIC and you call the shots. I want you to be the best lieutenant in the outfit, and we gotta decide how we're gonna do that."

Inches of

He continued by saying, "I see two ways to do it. You go your own way. *Or* you get in my hip pocket, stay with me practically every minute and let me show you the ropes. I'll train you, and I won't let you get into trouble. When the time comes, I'll sort of turn you loose."

So at our first meeting, I made what turned out to be one of the best military decisions I ever made. I opted for the latter.

Little did I realize what I had agreed to. Every step he took, I took; every method he used, I used. One rule he never deviated from: don't have the troops do something you wouldn't do — and while they're at it, you be there.

My duty day was long, typically extending into the late night hours, down on the gun line — even at times using a flashlight to check those old howitzers. I spent many a night in our maintenance bay literally tearing that howitzer apart and putting it back together. I believe I can still tear the breech block apart and reassemble it with my eyes closed.

When Master Sergeant Hammonds was finished with me, there was no officer or enlisted soldier in the unit better qualified to run a firing battery. He instilled confidence in me as no other military person has ever done. With my confidence level at a peak and demonstrating on a daily basis I was technically and tactically competent, Master Sergeant Hammonds put me to the test.

The Test

After a field training exercise, the unit procedure was that no one left post until all equipment had been thoroughly cleaned. More importantly, each howitzer had to be cleaned and serviced down to the last nut and bolt. The typical procedure was to allow the gun crews whatever time they wanted to do their work. When the crews were ready, they called Master Sergeant Hammonds, and the two of us would go to the motor pool to inspect — Hammonds inspected while I learned.

One day after a lengthy field problem and we had completed the recovery, the call came. I waited around for several minutes for Master Sergeant Hammonds to make his move. But he didn't.

"Well Sergeant Hammonds, time to go. We're holding up the troops." Master Sergeant Hammonds gave me a feeble excuse that he couldn't make it today — had to see the First Sergeant.

"Your mission, Lieutenant. Just don't let them do you in. Be tough, but fair. If it isn't correct on the gun line, don't let them leave."

Little did I know he had told the section chiefs, "The Lieutenant will inspect today." As such, you can imagine the smiles when I walked onto the gun line. I could just see the worst — guns not clean, the Lieutenant having to be unreasonable, etc. Well, that never came to pass. As I disassembled and reassembled each breech block, not only had the crews done a great job, but their eyes opened at the proficiency of their lieutenant. Master Sergeant Hammonds had taught his troops well, and the same could be said for his lieutenant. He knew the mission and the standards and made them happen.

And So It Goes

As I reflect on NCOs such as Master Sergeant Hammonds and then look to today's NCOs, I see little difference. Maybe a different uniform. Certainly some are smarter. But they're still a corps of professionals as they were 30 years ago. Yes, times do change a lot of things. But the tradition of an exemplary NCO Corps isn't one of them.

Thirty years ago, I don't recall ever seeing a "Creed of the NCO." Today's creed has a lot of meat in it: "No one is more professional than I am — I am a member of a time-honored corps known as the 'backbone' of the Army — Competence is my watchword." This creed reflects the standards our NCOs live by.

During my first assignment, I was lucky to know many NCOs who "cut their teeth" during World War II and the Korean War. Sergeants First Class Eddie Ford, Ulysses Fortenberry, Howard Touchstone, Willie Finney...First Sergeants William Hamersley, John Robinson — all excellent NCOs. But I'll always remember my first NCO, Master Sergeant Russell C. Hammonds. He broke me in and took care of our troops.

Our great nation is still served by talented, professional NCOs. Yes, they're as good as Master Sergeant Hammonds — some are even better.

Colonel Marshall R. McRee is Deputy Assistant Commandant of the Field Artillery School and Deputy Commander of the 30th Field Artillery Regiment, Fort Sill, Oklahoma. He served as Chief of Staff of III Corps Artillery, Fort Sill, and Assistant Chief of Staff of Fourth US Army, Fort Sheridan, Illinois. Colonel McRee commanded the 214th Field Artillery Brigade, Fort Sill; 2d Battalion, 3d Field Artillery, 2d Armored Division, West Germany; and a battery in the 5th Battalion, 4th Field Artillery, 5th Infantry Division (Mechanized), Fort Carson, Colorado. He's a graduate of the US Army War College, Carlisle Barracks, Pennsylvania, and holds a master's degree from Central Arkansas University.

NCOs Speak for Themselves

Sergeant First Class John L. Humphries
Currently a Drill Sergeant, Fort Sill, and Formerly a Brigade Fire Support NCO, West Germany

What are the qualities a soldier must have to be a good drill sergeant?

First of all, he's got to be dedicated to being a drill sergeant. I volunteered to be a drill sergeant. But just volunteering to be one and successfully completing drill sergeant's school doesn't make you good. You've got to deal with the new recruit on a day-to-day basis, and that new young guy poses challenges to you that many NCOs can't deal with unless they've had a wide variety of experiences.

The most important thing is being committed to what you believe in and what you're doing. Regardless of those long hours and those hard times dealing with soldiers' personal problems, you must accept what you do and see it as a challenge.

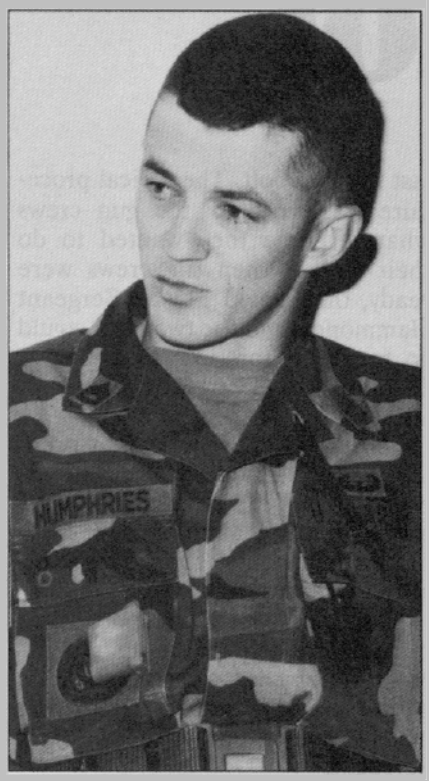
How do you balance all of those demands with the need to have some kind of a personal life, to spend some time with your family?

You don't get much time to be with your family, but the amount you have should be quality time. The average drill sergeant gets out of bed at 0330 hours and goes home at 2230 to 2400 hours. So in between that, you ask yourself, "What can I do with my family?"

The little things I do are sometimes during the day when I'm in between training, I pick up the phone and call my wife at work and see what she's doing. If I get a few moments, I call my son at the day-care center. If not, when I walk in the door, I give him a kiss. I try to work it so at least the next day I get to see him when he gets up, even though I'm walking out the door. You've got to have an understanding family to deal with that.

What advice would you give a new drill sergeant?

The biggest fault I see in new drill sergeants is they get what I call the "hat syndrome." They get that mighty campaign hat on and automatically think they're perfect — which they're not. It takes many days of experience to learn this job. A new recruit is different. He's actually a civilian wearing BDUs [battle dress uniforms]. You have to treat him with dignity and respect.



Linda Young

Sergeant First Class John L. Humphries, Drill Sergeant of the Year, US Army Field Artillery Training Center

You spent four years in Germany as a brigade fire support NCO. What's it like being a fire support NCO?

It's probably one of the hardest jobs the Army has. For example, a staff sergeant in MOS 13F has got to know as much as a maneuver company commander in the Infantry. The reason for that is the 13F has got to know two sides of combined arms. He's got to know the Infantry concept and it's way of training, and he's got to know the Field Artillery doctrine and it's way of training.

If you could, what would you change about the role of the NCO in our Army?

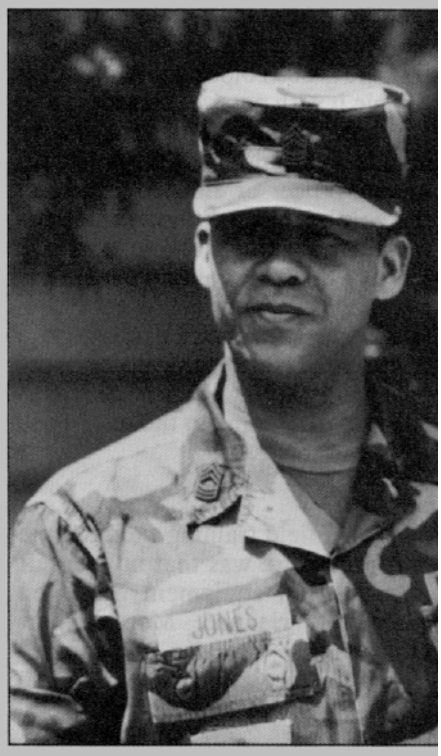
Back in 1976-1977, the Army had a different NCO Corps. Back then it was more "tight," and NCOs took care of each other more. Today, they're not doing it as much as they did.

Some NCOs have to deal with officers who don't understand what the NCO really does, who don't use the NCO's full capacity. Those officers want to do too much themselves. If officers associated what they're supposed to do with what the NCO is supposed to do, they can have a more relaxed working atmosphere.

Master Sergeant Johnnie S. Jones
Formerly a Battery First Sergeant, South Korea

What were your experiences as a battery first sergeant in Korea? How does that environment prepare NCOs to do their jobs?

Korea was an extraordinary experience. Korea is the last opportunity for "real" training. You train on the terrain you're going to fight on. Soldiers in Korea are extremely motivated. They know they have a mission, and because of the environment, they have more cohesion.



Master Sergeant Johnnie S. Jones, Currently a G2 Sergeant, III Corps Artillery

How did you develop your relationship with your commander?

When I first arrived, my commander was a young man — between 25 and 30 years old, and it was easy to build a relationship with him. When you first get there, you lay it on the line about how you feel, the things you do as a professional soldier, the things you like or don't like — you tell each other. We worked closely together. Every day, we'd sit down and talk about what was going to happen, what might happen and what we'd probably do about it.

My commander let me know what needed to be done and then let me get it done. Once we completed it, I'd make sure he was up-to-date. When I'm the first sergeant, the commander has a very easy job; he can stand back and let it get done.

How did you work with your NCOs on a daily basis to make things happen?

I worked directly with the senior NCOs in the battery. Once I've told them what's to be accomplished, I go around and check during the day. Because I believe in the chain of command, I would talk to them about the progress.

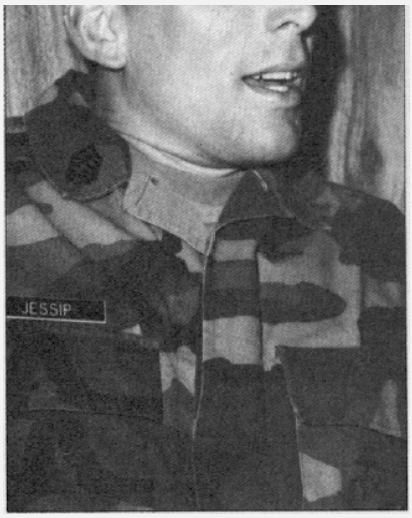
But I stressed the chain of command. I would go down and talk to the NCOs in the sections and make sure all the information was getting through and see how the soldiers felt. I did that almost every day.

Also, I believed in getting together with the NCOs after duty hours, in addition to the usual battery functions.

Gunnery Sergeant Terry L. Jessip
USMC Detachment, US Army Field Artillery School (USAFAS)

What do you like most about your job?

I've always wanted to send a cannoneer out there I taught, who had the qualities I'd gained from somebody in the past. I want him to be a better cannoneer than I was when I began. Our schools have developed that in us, to be leaders and pass everything we've got to our men.



Bobby Nusbaum

Gunnery Sergeant Terry L. Jessip

What was your last assignment overseas?

My last assignment was in Okinawa, attached to the nuclear ordnance platoon of the 3rd Force Service Support Group. During a short tour like that, you learn again that you put aside the family life, and the Marine Corps is there 100 percent of the time. You have to hold tight to people you've never seen before, and you've got to work with them and learn, because some are from different MOSs than artillery. You've got to mold your people into top performers.

I lived in a four-man house where we spent 12 months together, day in and day out, trying to survive without family. You learned about other functions of the Marine Corps from your roommates. It builds you to be a better Marine, if you allow it to.

Staff Sergeant Tejinder P. Soni
Instructor of the Year, USAFAS

What kind of training has brought you to your present level?

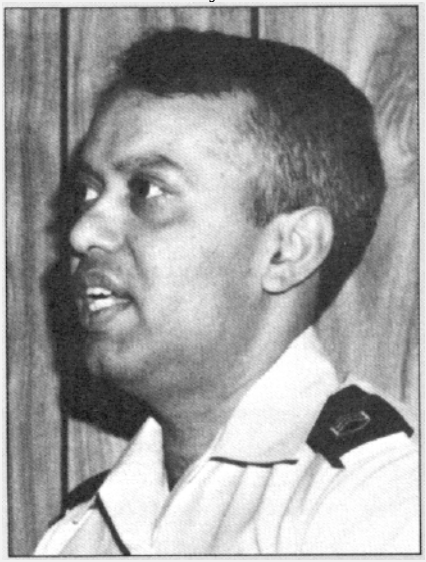
I never asked the Army to give me any specific training or choice of station. Yet I've had a very wide variety of assignments. I think that helps in your overall development because the more diverse your training and assignments, the more "complete" a soldier you become.

How are you continuing to develop yourself?

A soldier has many opportunities at Fort Sill as far as career progression is concerned. I'm also a full-time student at Cameron University [Lawton, Oklahoma], and that's just one example of how soldiers here can develop themselves.

What would you like to tell Field Artillerymen worldwide?

Whatever job you're assigned to and wherever you are in the world, think of the responsibilities you have. Think of that overall picture. Think of your job as important and of the consequences if you're not dedicated to it. The American people have confidence in us and trust us to lead the men and women of the Armed Forces. We need to do our jobs with all the confidence and energy we have. Our country deserves the best.



Staff Sergeant Tejinder Soni, Communications Electronics Department, USAFAS

Sergeant First Class Marty Ray Tally,
Acting First Sergeant, US Army Field Artillery Training Center

---

What's the most challenging part of being a first sergeant?

Not letting my people down. The majority of soldiers I serve with are NCOs, so I have to be an expert. I have to provide the right answers

and, at the same time, I have to be professional and caring enough to admit right up front that I'm not really sure sometimes how to help them. But I definitely do what I can to help them. Because they're NCOs, they expect a lot more out of me. That's probably the most challenging part.

Given your experience, what qualities do you think make a good NCO?

Probably the most important thing I can give my unit, my commander and whomever I serve with is loyalty. Loyalty goes a long way — it's the foundation.

You've also got to be unselfish in your duty. You've got to want to do your job and not just because you get paid at the end of the month. Finally, an NCO should never compromise his integrity.

You're going on to the First Sergeants Course at the Sergeants Major Academy [*Fort Bliss, Texas*]. *What do you think has contributed to your success so far?*

You could probably say being in the right place at the right time. I don't consider myself an above-average NCO. I'm just a noncommissioned officer who cares.

I do believe in the NCO Corps and love the military. I know nothing else. I came right out of high school and joined the military, and the first person I saw was a sergeant. I still remember his name. He was my drill sergeant, and I remember his face and every detail and manner about him. I was impressed by him.

What was it that impressed you?

His pride in himself. If a noncommissioned officer has pride in himself, people see that, and it rubs off. Whether there are good or bad times, his military bearing and his appearance are the standard. That's the way it should be.

I've worked with some excellent noncommissioned officers who taught me a lot, and I've worked with some excellent officers who allowed me to make decisions, whether they were right or wrong. I won't hesitate to say I've made mistakes. But you learn from those mistakes. You should never be afraid to make a decision. You'll find most are the right ones.

Staff Sergeant Paul E. Korhonen
Formerly a Fire Support NCO, Vicenza, Italy

What did you do as a 13F MOS in Vicenza, Italy?

A 13F in a fire support team is where the Finest Infantry Soldier of Today (FIST) is. Because you're ***with*** the infantry, that's what you ***are*** in their eyes. You coordinate all the Field Artillery assets along with the mortars, naval gunfire, close air support and whatever assets are available to you. The fire support sergeant runs the show for the company, and then he coordinates with the fire support officer in the battalion.

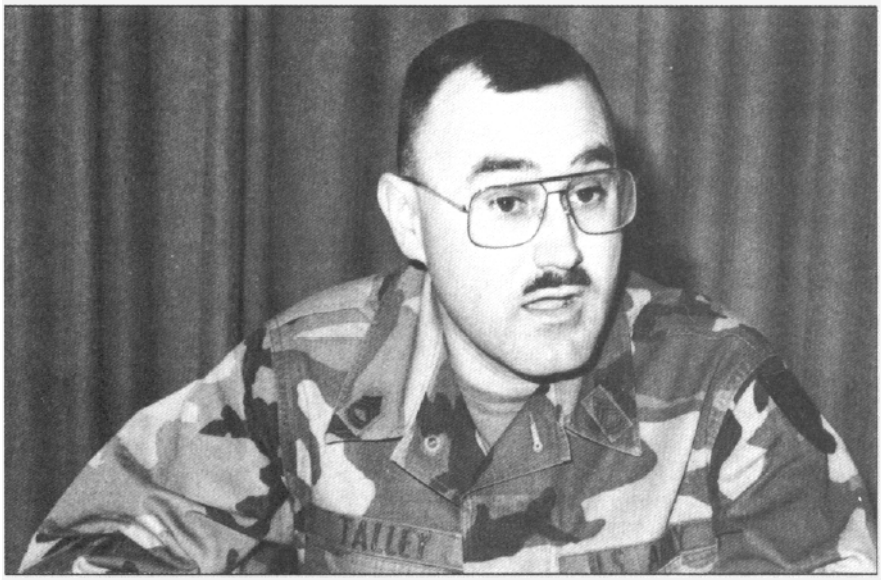
Staff Sergeant Paul E. Korhonen, Currently a G3 NCO, III Corps Artillery

What makes an effective NCO?

To be an effective NCO, you have to be proficient in your job. For any NCO to be able to teach soldiers, he has to know what he's talking about. And if you're positive about your work and you're outgoing, your soldiers are going to pick up on that. They'll try to emulate your behavior.

If you had one message you could send to NCOs, what would it be?

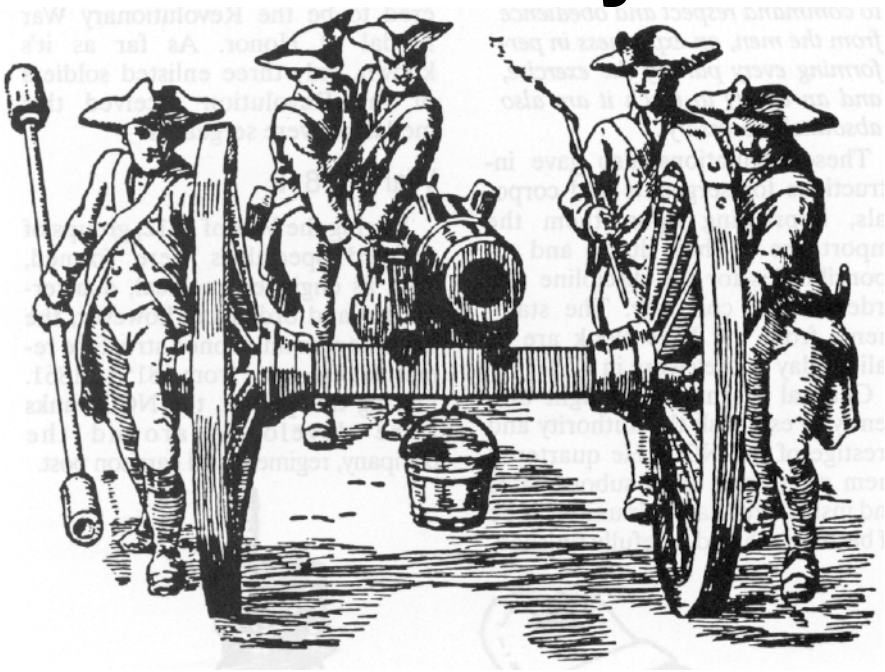
Communicate with your soldiers. That's the main thing I see that's not happening. NCOs don't communicate with them enough, whether it's good or bad news. Soldiers need a lot of direction and need to be trained and advised on certain things. More communication between the NCOs and soldiers is the key.



Sergeant First Class Marty Ray Talley

Linda Young

A Brief History



of the Backbone of the Army

This article is a condensation of an anonymous handout from the Sergeants Major Academy, Fort Bliss, Texas, titled "History of the NCO." Major Michael B. Kelly, Military History Instructor in the Fire Support and Combined Arms Operations Department of the Field Artillery School condensed the article.

The position of NCOs is epitomized by Rudyard Kipling in his poem "The Heathen," in which he states: "The backbone of the Army is the noncommissioned man." Our NCOs are the foremen in the Armed Forces of the nation. They execute the plans and policies of the officers, conduct the daily business of the Army, train soldiers and focus on the standards, care and professionalism of NCOs and enlisted personnel. Throughout history, the NCO truly has been the backbone of the Army.

The First NCOs

We can trace the first hint of a soldier's serving in a position equivalent to an NCO's back to the Roman legions. Roman commanders found that tactical and administrative requirements of drilling and fielding a successful army absorbed all their time. They turned to the ranks for assistance. They picked exceptional soldiers to be commanders of 10 and assistants to commanders of 100 and 600 soldiers. These hand-picked soldiers supervised individual training, carried out plans and performed administrative and logistical tasks. They were called *principalis* and were the first "noncommissioned officers."

In 1445, Charles VII of France founded Europe's first standing army since the days of the Roman Empire. It was composed of "Bandes" (regiments) divided into eight companies.

The senior NCO of each company was given the title of *sergeant*. His assistant was called the *caporal* (our corporal), derived from the Italian *Cazo de Squadra* or head of a squad. Subordinate to him, the *Lance Spessade* (lance corporal) became an element in the chain of command.

The sergeant major was responsible for drill and order during march; however, he was still a senior commissioned officer. His full title was "sergeant high general." In 1685, this title was abbreviated to "major general." Many years would pass before the term sergeant major would join the NCO ranks.

Inevitably, the NCO became the medium through which communication was established between officers and enlisted soldiers. The distribution of NCOs throughout the ranks ensured control, swift transmission of orders and a steady influence on the rank and file soldiers.

By the first quarter of the 18th century, the various national armies adopted very similar organizations with much the same complement of officers and NCOs.

An English Field Artilleryman in 1770

American NCOs

The origin of the NCO in the American Army goes back to the formation of the Continental Army in 1775. Early organization of our Army was modeled after the British concepts. Officers were appointed

A Continental Army Field Artilleryman in 1775

(or elected) to command or to serve on staffs. These selections were based on wealth, education and social status. Sergeants, however, were appointed (or elected) from the ranks based on their performance.

First Regulations

There was little uniformity in qualifications, duties and standards until General George Washington appointed Baron von Steuben as the first Inspector General of the Army on 5 May 1778. He began working with the disheartened American troops at Valley Forge.

On 29 March 1779, Steuben's *Regulations for the Order and Discipline of the Troops of the United States* appeared. It was our official manual for the next 33 years. Commonly known as the "Blue Book," it contained the fundamentals of guard duty, organization, field operations and drill and served as a leadership guide for the commandant of a regiment down to the corporal.

The instructions for the commandant of a regiment stated:

> *The choice of noncommissioned officers is also an object of the greatest importance: the order and discipline of a regiment depend so much upon their behavior that too much care cannot be taken in preferring none to that trust but those who by their merit and conduct are entitled to it. Honesty, sobriety and a remarkable attention to every point of duty, with neatness to their dress, are indispensable requisites; a spirit to command respect and obedience from the men, an expertness in performing every part of the exercise, and an ability to teach it are also absolutely necessary....*

These regulations also gave instructions for sergeants and corporals, impressing upon them the importance of their duties and responsibilities for the discipline and order of the company. The statements from the Blue Book are as valid today as they were in 1779.

General Washington sought diligently to establish the authority and prestige of the NCO. He quartered them away from their subordinates and instructed that their uniforms be of better cloth and carefully finished.

To distinguish the rank of NCOs, General Washington ordered cloth epaulettes for the right shoulder: red for sergeants and green for corporals.

Revolutionary War

In July of 1775, Sergeant William Jasper enlisted in the 2d South Carolina Infantry. His efforts were rewarded by almost instant promotion to sergeant. During the defense of Charleston in 1776, he recovered the fallen flag and, in the face of deadly fire, attached it to a sponge-staff and remounted the flag on the walls of the fort. He was later killed while planting the colors of the 2d South Carolina on the Spring Hill redoubt in the assault of Savannah, Georgia, on 9 October 1779.

Sergeant Daniel Brown of the Fifth Connecticut Regiment, on the night of 14 December 1781, led an attack on a British redoubt. Through searing fire and obstacles, Sergeant Brown succeeded in capturing the British redoubt. He was awarded the Order of the Purple Heart, considered to be the Revolutionary War Medal of Honor. As far as it's known, only three enlisted soldiers of the Revolution received this medal; all were sergeants.

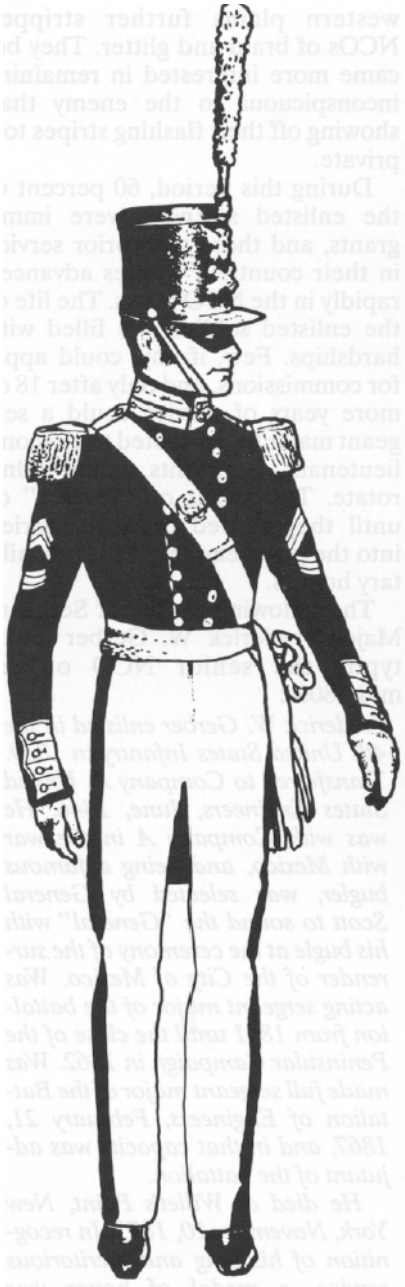
War of 1812

During the War of 1812, groups of enlisted specialists were formed, such as engineer, medical, quartermaster and ordnance; however, the basic noncommissioned structure remained the same from 1815 to 1861. During this period, the NCO ranks were developed around the company, regiment and garrison post.

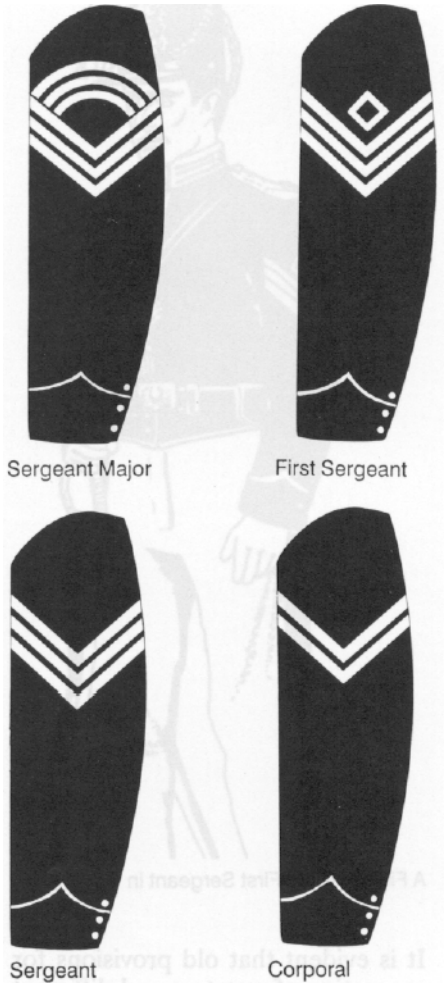
A US Artillery Sergeant in 1812

In 1821 under the guidance of General Winfield Scott, the first "General Regulations for the United States Army" were introduced. These regulations established the methods for appointing NCOs and a "ladder of rank," which sequenced the noncommissioned ranks.

A US Artillery Corporal, 1825-1832. The 1821 "Regulations" introduced the white chevron.



An American Sergeant Major of the Field Artillery, 1851



By the beginning of the Civil War, the chevrons of the NCOs' uniforms were designed with the points down.

Changes in the basic NCO structure between 1821 and the Civil War were minor. The position of the company first sergeant was formally recognized in 1832 by a distinctive uniform. The major dilemma of the period seemed to be the proper place for specialists. Although they were afforded no place in the line of command, they did enjoy a higher pay scale. For example in 1833, a sergeant major received $16 while an ordnance sergeant, a specialist, drew $17.

Civil War

The enlisted structure on the eve of the Civil War was not markedly different from that existing at the end of the War of 1812. The hierarchy of regimental sergeant major, company first sergeant, company sergeants and corporals remained the structure.

Expansion of Specialty Categories. Some expansion of NCO ranks took place to ensure the performance of service and supply functions in the field; however, most specialty services were accomplished by detail or civilian hire. The increased use of cavalry created a demand for soldiers skilled in the care of horses. The engineers were expanded, and the addition of the telegraph saw the birth of the Signal Corps. Also, the commissary sergeant, wagoners, additional hospital stewards, veterinarians and saddlers were trained and added to the growing numbers of specialty jobs.

As the demand for specialty ranks increased, special pay was appropriated to attract ordnance, engineer, medical and signal personnel into the service. An Army pay scale on 20 June 1864 reflected that sergeants of engineer, ordnance and signal corps received $34 per month while the highest ranking line NCO, the sergeant major, received $26 per month.

By the end of the war in 1865, there were 29 enlisted categories. Once again, the steady creeping advancement in technology was making itself known.

NCO Prestige. It is difficult to accurately measure the prestige enjoyed by NCOs during the Civil War. It can be assumed that it was far less than that in a peacetime Army.

A Field Artillery First Sergeant in 1861

It is evident that old provisions for separation of quarters and different messes for enlisted and NCOs gave way with the Army in the field. Also, the distinctive and elaborate dress, trappings and insignia worn by prewar NCOs disappeared under the field conditions.

In addition, men of some volunteer regiments from some localities were far too familiar with one another. Thus, the authority and prestige of the NCO in the field Army at war were threatened, and several years would pass before the noncommissioned ranks would again carry an unquestionable stick of authority.

At the end of the Civil War, the Army became a small, regularly garrisoned force in posts and stations scattered over the United States. In 1866, the Army's strength was 54,000; however by 1875, it was reduced to 25,000.

Mid-1800s

The Army moved from the battlefields of the East to the plains of the West to protect settlers from Indians. The hard campaigning on the western plains further stripped NCOs of braid and glitter. They became more interested in remaining inconspicuous to the enemy than showing off their flashing stripes to a private.

During this period, 60 percent of the enlisted strength were immigrants, and those with prior service in their countries' armies advanced rapidly in the NCO ranks. The life of the enlisted soldier was filled with hardships. Few, if any, could apply for commissions, and only after 18 or more years of service could a sergeant major be promoted to a second lieutenant. Sergeants major didn't rotate. They went on "forever" or until they retired or were carried into the post cemetery with full military honors.

The following profile of Sergeant Major Frederick W. Gerber might typify the senior NCO of the mid-1800s:

Frederick W. Gerber enlisted in the 4th United States Infantry in 1839. Transferred to Company A, United States Engineers, June, 1846. He was with Company A in the war with Mexico, and being a famous bugler, was selected by General Scott to sound the "General" with his bugle at the ceremony of the surrender of the City of Mexico. Was acting sergeant major of the battalion from 1861 until the close of the Peninsular Campaign in 1862. Was made full sergeant major of the Battalion of Engineers, February 21, 1867, and in that capacity was adjutant of the battalion.

He died at Willet's Point, New York, November 10, 1875. In recognition of his long and meritorious service, a medal of honor was awarded him by Congress, and at his death, the officers of the battalion wore the military badge of mourning 30 days. He was a man of good education, strong in his likes and dislikes, was a strict disciplinarian, and no one of the members of the old battalion but what will remember well his military commands given with the strong German accent.

Spanish-American War

The Spanish-American War in 1898 didn't produce any significant change in the enlisted ranks except for the battalion sergeant major. Regiments were divided into three battalions with four companies each, needing an NCO at these intermediate levels.

The Spanish-American War, once again, reflected a significant increase in specialist tasks outside the usual realm of military occupations described before the War. The War thus forecasted the central problem of the 20th century — the determination of the place of the specialist within the enlisted grade structure of a quickly developing, sophisticated army.

Congressional Act of 1920

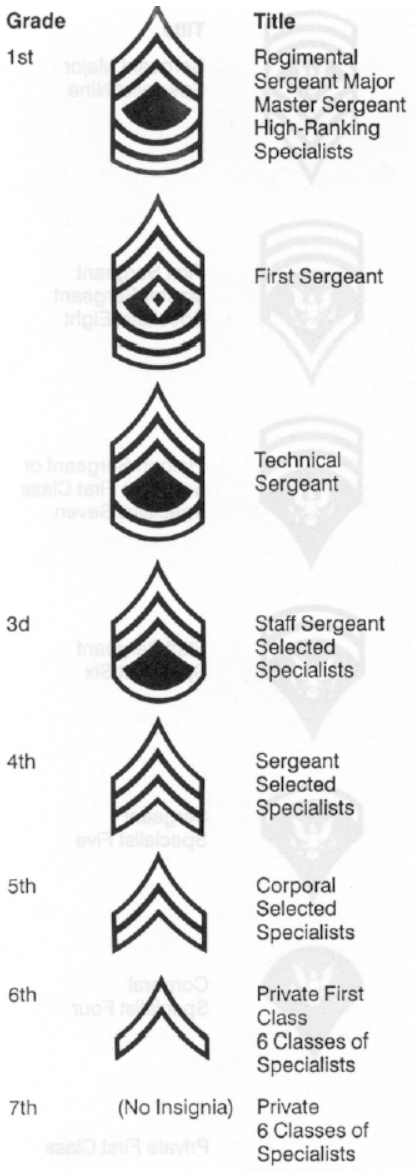
The influence of technology and the increasing role of America in world affairs between 1900 and 1920 caused vast changes in the Army. The development of the division, corps, army and theater headquarters posed new demands for NCO administrative talents. The development of the tank corps brought more demands for mechanics.

As the Army tried to devise a way to distinguish between line NCOs and specialists, the need for specialty ranks resulted in a proliferation of grades, ranks and titles that almost defied description. The prestige of NCOs and rapid turnovers created confusion in the line noncommissioned grades.

As the enlisted rank structure reached a point of crisis, Congress recognized a need to improve the antiquated structure. The Congressional Act of 4 June 1920 offered a solution to the problems by (1) creating a new position of warrant officer for specialist duties, (2) prescribing seven standard grades into which all enlisted soldiers would fit for purposes of pay and rank and (3) setting up a large number of specialists positions in the lower grades that carried additional pay without rank.

This new structure had its drawbacks. The difficulty was in separating NCOs with primary functions of leadership from those whose primary functions were specialized. In 1942, the enlisted structure was reorganized to clarify lines of promotion among technical personnel, to increase promotion opportunities and simplify pay procedures.

The system introduced the technician ratings at pay grades T-5, T-4



The Congressional Act of 1920 defined seven standard grades for the enlisted rank structure.

and T-3. This recognized the specialist by giving him equivalent pay and ranking him just below the NCO of the same grade. This act also advanced the first sergeant to the first grade.

Mid-1900s

The Army emerged from World War II with requirements for a multitude of enlisted technical skills. In fact in 1945, 64 percent of the enlisted soldiers were in technical and administrative occupational specialties. By 1947, 50 percent of the enlisted ranks were NCOs.

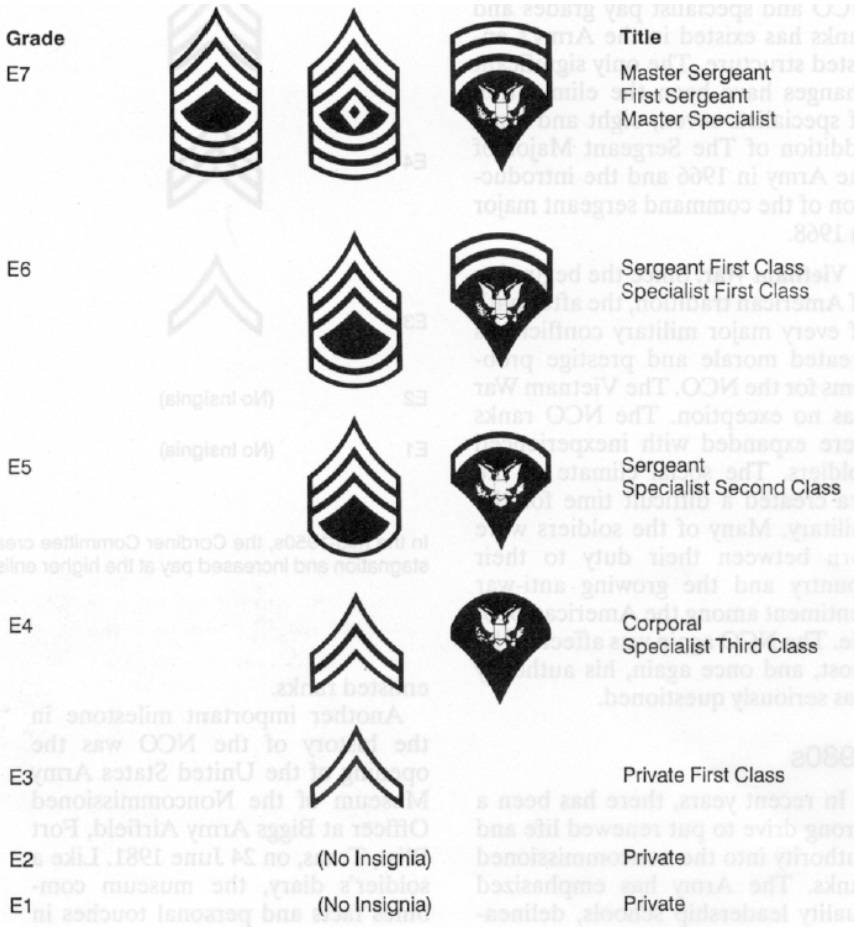
Enlisted Career Plan. Advancement had all but stopped because of compression at the top. Consequently, a new and elaborate Enlisted Career Guidance Plan was announced. All jobs with a regular progression pattern were identified, and promotions were based on competitive examinations. In 1948, the technical ratings were dropped, and all NCOs in each grade, regardless of job, wore the same rank insignia.

Womble Committee. When the Korean War started, the Enlisted Career Guidance Plan proved to be entirely too elaborate and inflexible. It was terminated and enlisted promotions reverted to the old system of filling position vacancies.

After the Korean War, a very serious concern over the decline in the attractiveness of a military career developed at the highest levels of government. The Secretary of Defense established the "Womble Committee" in 1953 to investigate this problem. The Committee concluded that "technocracy" had been overemphasized to the detriment of command ability and recommended that command responsibilities be distinguished and prestige restored by increasing the authority of both officers and NCOs.

On 1 July 1955, a "package" was established to set up a new enlisted structure of seven pay grades. The era of the specialist was introduced. The effect of the changeover was a reduction of NCOs from 42.1 percent of the enlisted strength to 22.4 percent. The intent of the specialist program was to increase the prestige of the NCO by identifying him as an enlisted commander of troops. The NCO was now primarily responsible for enlisted leadership.

Cordiner Committee. The years 1955 and 1956 continued to see a steady loss of officers and enlisted leaders and specialists in the more technical MOSs. As the problem increased, the Secretary of Defense appointed the "Cordiner Committee" to consider possible reasons for the exodus from the Army. They



The 1955 enlisted structure restored the prestige of those with command responsibilities.

found that soldiers left for higher paying jobs and also because of a lack of promotion potential. Many NCOs had reached the highest rank early in their careers and had no where to go.

The Cordiner Committee recommended more pay at the higher enlisted structure and two additional pay grades to relieve rank stagnation. They created a grade structure of nine pay grades with various title and grade changes. The positions of sergeant major, first sergeant and platoon sergeant were enhanced by making them titles of rank rather than job descriptions. Before this, the battalion sergeant major, the first sergeant and platoon sergeant were all compressed at the same pay grade of E7. They had no further advancement potential and were delineated only by title. The Committee also introduced the specialist professional pay system to keep highly trained technicians in the Army.

Thus since 1958, a dual system of NCO and specialist pay grades and ranks has existed in the Army's enlisted structure. The only significant changes have been the elimination of specialists seven, eight and nine, addition of The Sergeant Major of the Army in 1966 and the introduction of the command sergeant major in 1968.

Vietnam War. Since the beginning of American tradition, the aftermath of every major military conflict has created morale and prestige problems for the NCO. The Vietnam War was no exception. The NCO ranks were expanded with inexperienced soldiers. The social climate of the era created a difficult time for the military. Many of the soldiers were torn between their duty to their country and the growing anti-war sentiment among the American people. The NCO again was affected the most, and once again, his authority was seriously questioned.

1980s

In recent years, there has been a strong drive to put renewed life and authority into the noncommissioned ranks. The Army has emphasized quality leadership schools, delineation of noncommissioned and officer tasks and increased pay at the higher enlisted ranks.

In the mid-1950s, the Cordiner Committee created two additional pay grades to relieve rank stagnation and increased pay at the higher enlisted grades.

Another important milestone in the history of the NCO was the opening of the United States Army Museum of the Noncommissioned Officer at Biggs Army Airfield, Fort Bliss, Texas, on 24 June 1981. Like a soldier's diary, the museum combines facts and personal touches in describing more than two centuries of American war and peace.

Conclusion

Throughout this brief look at the historical evolution of NCOs, they have seen periods of transition and brief crises. In all cases, from Monmouth Courthouse to the rice paddies of Vietnam, the NCO has held the well-deserved and proud position as the backbone of the Army.

Sergeants Make it Happen

This narrative was transcribed from a videotape of the same name produced under the auspices of the Secretary of the Army. The ***Field Artillery*** staff revised it slightly to translate it from a videotape into an article.

NCOs — guarding Army values.

Making it happen.

Sergeant Major Smith is coming to work at 0530 hours in the Iron Brigade of the 1st Armored Division, West Germany. He's one of 787,000 soldiers in our Army. In a way, he's just a number. People sometimes measure armies in numbers — numbers of soldiers, cannon and tanks. But another way we can measure armies is by the values they embrace.

Sergeant Major Smith is more than a number. He reflects a heritage that has been passed down from generation to generation. He's a thread in the fabric of values that makes up the whole cloth of the Army — a cloth woven from a sense of duty, commitment, loyalty, discipline, ability and stamina. And the guardians of those values are our NCOs.

A lot has changed in the Army since those difficult days in Vietnam more than a decade ago. What the Army is today is largely because of NCOs who came out of that period with their values intact. And they passed them along.

Today's NCO guardians are in platoons, companies, batteries and battalions, motorpools and on major exercises throughout the Army. They're not old NCOs, but NCOs with the old values.

They pass them along on Return of Forces to Germany (REFORGER) with thousands of soldiers, vehicles and equipment coming together from all over the world. How do all the things that have to be done to put a unit on the road and into action *get* done? Well, that's simple. Sergeants make it happen.

When I took command of my first battery as a lieutenant in Korea, my first sergeant was about the same age I was. The difference? He had a soldier's experience, knew the troops and spent his time making sure we supported the guns. He taught me what an officer needed to know and was supposed to do. And, nothing changes. As Commandant of the School and CG of Fort Sill, my command sergeant major was that same noncommissioned officer, only now it was "Command Sergeant Major" Ardoin, and he continued to advise me on what my role ought to be. The point is, neither the rank nor the experience of the officer will ever supplant the unique role of the noncommissioned officer, the "backbone" of the Army.

General (Retired) Jack N. Merritt
Executive Vice President, AUSA

The Command Climate

Sergeant Major Smith, the Brigade operations NCO, is coming to work two days before the start of REFORGER. Preparations for the move-out are well under way. If the unit is to be ready to move, he and his other NCOs are going to have to make it happen. That's their job. And leadership in the Brigade sets the climate.

The Brigade Command Sergeant Major:

One of the Sergeant Major's responsibilities toward his NCOs is to give them the mission and let them run with it.

The Brigade Commander:

We focus on training our NCO leadership because the NCOs are the backbone of the Army. And my responsibility to my NCOs is to ensure they have the opportunity to lead and that I don't take that away from them.

The NCO-Officer Team

Some of what the Sergeant Major does may look trivial, but it's problem-solving. Problems come big, and problems come small. But solving them is the difference between success and failure. And that's what sergeants do; make the difference. Solving those problems depends on how they act and react with each other...how they work as a team — NCOs and officers.

Sergeant Major Smith:

The way I would characterize the relationship between the officers and the NCOs in this Brigade is that we all understand what our mission is, because we work so closely putting it together. We have our input. They have their input. They give us directions, and we make it happen.

A Staff Sergeant:

In the S3 shop here, they ask you where you are and if you have any problems. If you don't, they let you execute.

The Room to Grow

When leaders are insecure in their own authority and ability, candor and commitment suffer. They micro-manage. They're afraid of mistakes. A sergeant major once said, "Good sergeants aren't made; they're grown." But growth requires room. Where leaders lack confidence, there isn't room. But one leader with confidence can create a climate where sergeants can grow.

Gary Posselt

Creating a climate for soldiers to grow.

Breaking in lieutenants.

Tom Larsceid

Paying attention to details (C/3-16 FA, West Germany).

...the noncommissioned officers we have today are the best I've ever seen...First, [they] were quality young men and women when they joined the ranks...[and] have continued to grow and develop. Secondly...the NCOES [NCO educational system] has given the NCO Corps a degree of confidence I don't believe we've ever seen before, and they bring that confidence to organizations at every level.

General Carl E. Vuono
Chief of Staff of the Army

A Sergeant:

Sergeant Major Smith lets the NCOs do their job. He says what has to be done, and he let's us do it. And if I have any problems, I come to him and he gives me direct answers. He'll sit down and talk about any personal problems — if you've got faith in him and trust him. He's the kind of guy you can take home to your mom.

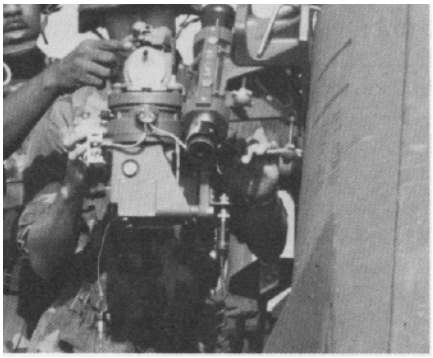
Sergeant Major Smith's Wife:

The first time we were over here in Germany, they gave him a platoon where nobody ever shaved or got a haircut, and everybody's fatigues looked disgusting. He had this platoon two months and they were the best. They did everything they were supposed to. They bragged a lot; but they were good — sort of the dirty dozen philosophy.

Sergeant Major Smith:

I think one of the reasons I can get soldiers to work for me the way I do is because of the way I handle them. I like to take a soldier that's been down and who's had problems in a unit somewhere. I take that soldier, sit him down and explain what I want — how to do it — and then I go back and check on him.

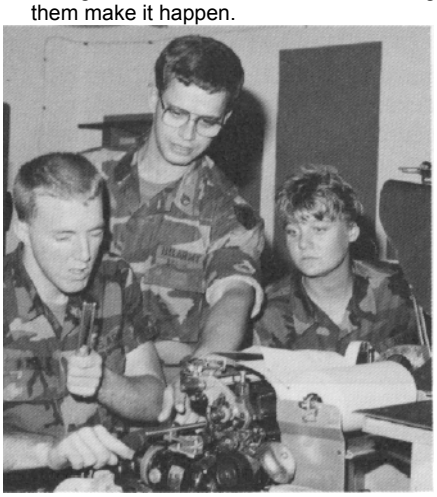
I'm not a screamer. I like to do it the nice, easy way. I tell the guy what I want and ask him if he understands what I just told him. If he doesn't



Focusing on training.

SPC John Morris

Telling others what's needed and letting them make it happen.



Teaching, training, leading — passing values along.

understand, I show him and walk away. When I come back, nine out of ten times that soldier has done what I've asked him to do a lot better than one would if you walked up and forced him to do it.

Our NCOs in Action

Some things aren't learned in school; they're passed along. Good leadership and strong values rub off and breed strong support nets of soldiers who aren't afraid to act.

A Staff Sergeant:

How can I explain Sergeant Major Smith? He's the type of sergeant major who says, "I'm not going to tell you how to do it, and I'm not going to tell you when to do it — you know when it's got to be done." He has enough confidence in me to say, "This guy can handle it. I have nothing to worry about. If I do have something to worry about, then he'll come to me with it." That makes me feel good. It really does.

We're all involved in the motor pool. We've got a motor pool sergeant who's down there all the time, but we all go down there and make sure things are straight. If I'm not around to do it, Sergeant Reed's around. And if we have problems getting parts, Sergeant Major Smith's there. Once he gets involved, we don't have any problems. He's like a magician — the stuff just pops out of the earth somewhere.

The Little Things

Sergeants have to be able to do magic, and at the same time keep their eyes on the small things.

A Staff Sergeant:

The things that make a unit run are the everyday things. An officer always concentrates on the bigger scheme of things. But the NCO is the one who's down there on the line checking to make sure it's getting done by the soldiers and, if necessary, pitching in to get it done.

The NCO Roles

Most officers can single out one NCO as having been especially important to their success. We should never underestimate the influence of that sergeant.

Sergeant Major Smith:

The platoon sergeant plays an important role in the development of a young lieutenant. The lieutenant is the boss of that platoon, and when it rolls out of the motor pool, he's in charge. Now, the platoon sergeant has got to help him. But he's got to do it in such a way that the soldiers don't come back and say the lieutenant doesn't know his job.

An NCO needs to be given a mission — to be told what has to be done. You don't have to tell him how to do it because most NCOs know what to do.

I've listened to a lot of young officers who come to work in our shop, and they'll start saying, "I want 'this' and I want 'that'," and "I want you to do it this way." That's when I step in between the junior officer and my junior NCO and say, "No, we're going to do it 'this' way. This is the way it has to be done, and if you'll just tell the NCO what you want and get out of his way, he'll give you the finished product."

The Brigade Commander:

I look for an NCO to really care about his soldiers because if he doesn't, his soldiers will know it. Usually it will be reflected in a relationship that isn't positive or up-beat, one that doesn't have coaching, teaching and caring.

I want the NCOs to continue to take care of every single aspect of individual training and day-to-day caring for their soldiers. And then if they had to, they could take over leading the unit.

The NCO Values

Sergeant Major Smith and his NCOs are good leaders, but it's more than good leadership. They represent values — values hidden within the successes of every unit in the Army that we all too often take for granted. A sergeant shows those values when he corrects a soldier out of uniform — any soldier, anywhere, anytime...when he breaks in lieutenants so he can show them off as captains...when he knows how to teach and train, when to joke and when to bite. Most importantly, sergeants show those values when they love soldiers and the Army. They're sergeants who make it happen — without whom nothing happens.

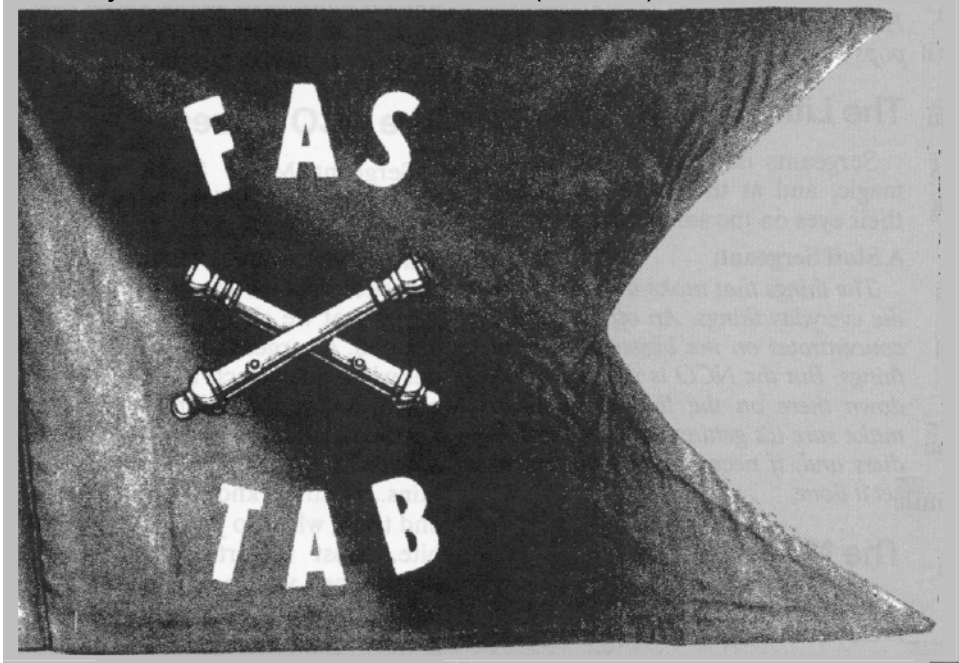
"Sergeants Make It Happen" Videotape

In an up-beat style, this 15-minute videotape outlines the role of NCOs in successful Army units. An eight-page "Discussion Leader's Guide" comes with the videotape to help the unit commander use it in his command information or professional development programs.

Under the auspices of the Secretary of the Army, the tape was distributed to Training Support Centers (TSCs) Army-wide in October 1986. Units can order the videotape from their TSCs by referring to SAVPIN No. 705831DA, TVT No. 22-17.

The Silent Witness

by Chief Warrant Officer Three (Retired) Thomas Curran



At the main entrance to I-See-O Hall, home of the Target Acquisition Department, part of the Field Artillery School at Fort Sill, Oklahoma, there's an impressive collection of mementos. They mark some important event or accomplishment that involved the Department's members. The entrance has trophies that honor athletes and plaques that recognize outstanding instruction. There are gifts from foreign students that praise the various divisions that taught them. But in one corner of this hallway is a guidon of the Field Artillery School Target Acquisition Battery (FASTAB) from 1983. It stands as a reminder of Field Artillerymen who fell in combat.

Beirut

On 28 July 1983, the FASTAB guidon was folded and packed along with other equipment the Battery would need in Beirut, Lebanon. There was an air of excitement as each soldier of the advance party realized he would be putting into practice the skills he had been teaching. Someone once said, "Those who can't do, teach." These soldiers were about to prove that statement wrong.

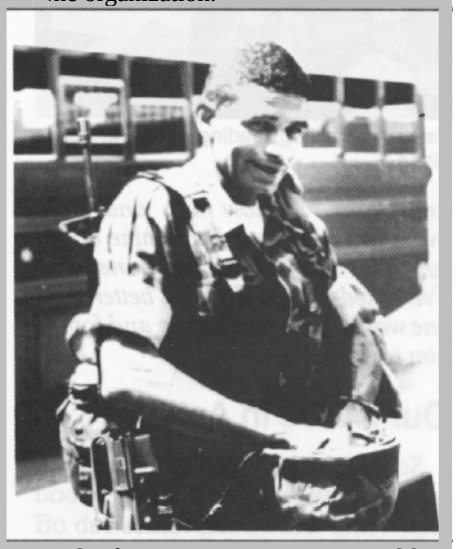
On 4 August 1983 when the main body of the Battery arrived in Beirut, the guidon was already flying over the operations area. The position and azimuth determing system (PADS) section had surveyed two locations for AN/TPQ-36 Firefinder weapon-locating radars emplaced on the north and south boundaries of the Beirut International Airport.

The full complement of 33 soldiers was ready to support the 24th Marine Amphibious Unit, Detachment Q, and the Multinational Peacekeeping Force. That support consisted of locating hostile rocket, artillery and mortar positions and sending those locations to the Marine Artillery for counterfire.

The FASTAB Team

From 4 August to 20 November 1983, the FASTAB guidon was a silent witness to an impressive display of military interoperability. By using the Firefinders' speed, accuracy and ability to interface directly with the counterfire units, the Battery located more than 1,000 targets per day and forwarded them to the target center at the Marine barracks. Four of the FASTAB members lived at the barracks to support the Marines.

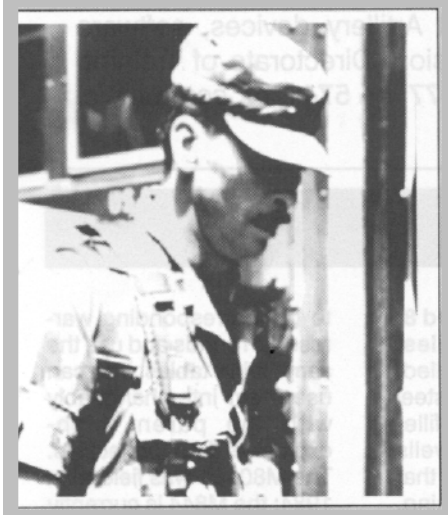
Chief Warrant Officer Three Richard C. Ortiz. He lived at the barracks and was the only Marine member of FASTAB, which made him one of the most valuable members of the unit. With his technical expertise in Firefinder and his understanding of the Marine way of doing things, the Battery depended on him to mold the two services into one organization.



Chief Ortiz was 37 years old, born and raised in New York City, a combat Marine in Vietnam and an 18-year veteran of the Corps. As a

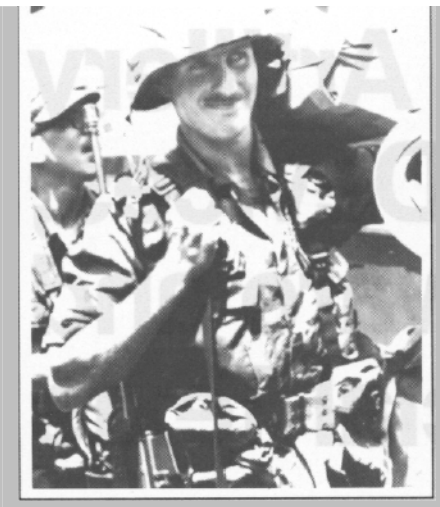
target processing officer in the targeting center, he displayed all the best traits of a technically and tactically proficient leader. Chief Ortiz not only recommended the most opportune targets to shoot counterfire missions against, but he also meticulously evaluated all other targets for intelligence. With the skill of a tactician and the experience of a technician, CWO Ortiz kept the situation map in perfect order.

Sergeant First Class James G. Yarber. Designated FASTAB's acting First Sergeant, he would have taken offense at the term "acting." He *was* the first sergeant. At 37, he was a veteran of three tours in Vietnam and 19 years in the Army. He took great pride in being an NCO and could blend just the right amount of discipline and compassion when dealing with his soldiers.



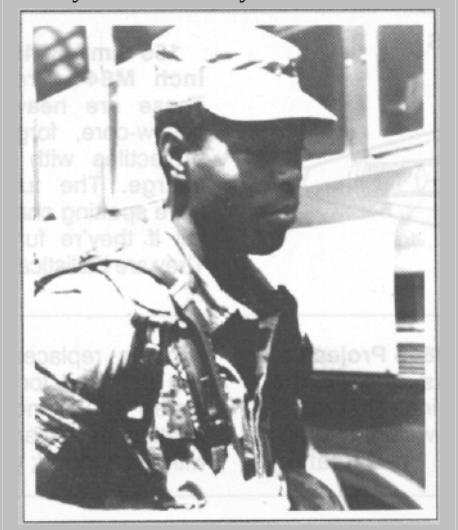
As the first sergeant, he took the time to ensure his soldiers got what they needed. From getting extra rations to finding sturdy building materials to harden the radar positions, Sergeant First Class Yarber could be counted on to produce. As an expert radar operator, he would sit in for a crew member on his daily inspections of the two sites. Always setting the example, he won the respect and admiration of the soldiers he led.

Specialist Fifth Class Daniel S. Kluck. At 27, he was the senior direct support radar repairman (MOS 26BX5) for FASTAB. His job required him to stay close to the radar and work with the operators and organizational repairmen. A welcome addition to the radar crew,



he gave the others a sense of security that the system wouldn't develop problems while he was there — contractor engineers often asked his opinion on troubleshooting techniques. Specialist Fifth Class Kluck often visited Navy technicians at the Marine barracks to "talk shop" or borrow test equipment.

Specialist Fourth Class Marcus E. Coleman. He arrived with the FASTAB as a radio operator. In only a few days, he proved he was a target processing expert. At 19, he was the youngest member of the unit, having been in the Army for less than a year.



A quiet person coming from a large family of nine brothers and sisters, he found it easy to live in close quarters. And because he volunteered to work in the target center during his off-duty hours, he lived in the Marine barracks.

The Silent Vigil

On the morning of 23 October 1983, the FASTAB guidon witnessed a truck loaded with explosives speed into the Marine Headquarters compound. Driven by a suicidal terrorist, the truck rammed into the barracks and exploded, reducing the building to fire and rubble. The guidon maintained its vigil of the frantic activities to free the wounded and locate the dead from the rubble that once was the living and working area for hundreds of people. It then flew silently as America mourned her servicemen.

On 20 November 1983, the remainder of FASTAB folded and packed the guidon away with other equipment for the trip back to Fort Sill. The guidon was "being relieved" by one of its counterparts, the guidon of the Army Target Acquisition Battery (ARTAB).

A Constant Reminder

Today, the FASTAB guidon's history is noted by a brass plaque that lists the names of the soldiers who met the challenge and set the standard. In its quiet corner, it honors these fine men who lost their lives.

Chief Warrant Officer Three Richard C. Ortiz, USMC
Sergeant First Class James G. Yarber, USA
Specialist Fifth Class Daniel S. Kluck, USA
Specialist Fourth Class Marcus E. Coleman, USA

The guidon reminds us of all it saw — the greatest of sacrifices given by the best we had — all Field Artillerymen, willing and able.

Chief Warrant Officer Three (Retired) Thomas Curran is an international consultant for Firefinder radars. He was a Radar Division Project Officer for more than a year in the Target Acquisition Department of the Field Artillery School, Fort Sill, Oklahoma. His assignments include Radar Detachment Commander, H Battery, 25th Field Artillery, 4th Infantry Division, and Firefinder Maintenance Officer, B Battery, 25th Field Artillery, 1st Armored Division Artillery, both in West Germany. He holds a bachelor's in Business Administration from the University of Maryland and is a master's degree candidate at Cameron University, Lawton, Oklahoma.

Field Artillery Training Devices, Software and Special Texts

Training is the cornerstone of readiness, and the first-line leaders in the Army are NCOs. The best doctrine and equipment and the highest quality of young soldiers are of little use unless those soldiers are well-trained and led.

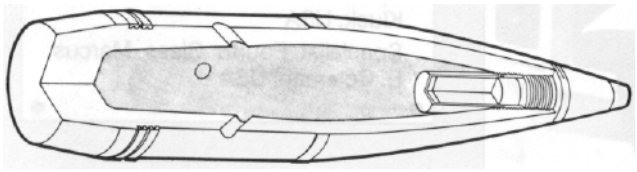
General Maxwell R. Thurman
Commanding General
US Army Training and
Doctrine Command

The quality of the Army is linked directly to our NCOs, whose primary responsibilites are to develop the individual skills of their soldiers. To help our NCOs carry out their responsibilities, this article by departments of the Field Artillery School lists training tools: devices, interactive video disk (IVD) courseware and special texts. They're available in units, or units may get them through their supporting training service centers (TSCs). In addition, *DA Pam 310-12 Index and Description of Army Training Devices* outlines training tools available Army-wide.

If NCOs have questions or need more information about Field Artillery devices, software or texts, call the Training Devices Branch of the New Systems Division, Directorate of Training and Doctrine (DOTD), Field Artillery School, at AUTOVON 639-5077 or 5741 or commercial (405) 351-3026 or 5741.

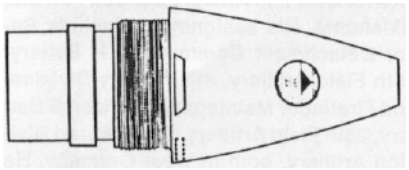
Devices

Projectiles, Fuzes and Propellants



155-mm M804E1 and 8-Inch M844 Projectiles. These are heavy-walled, hollow-core, forged steel projectiles with no filler charge. The fuze wells have spotting charges that tell if they're functioning. They are ballistically similar to the corresponding war-reserve rounds and use the same firing tables. You can use them interchangeably with the parent high-explosive (HE) projectiles. The M804E1 was fielded in 1984; the M844 is currently under development.

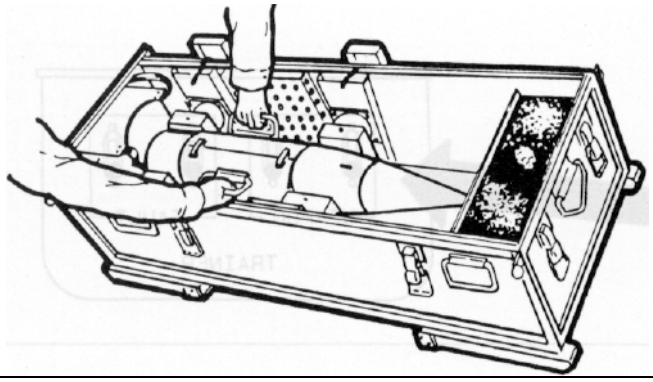
8-Inch M845 Projectile. The M845 is similar to the standard 8-inch HE projectile in size, weight and appearance. The rotating band is replaceable and can be used for approximately 100 rounds. Three rotating bands are issued with each round; you order additional rotating bands through supply channels. This training round may be extracted with a bell rammer or the H4277 extractor.



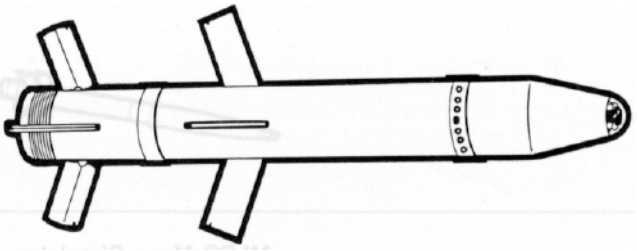
Training Fuzes, Propellants and Projectiles. Currently, you can get training fuzes and propellants through your supporting TSCs. For example at Fort Sill, the M564, M565, M577 and M728 fuzes are available. These are plastic fuzes that facilitate fuze-firing training. Also, exact replicas of real powder increments are available.

Training projectiles are available, which are constructed of plastic foam and are the actual size and shape of rounds with colored markings to represent different rounds. These rounds can replicate 105-mm, 155-mm and 8-inch projectiles.

Nuclear Weapons Projectiles. These allow special weapons assemblers and cannon crewmen (additional skill identifier — ASI J4) to learn and rehearse assembly, maintenance and preparation for firing of the 155-mm and 8-inch nuclear projectiles. Units can ram and extract these training projectiles using the H4277 extractor.

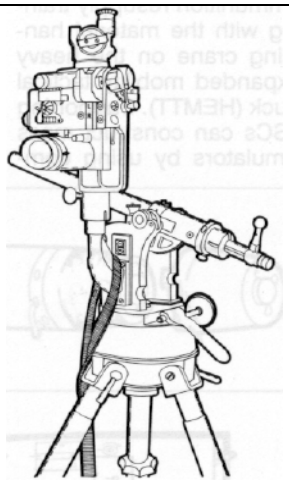


Copperhead Round. The M823 Copperhead training round simulates the tactical M712 round for weight, center of gravity and external appearance. The components include a nose cone, modified closure plug, plastic obturator and body assembly with code and time switches. These training projectiles provide crew training in packing, unpacking, time and code setting, ramming and extracting tasks. Units can use the training rounds on the family of 155-mm howitzers.

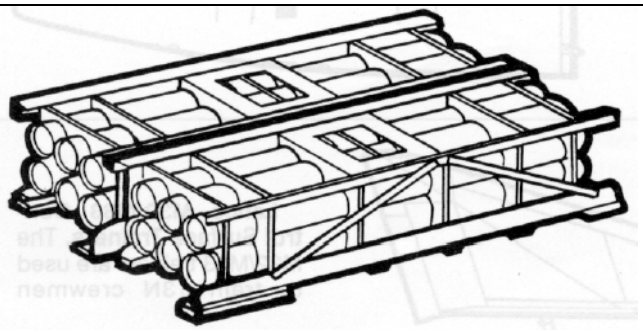


Trainers

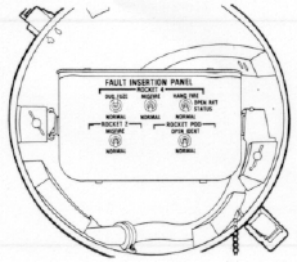
14.5-mm Field Artillery M-31 Indirect Fire Trainer. The M-31 is a low-cost, subcaliber training device that allows batteries to conduct supplemental proficiency training. It has a bolt-action, single-shot, rifled-barrel assembly designed to be fired from either a tripod mount with sights or from inside the breech of any of our current howitzers with howitzer on-carriage fire control equipment. Different kits are available for M101A1, M102, M114A12, M109/M110 and M198 howitzers. Units can use the device to train MOSs 13B, 13E and 13F. A close-in, one-tenth scale range specifically set up for the M-31 is required to train MOS 13F; therefore, it may be more convenient to use the TSFO for this MOS.

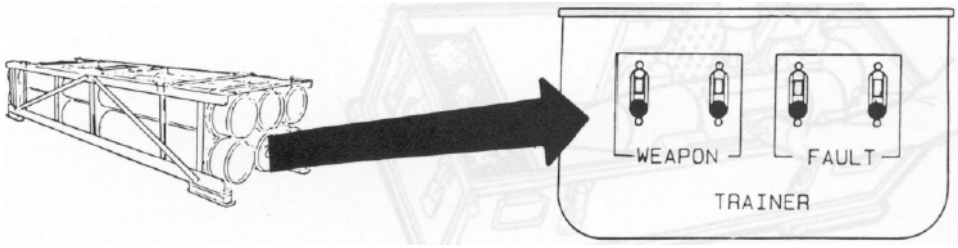


MLRS LP/CT. The multiple launch rocket system (MLRS) launch pod/container trainer (LP/CT) is a rocket replica of the tactical LP/C without live rockets. It has a series of electrical circuits that indicate to the operator the condition of each simulated rocket.

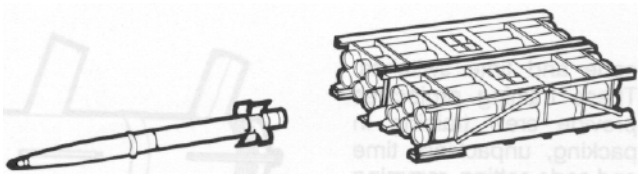


Army TACMS M/LPAT and Fault Insertion Device (FID). The Army tactical missile system (Army TACMS) missile/launch pod assembly trainer (M/LPAT) currently under development is a replica of the tactical M/LPA without the live missile. It has a series of electrical circuits that indicate to the operator the condition of the simulated missile. The M/LPAT simulates up to 36 different munitions, currently including M77, anti-tank (AT/2), sense and destroy armor (SADARM), terminally guided warheads (TGWs), binary chemical warheads (BCWs) and Army TACMS Blocks I and II.

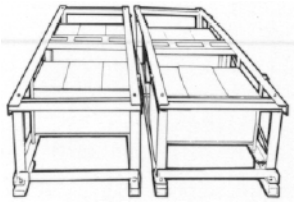




The FID is mounted in the MLRS LP/CT and Army TACMS M/LPAT. It interjects "faults" into the simulator box for both the MLRS LP/CTs and Army TACMS M/LPATs. The FID requires the fire control panel operator in the cab of the armored vehicle-mounted rocket launcher (AVMRL) to react.

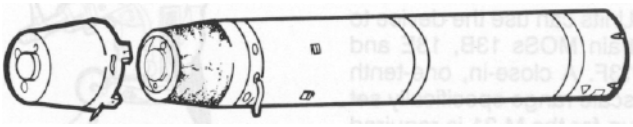


MLRS Practice Rocket. This practice rocket allows Army training installations to live-fire MLRS. It's ballistically similar to the tactical rocket but has an iron-pipe ballast warhead and spotting charge rather than dual-purpose submunitions.

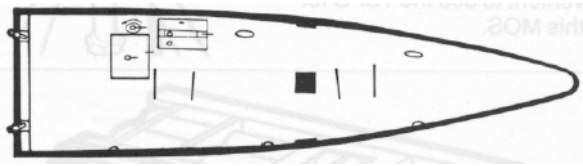


MLRS Mass Simulator. The simulator is for use in am`munition resupply training with the materiel handling crane on the heavy expanded mobility tactical truck (HEMTT). Supporting TSCs can construct mass simulators by using common angle iron and sheet metal or by filling expended rocket pods or containers with concrete. Fort Sill's TSC initially made 80 and has the diagrams (with dimensions) available for units wanting their TSCs to construct them.

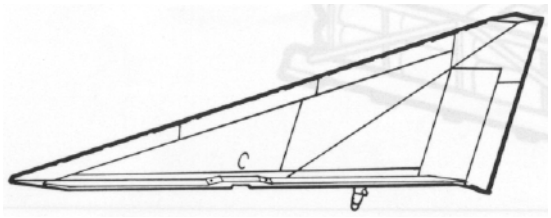
To get the diagrams, units may write the Training Support Center, Devices Branch, ATTN: ATZR-TS, Fort Sill, Oklahoma 73503-5100 or call AUTOVON 639-3502 or 2178 or commercial (405) 351-3502 or 2178.



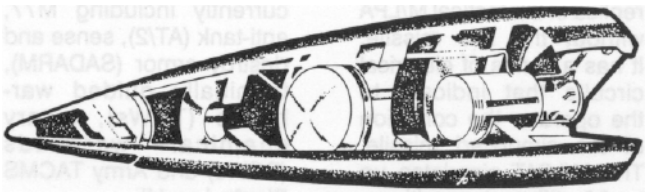
Lance M6 Missile Main Assembly Trainer. The M6 trainer prepares 13N lance crewmen to fire without using a tactical missile main assembly.



Lance M240 Nuclear Warhead Trainer. The M240 trainer is an inert warhead section used to train 13N crewmen without using an actual tactical nuclear warhead.

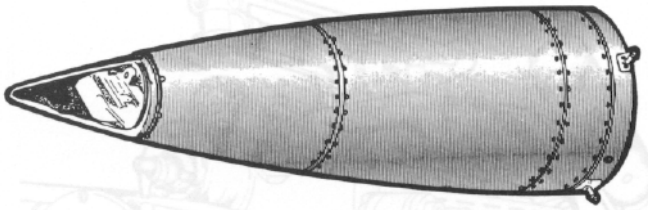


Lance M32/M33 Control Surface Trainers. The M32/M33 trainers are used to train 13N crewmen to install, maintain and inspect control surfaces of the M240 nuclear warhead (M32) and the M201 conventional warhead (M33).

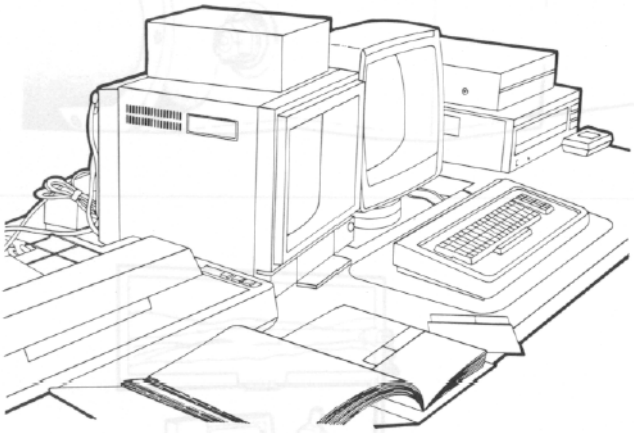


Lance M201 HE Warhead. The M201 trainer is an inert warhead section used to train 13N crewmen without using an actual HE warhead section.

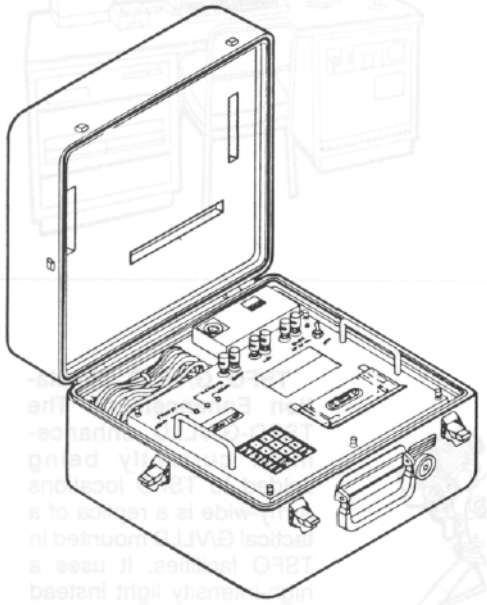
Lance M252 Practice Warhead Section Trainer. The M252 is used by Lance field units to simulate the tactical warhead during actual missile firing. It supports annual service practice for training and evaluating Lance firing battery personnel.



GUARD FIST II. The Guard unit armor device (GUARD) full-crew interactive simulation trainer (FIST) is an observed-fire trainer, which is being developed around the electronic information delivery systems (EIDS). The hardware configuration mandates an instructor-to-student ratio of 1:1. This device will allow National Guard and Army Reserve units to train for observed-fire tasks.

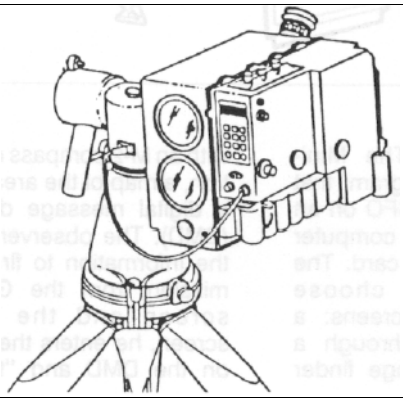


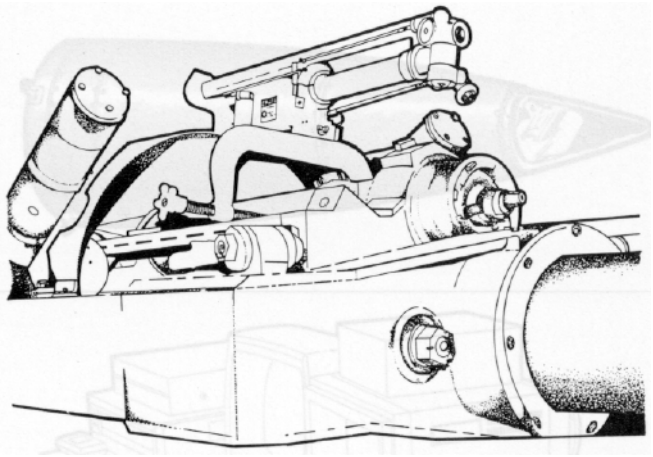
BCS-ITS. This battery computer system (BCS) interface training simulator (ITS) simulates the digital traffic of Field Artillery tactical data system (FATDS) digital devices usually associated with BCS and fire direction system (FDS) tactical systems. It consists of a series of modem boards, a tape cassette and a tape transport unit, which is hardwired to the tactical system. Using this device, BCS/FDS operators can experience total FATDS message traffic via a scenario-driven lesson cassette when other elements of FATDS are not available for training.



HGSS. The Hellfire ground support system (HGSS) currently being developed will be used to train soldiers on the ground-vehicular laser locator designator (G/VLLD). It has laser-optical and visual-optical paths and accurately duplicates the interfaces (mechanical, size and weight) of the G/VLLD. It stimulates the target-designation and rangefinder capabilities of the G/VLLD for field training.

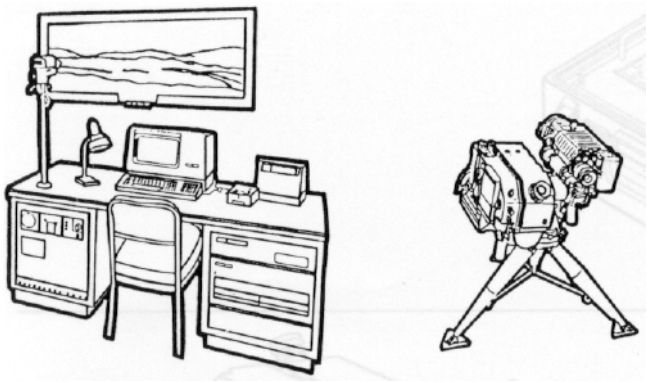
The system simulates the lethality of modern weapons and provides realistic casualty assessment. The device is eye-safe and has no safety restrictions. Units will be able to use it at local training areas. It will support initial training at the Field Artillery School.





ADFT. The artillery direct-fire trainer (ADFT) is used to train 105-mm and 155-mm crews in direct-fire tasks. It uses a helium neon laser attached to the howitzer tubes and has a 1/10 scale range out to 160 meters. Hits are scored by engaging either a moving or stationary retroflective target.

TSFO. The training set, fire observation (TSFO) is an electro-mechanical device to train up to 30 forward observers (FOs) in a classroom environment. It simulates the delivery of artillery fire through interchangeable terrain scenes projected on a screen. The trainer can engage fixed and moving targets from one of four 155-mm battery locations. It simulates air, graze and mixed bursts to scale with respect to observer-target range.



TSFO G/VLLD Simulation Enhancement. The TSFO-G/VLLD enhancement currently being fielded to TSFO locations Army-wide is a replica of a tactical G/VLLD mounted in TSFO facilities. It uses a high-intensity light instead of laser components and interfaces directly with the TSFO screen. This device is used to train soldiers in all critical tasks, as opposed to its predecessor, which could be used to train only tracking skills. The TSFO-G/VLLD uses existing G/VLLD-T tripods and traversing units.

Mini-TSFO. The Mini-TSFO is a program that simulates the TSFO on an IBM-compatible computer with a graphics card. The observer can choose among three screens: a target viewed through a GVS-5 laser range finder with an M-2 compass direction, a map of the area and a digital message device (DMD). The observer gets the information to fire the mission from the GVS-5 screen and the map screen, he enters the data on the DMD and "transmits" the message. He "receives" a message to observer (MTO), shot and splash, then observes his rounds impact through the GVS-5. After firing for effect and transmitting his end of mission (EOM) message, he receives a brief critique. Three different target scenes are available.

The program disk is available at no cost through the Information Management Office. Send a formatted diskette to the U.S. Army Field Artillery School, ATTN: ATSF-SD (Computer Lab), Fort Sill, Oklahoma 73503-5600.

TSFO Terrain Scene Library. The Field Artillery School is developing a library of 35-mm slides of various terrain scenes from around the world. Units will be able to use the scenes on the TSFO to train FOs on a variety of terrain images, to include general defense plan (GDP) and major training center landscapes. The library should be available in late FY 90.

Interactive Videodisc (IVD) Courseware

VFMED

This EIDS-delivered program provides a complete overview and orientation for the variable format message entry device (VFMED). However, it does not provide detailed operator instructions.

FSV Targeting Station

The fire support vehicle (FSV) courseware will be used to train soldiers in 17 tasks in the operation of the targeting station. It will include skill level 1 and 3 applications. The courseware is being developed and will be completed in 4th Quarter, FY 90.

PADS

The position and azimuth determining system (PADS) courseware will be used to train soldiers in 13 operator and operator-level maintenance tasks. The PADS courseware will be available to units by 1st Quarter, FY 90.

AHIP, OH58D and OH58A/C

This courseware is being developed and will include programs for the Army helicopter improvement program for the OH58D and OH58A/C helicopters. It will be used to train soldiers in 37 tasks involving the operation of the airborne target handover system (ATHS), mast-mounted sight (MMS) and DMD. The courseware will be completed in 4th Quarter, FY 90.

Special Texts

Title	Number
Fire Support Team (FIST) Training Devices Strategy	ST 6-20-30
Lance Missile System Training Devices Strategy	ST 6-42-10
Cannon Systems Training Devices Strategy	ST 6-50-50
MLRS System Training Devices Strategy	ST 6-60-30

Right by Piece

NOTES FROM UNITS

The 141st Field Artillery: Roundout

The Washington Artillery, organized in September 1838, was designated as the 1st Battalion, 141st Field Artillery, and was assigned to the 256th Infantry Brigade of the Louisiana Army National Guard (ARNG) in December 1967. In 1976, as part of the Total-Force concept, the 256th was selected as a roundout brigade organic to the 5th Infantry Division (Mechanized) at Fort Polk. The roundout mission of the 141st is to mobilize and deploy to a European theater and conduct operations as part of the 5th Infantry Division Artillery.

How does an ARNG roundout battalion prepare for its mission in the event of mobilization? An effective mobilization requires advance planning, meaningful training and proficient execution. Typically, an ARNG Field Artillery unit has 39 days of training per year to sustain the technical and tactical tasks required to conduct offensive and defensive operations in the roles of direct support, general support or reinforcing.

Multiple-Unit Training Assemblies

Before our National Training Center (NTC), Fort Irwin, California, rotation, seven multiple-unit training assemblies (MUTA 5) live-fire exercises were conducted at Fort Polk. Each MUTA 5 is an actual mobilization exercise, entailing the use of alert rosters, advance parties, commercial transportation assets and realistic training objectives for the Battalion to achieve at the mobilization site.

A typical exercise begins with an advance party operating with approximately 60 personnel, comprised mostly of full-time Active Guard and Reserve (AGR) personnel supplemented by part-time or mobilization day (M-day) soldiers. The party receives vehicles and equipment from the maintenance and tactical equipment storage site (MATES) one week before the MUTA and prepositions the tactical vehicles in designated assembly areas. In addition, it draws ammunition and verifies safety data of all ranges involved in the training. Advance party operations are the key to maintaining the citizen-soldier role; the party completely prepares for the exercise by the time the main body arrives, essentially assuring the majority of the M-day soldiers are unaffected by additional requirements generated by a MUTA 5 weekend.

M-day soldiers report to Fort Polk on Friday evening and immediately prepare their vehicles and equipment for a night reconnaissance, selection and occupation of position (RSOP). The firing batteries shoot a check round and prepare for operations at first light. With 300 rounds for training, the objectives for Saturday are shooting, moving and communicating. On Sunday morning, the batteries convoy to the vehicle wash point and motor pool to conduct preventive maintenance checks and services (PMCS). The troops are then transported to home station and released. A rear detachment, primarily AGR personnel, remains at Fort Polk to complete the PMCS and turn in MATES vehicles.

This may seem like an ambitious weekend for a citizen soldier; but considering everything accomplished during the weekend, it's virtually the same as it would be in an actual mobilization. This exercise proves the Battalion can effectively mobilize, deploy and conduct tactical operations. During the NTC train-up year, these MUTA 5 exercises helped the Battalion achieve a state of readiness never before realized. As the first ARNG Field Artillery tactical fire direction system (TACFIRE) battalion to participate in an NTC rotation, the 141st experienced many of the challenges it would face during an actual mobilization.

Roundout Lessons Learned

By executing the Battalion's mobilization plan in preparation for the NTC rotation, we learned lessons that should greatly help the unit in the event of an actual call-up. The Forces Command (FORSCOM) *Mobilization and Deployment Planning System Commander's Handbook* mentions that the basic concept of premobilization processing is preparedness. This concept is certainly true, especially in the areas of personnel and administration, training and logistics.

Preparedness the Key. The "preparation phase" is ongoing in the 141st as we get the unit ready for mobilization by completing all possible peacetime actions. With good advance- and rear-party operations, the only difference in annual training at Fort Polk and training at the NTC or outside the continental US is the travel time of the main body (i.e., from home station to the assembly area).

Family and Employer Support. Issues dealing with family assistance and employer support play a major role, not only during mobilization, but throughout the year. Without the support of the M-day soldier's family and employer, a myriad of problems arise. So it's important to keep the family and employer informed as to what we expect of the soldier. This was one of the most important lessons we learned during the NTC train-up.

TACFIRE Training. In the area of training, we proved we could shoot, move and communicate. However, synchronization of the battle with fire support elements using TACFIRE proved to be our greatest challenge. It requires additional training if we are to provide the support maneuver battalion commanders need. If practice makes perfect, then the seven MUTA 5 weekends demonstrated how repetition can have positive results, particularly

in areas such as TACFIRE operations, battalion and battery fire direction operations and command and control.

Logistics. In the logistical area, we're confident we can move the Battalion anywhere, using our movement plans based on the computerized movement planning and status system (COMPASS) report. We gained valuable experience in rail-load and airdrop operations, as well as in manifesting personnel for airlifts. Logistics package (Logpac) operations do work, and we refined techniques to sustain our tactical operations.

3×8 Challenge

So what does the future hold? The greatest challenges the Battalion will face are yet to come. In late FY 89, the 141st Field Artillery will officially convert to the 3x8 concept. We already have TACFIRE and most of its components, and we have successfully conducted an NTC rotation using this technology. We have received our heavy expanded-mobility tactical trucks (HEMTTs) and high-mobility, multipurpose wheeled vehicles (HMMWVs) and are receiving portions of the other modified table of organization and equipment (MTOE) items, which will help us prepare for the upcoming conversion.

Equipment, such as the fire support team digital message device (FIST DMD), the survey electronic distance measuring equipment — medium range (SEDME-MR), the ground-vehicular laser locator designator (G/VLLD), fire support vehicle (FSV), tactical combat service support computer system (TACCS) and mobile subscriber equipment (MSE) are just a few of the sophisticated items we'll receive. Our greatest test will be fielding and operating this new equipment, all of which will require highly trained soldiers.

By applying the lessons learned from the NTC, we have developed a new perspective on readiness and what is required to support a maneuver brigade in the Airland Battle effectively. With a great appreciation of where the Battalion currently stands with regard to readiness and the upcoming 3x8 conversion, we must determine how to preserve and upgrade this posture yet maintain the traditional role of the citizen soldier.

Training Program Cycle

FM 25-1 Training Land states "deployment and operational training exercises with allies and sister services provide the realistic and mission-oriented training requisite for success in war. Joint and combined training offers an unparalleled peacetime opportunity to exercise and refine the war-fighting capabilities of both Active and Reserve Components." With this philosophy as our guide, we have developed a training program we would like to implement, one that would integrate three types of training years in a 10-year cycle.

The cycle would begin with a NTC rotation in the first year, followed by annual training at the mobilization station in the second and an outside continental United States (OCONUS) annual training period in the third. This cycle would continue, alternating between a NTC rotation or an OCONUS exercise every other year. Each training year would be highlighted by a continuous field training program in which the Battalion conducts a minimum of five live-fire exercises, culminating with annual training.

The most reliable and effective means of supporting this continuous, fast-paced "roundout training program cycle" would be to increase the number of AGR personnel to complement the high-tech aspect of the new equipment. Currently, we have 39 AGR personnel in the Battalion. Each battery has a core of a training NCO, supply sergeant, unit clerk and armorer. The bulk of the AGR force is in the Battalion headquarters section (eight AGR positions) and in the TACFIRE section (seven AGR positions).

In addition, the Battalion is scheduled to convert to the howitzer improvement program (HIP) howitzer, which will create an even greater demand for highly skilled and qualified soldiers. Will our citizen soldiers be able to sustain their proficiency on this state-of-the-art equipment with the traditional one-weekend-per-month training? Could the increase of full-time support personnel resolve this question? The answer to both questions is yes! With an increase in the number of AGR personnel, we'd have a highly trained cadre to maintain the technical standards and proficiency required to provide effective training for the citizen soldier, enabling the Battalion, as well as its divisional counterparts, to be confident the 1st of the 141st Field Artillery can accomplish its roundout mission within the visions of the Total-Force Army.

CPT Earl P. Santos, Jr., FA
Cdr, HHB

CPT John B. Dwyer, FA
Cdr, B Btry

CPT Steven J. Wilson, FA
Cdr, C Btry
1st Bn, 141st FA

FIST Diagnostic

Sergeant Philips couldn't believe his eyes. A minute ago the valley across from him had been as peaceful as a Sunday stroll back home. Now it looked like the New Jersey Turnpike, with Soviet tanks and BMPs on the left, helicopters popping up from behind trees and smoke everywhere. Then as fast as it had all started, it was over.

As he began to relax, he realized that what had seemed like an eternity had really only taken a few minutes. In school, they had always talked about preplanned targets, priority targets and first-round fires for effect (FFEs), but he

had never believed until today just what kind of effects an organized fire support plan could have on the battle. With his fire support team's (FIST) supplying the artillery support, his company had countered an enemy assault in less than 30 minutes.

For years the Field Artillery School has tried to instill in its students the importance of artillery and forward observers (FOs) on tomorrow's battlefield. The artillery can move fires across the battlefield more effectively than any other element of AirLand Battle forces. The current and future suite of munitions will provide the maneuver commander the ability to reduce force ratios quickly to a level where he can take and maintain the offense. But to do so, we must train the "eyes" of the artillery, the FOs, to focus all their abilities accurately, under extreme stress and without hesitation. The 1st Battalion, 27th Field Artillery, at Fort Carson, Colorado, did just that with the help of their training set, fire observation (TSFO).

TSFO Training and Evaluation

Recognizing the need to establish training for 13F soldiers and a diagnostic program to evaluate the level of training each soldier had achieved, the Battalion turned to the TSFO. It gives the commander a relatively inexpensive way to train and evaluate each 13F on hundreds of fire missions and give the soldier immediate feedback.

The TSFO trains FOs realistically to observe and adjust artillery fire and plan fires. It can simulate the visual and sound effects an FO can expect to experience at an observation point (OP) overlooking a typical battlefield. It can simulate the effects of four eight-gun batteries equipped with 155-mm howitzers and a variety of ammunition types. It also can simulate a variety of targets, including machineguns, wheeled and tracked vehicles and helicopters.

The diagnostic evaluation identifies training deficiencies of the individual FO and provides feedback to the section chief and platoon leader. This allows leaders to concentrate on weaknesses of the individuals rather than general subjects that soldiers may have mastered already. The evaluation has three phases. Each represents a milestone the 13F must achieve as he becomes more proficient.

Phase I. This phase identifies the basic 13F tasks each FO knows when he enters the unit:

1. Draw a terrain sketch.
2. Transmit a call for fire.
3. Perform three types of target location: grid, polar and shift.
4. Recognize the need for and respond to an immediate suppression mission.

All standards used for Phase I are from the Army training and evaluation program — *ARTEP 6-400 Field Artillery Cannon Battalion:*

- After the target has been identified, complete a call for fire (CFF) in 60 seconds.
- Locate the initial target within 250 meters.
- Subsequently correct the location in 10 seconds.
- Respond to an immediate suppression mission in 30 seconds, locating the target within 200 meters.
- Ensure fourth-round fire for effect.

The evaluation can provide feedback such as:

1. An FO who is constantly more than 250 meters from the target on the first round needs intensive map reading.
2. An FO whose calls for fire aren't consistent and who constantly leaves out direction before adjusting a round needs to work on proper procedures for the CFF and understand the importance of following them.

Phase II. This phase has a more demanding scenario in which the FO must decide on his own how to attack the target (or targets) and what method would be the most effective. This training gears the FO for collective training at the section and battalion levels. Phase II is the goal for all FOs. It's the sustainment phase and is administered quarterly:

1. Develop a terrain sketch with a priority target.
2. Conduct a precision registration.
3. Execute a low-angle adjustment mission.
4. Conduct simultaneous missions (two targets of equal priority).
5. Conduct a fire mission on large, irregularly shaped targets.
6. Conduct an immediate suppression.
7. Plan for and use priority targets.
8. Execute final protective fires (FPF).

The standards remain the same as in Phase I, except a third-round FFE is required. When a new FO comes to the unit, he uses the bracketing method taught by the Field Artillery School. If his initial target locations are within 250 meters, he can accomplish a fourth-round FFE. But timely, accurate fire on the enemy is critical for effective fire support, so the Battalion developed a third-round FFE during Phase II.

This requires the FO to have faith in his ability to adjust rounds with hasty bracketing. The battlefield will be filled with many distractions, and an FO must be able to take the appropriate action, whether that action is sending an intelligence report or placing a call for fire on an enemy maneuver company moving toward him.

During this phase, we give the FO a stationary target on or near the priority target he identified. This tells if the FO is alert to the availability of immediate fire power. Interestingly enough during the initial evaluations, none of the FOs used the priority target; however, they did send in the grid for the priority target. This achieved similar effects, but we lost a possibly crucial amount of time.

Phase III. This phase evaluates the FO in the more complicated fire support concepts. These include using maneuver overlays and briefings that give the FO the company commander's view of his mission and the

enemy situation. This requires the FO to submit target lists with priority targets. We have him evaluate much more complex missions, including moving targets, smoke screens by the enemy and rounds that either don't move when adjusted or missions that have erratic rounds during the FFE. This realism helps remove the FO from the sterile environment of the test arena and reminds him targets don't sit still.

Other TSFO Training

The TSFO can provide the FO additional training previously prohibited by constrained budgets. It also can help train soldiers in other skills required in the battery. The TSFO provides the perfect weather-controlled "outdoor" classroom. We can give a variety of classes that usually would be subject to weather, transportation availability, transportation time constraints and other considerations associated with field exercises. A few include:

1. Basic map reading.
2. Drawing range cards for machinegun crews.
3. FOs' using the TSFO and sending fire requests to the fire direction center (FDC) set up in a close-in training area, using maps that correspond to the TSFO scene.
4. Training selected maneuver officers and NCOs in the basic CFF commands. (This allows us to teach our maneuver cohorts the concepts of fire support and what it can do for them.)
5. Maneuver tactics.

The TSFO can be an invaluable training device for the commander who takes the time to understand the capabilities of the system. But until the commander supports the system, the TSFO will remain an underused resource.

As Sergeant Philips was preparing to clear the area, his thoughts turned to next week's ARTEP and the missions he had just fired. The time his section had spent firing mission after mission on the TSFO had paid off. ***They were ready!***

Major Benny R. Shelton, FA
Directorate of Combat Developments
Field Artillery School

Cannoneer's Crossword

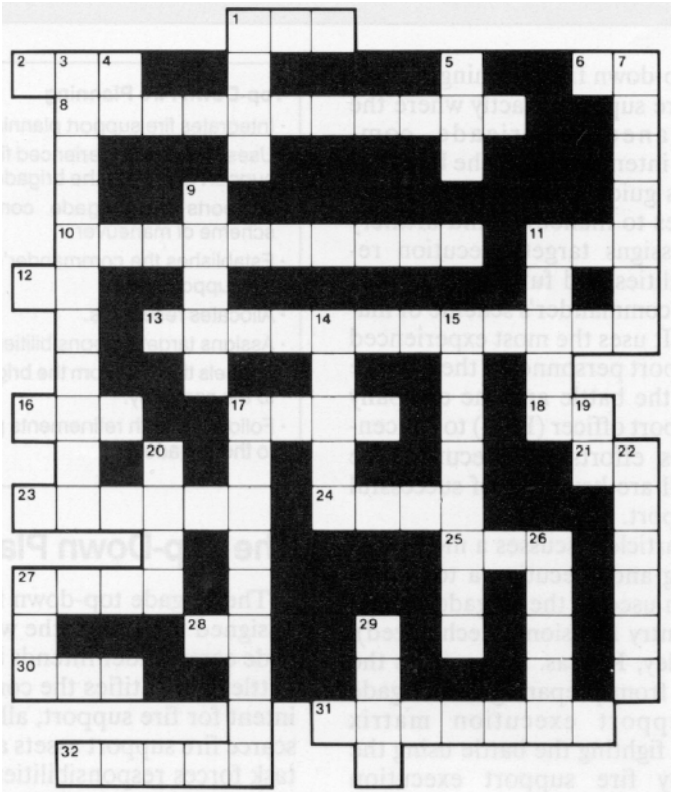
ACROSS

1. 1 of these at 1,000M is 1M (abbreviation).
2. In manual gunnery, he announces SITE (acronym).
6. Best to start a smoke screen with this (acronym).
8. Of target types, these appear suddenly.
10. Used to "cut" angles.
11. A standard tactical mission — it's a combination of two others (acronym).
12. Shell type-TNT filler (acronym).
13. Stars north of the equator have positive ones.
16. M114's nickname.
17. Rule that directions follow (mnemonic).
18. Impact fuze is also this (acronym).
21. M109 and M110, for example (acronym).
23. Employed in offense — two or more targets attacked according to a sequence.
24. The "M" in FASCAM.
25. In manual gunnery, HCO's tool (acronym).
27. This applied to angle of elevation gives QE.
28. Automatic height of burst with this fuze (acronym).
30. Nuclear locking device (acronym).
31. Firing unit of a cannon artillery battalion.
32. Number of inherent responsibilities.

DOWN

1. GS Weapon of the future, fielded now (acronym).
3. An artillery responsibility — firing at enemy artillery.
4. A place for FOs (acronym).
5. Mercator's system (acronym).
7. Circumpolar star.
9. The "L" in SADULU.
11. Used to attack two or more targets simultaneously.
14. FDC abbreviation for this shell that's brilliant.
15. A survey technique — it measures a series of "legs."
17. Find yourself by using this method.
19. A standard tactical mission preferred by manuevering forces (acronym).
20. Deviation spotting for which no correction is necessary.
22. FASCAM, WP and Beehive are some (abbreviation).
26. Method of target location using your location as reference.
27. Remove this charge to use the fuze in 28 Across (abbreviation).
29. FASCAM that's AP.

For the answers to this puzzle, turn to Page 47.



NTC

Part II

Brigade Top-Down Fire Planning and Execution

by Major Peter S. Corpac

This article and the next one, "Fire Support: Parts and Means," are Part II of the three-part series on fire support at the NTC. Part III will run in October and cover the "nitty gritty" of tactical fire direction and rehearsals.

Top-down fire planning focuses fire support exactly where the maneuver brigade commander intends to fight the battle. It provides guidance for and allocates resources to maneuver and artillery units, assigns target execution responsibilities and fully supports the brigade commander's scheme of maneuver. It uses the most experienced fire support personnel in the brigade to plan the battle and the company fire support officer (FSO) to concentrate his efforts on executing the plan. All are key parts of successful fire support.

This article discusses a method of planning and executing a top-down fire plan used in the brigades of the 1st Infantry Division (Mechanized), Fort Riley, Kansas. It examines the process from preparing the brigade fire support execution matrix through fighting the battle using the company fire support execution matrix.

Top-Down Fire Planning

- Integrates fire support planning.
- Uses the most experienced fire support officers in the brigade.
- Supports the brigade commander's scheme of maneuver.
- Establishes the commander's intent for fire support.
- Allocates resources.
- Assigns target responsibilities.
- Funnels the plan from the brigade down to the company.
- Follows up with refinements pushed up to the brigade.

The Top-Down Plan

The brigade top-down fire plan is designed to support the way the brigade commander intends to fight the battle. It identifies the commander's intent for fire support, allocates our scarce fire support assets and assigns task forces responsibilities for firing on critical targets. The initial plan is in place early with refinements pushed up to brigade by a cut-off time.

The advantages of top-down fire planning are that the concept for fire support is developed early, and the artillery battalions and task forces can plan for the battle concurrently. The brigade planning then relies on the most experienced Field Artillerymen in the brigade, the direct support (DS) battalion commander and brigade FSO, and not on the less experienced company FSOs. Finally in high-tempo operations, the top-down fire plan provides a workable plan in a relatively short time.

The documents used to plan and execute top-down fire planning are the fire support execution matrix, brigade target list and an attack matrix. The fire support execution matrix, a one or two-page document, is found at all levels and has replaced the fire support annex to the operations order. It states the commander's intent for fire support, assigns resources and responsibilities for firing on targets by phases of the battle and presents critical fire support information. The brigade target list is the only one used in the brigade and is restricted to a maximum of 60 targets. The attack matrix is a one-page document that

graphically portrays the amount of ammunition needed to suppress, neutralize or destroy certain types of targets.

The Brigade Fire Support Execution Matrix

The planning begins when the brigade commander, DS battalion commander and brigade S2 and S3 receive the mission and begin to discuss how they'll fight the battle. Once the scheme of maneuver and the commander's intent for fire support are established, the brigade begins preparing the fire support plan. And the brigade fire support execution matrix is the key tool in implementing top-down fire planning (See Figure 1).

Paragraph 1. Commander's Intent for Fire Support

The most important part of the execution matrix is the commander's intent for fire support. In very specific terms, it answers the question, "Where, when and how does the commander want fire support to influence the battle?" The answers are tied to specific areas or phases of the battle. This allows the task-force FSO to plan where he can and cannot expect to receive fires. The DS battalion S3 receives this guidance and begins planning for battery positions, movements, ammunition and firing on targets.

Paragraph 2. Fire Support Matrix

The fire support matrix, tied to the phases of the operation, assigns target responsibilities and allocates fire support resources to the task forces. The matrix answers the questions, "What are the targets most critical to the brigade's success, and who is responsible for firing on them?" These targets are closely tied to the scheme of maneuver.

The task force must position at least two observers to see the trigger point and fire the targets, if needed. The primary observer recommends refinement of a target, if it should be repositioned to better support the battle. The matrix allocates the number of priority targets and final protective fires (FPF) for each task force. Finally, it also identifies the location and movement of the fire support coordination measures.

FIRE SUPPORT EXECUTION MATRIX

1. Commanders Intent for Fire Support:

1. SUPPRESSION AND A JAAT INTO EA BRAVADO, VIC 3031
2. MASS ALL FIRE SUPPORT INTO EA DOG, VIC 3429
3. SUPPRESSIVE FIRES IN EA BUGLE
4. MASS FIRES TO SUPPORT BP 42

2. FIRE SUPPORT MATRIX:

	DECISION POINTS				
	PL MACE	PL BOW	PL ARROW	PL SPEAR	
TF 2-16	BB 0029	BB 0007 BB 0008 BB 0017	BB 0013 BB 0009 BB 0015		
TF 4-37	BB 0001 BB 0002 BB 0003				
TF 3-37		BB 0010 GROUP B1B GROUP B3B	BB 0010 BB 0012		
2 BDE					
FPF PRI TGTS	1 PRI TGT - 4-37	2 PRI TGT - 3-37	2 FPF/P TGT - 3-37 1 FPF/PTGT - 2-16		
PRIORITY OF FIRES	TF 4-37	TF 3-37	TF 3-37 0/0 TF 2-16		
CFL		PL BOW (2 BDE)	PL ARROW (2 BDE)		

3. COORDINATING INSTRUCTIONS:

a. The current brigade CFL is *PL BOW*, eff *050600 OCT 88*, on-order *PL ARROW*.
b. Target allocation
   2d Bde - 20
   3-37 - 20
   2-16 - 10
   4-37 - 10
c. TF 2-16 attach 2 FO teams to Brigade deep recon teams.
d. Lasing track positioned vic 3925 to observe EA DOG under Bde control.
e. Movement of decision points when 1st echelon battalions reach each phase line.
f. Voice calls for fire 4-5FA CF2 (SECURE).

4. CRITICAL INFORMATION:

FA ORGANIZATION 4/5 FA(155) DS 2 BDE 1/B/6 FA(MLRS) GS 52 ID	CDR'S ATTACK CRITERIA DESTROY ADA NEUTRALIZE RECON ELEMENTS, BREECHING ENG SUPPRESS ARMOR PLATOONS & LARGER
# BN 3s DPICM TOTAL = 22 TF 3-37 (12) TF 2-16 (6) BDE (4)	HIGH PAY OFF TARGETS ZSU 23-4, SA 9, MRB's CRP (3 BMP, 1 TANK)
MINUTES OF SMOKE/ILLUM TF 3-37 30 MIN SMOKE / 30 MIN ILL TF 2-16 15 MIN SMOKE / 20 MIN ILL	TARGET AREA SURVEY PRIORITY TO TF 3-37 THEN 2-16 - CRITICAL TARGETS - MORTAR FIRING POSITIONS
# OF FASCAM 5 MED DENSITY AVAILABLE BDE (2) TF3-37 (2) TF2-16 (1)	ALLOCATION OF CAS/JAAT (IN PRIORITY) 1. EA BRAVADO, WEST OF PASS - 4-37 2. EA DOG - 3-37 3. EA BUGLE - 4-37

Figure 1: The 1st Infantry Division's Brigade Fire Support Execution Matrix for Top-Down Fire Planning (Continued on the next page)

ACA ALLOCATION
2BDE 20-23, TF 3-37 24-26, TF 2-16 27-29, TF 4-37

ACA 20

PT 1 480315
PT 2 326315

WIDTH 3000 METERS

MIN ALT 300 METERS
MAX ALT 800 METERS

EFF DTG ___ ON ORDER ___

ACA 21

PT 1 298340
PT 2 298240

WIDTH 5600 METERS

MIN ALT 300 METERS
MAX ALT 800 METERS

EFF DTG ___ ON ORDER ___

ACA 22

PT 1 348300
PT 2 348240

WIDTH 4200

MIN ALT 300 METERS
MAX ALT 800 METERS

EFF DTG ___ ON ORDER ___

ACA 23

PT 1 484195
PT 2 286255

WIDTH 3000

IN ALT 300 METERS
MAX ALT 800 METERS

EFF DTG ___ ON ORDER ___

5. SPECIAL INSTRUCTIONS:
a. CSR:195 DPICM; 20 ICM; 60 HE; 10 WP; 10 HC; 10 ILL; 14 RAAMS; 4 ADAM

Figure 1 Continued: The 1st Infantry Division's Brigade Fire Support Execution Matrix

Paragraph 3. Coordinating Instructions

The coordinating instructions of the fire support matrix allocate fire support observation assets, apportion the number of targets for planning and establish a cut-off time for the submission of refinements to the plan.

Observers must cover the targets throughout the brigade sector. The forward observers (FOs) in the brigade, particularly the infantry platoon FO teams, may be reallocated to cover these critical areas. A task-force commander frequently uses an FO team in his scout platoon. The brigade may assign FO teams as part of brigade deep reconnaissance teams or to cover a critical target.

The instructions establish a cut-off time for refinement of the plan in the brigade matrix. This allows the brigade time to finalize the plan and disseminate it to every element, participate in maneuver war-gaming and conduct a technical artillery rehearsal. The brigade, task forces and companies war-game, back-brief and rehearse the maneuver and fire support plans together. The DS and reinforcing battalions have a technical rehearsal to ensure everyone has the data and understands the plan.

This cut-off time doesn't mean the planning stops. As new intelligence becomes available, the commanders and senior FSOs evaluate and weigh it's impact. The brigade usually needs at least a four-hour cut-off time from the expected time of departure or enemy attack.

Paragraph 4. Critical Information

This portion of the fire support execution matrix answers the question, "What resources do I have to have to fight this battle?" The ammunition expected to be available during an operation is portrayed to the maneuver commander in a quick, usable fashion. The number of battalion three-rounds of dual-purpose improved conventional munition (DPICM) available is identified and sub-allocated to the task forces. The number of minutes the artillery is able to screen a 400-meter area is allocated. The task force knows immediately whether it's possible to screen, say, an 800-meter tree line for 30 minutes. The same information is given for illumination.

The critical information paragraph gives instructions for the family of scatterable mines (FASCAM) mine field allocation and execution. The length of time to shoot the FASCAM mission and vulnerability of the guns make it important to lock in exactly where and when these missions will be fired.

The top-down fire plan gives a shooter, the company FSO, the information he needs to execute the plan. The high-payoff targets clearly identify for the shooter the most important targets to the success of the commander's scheme of maneuver and the defeat criteria he should use to engage them. The critical information also identifies the types of vehicles and where and when the shooter can expect to find them.

The brigade FSO, with help from the brigade S3 and S2, performs target-value analysis. The commander's attack criteria also identify the defeat criteria for different types of targets. The analysis is based on the high-payoff value of the target and ammunition available.

In the defense, we consider bringing survey into the target area. Currently, the position and azimuth determining systems (PADS) can be brought down to the individual target or mortar firing position. Task forces are given guidance for the priority of survey effort. The introduction of an eye-safe laser on the fire support vehicle (FSV) will allow us to use a survey control point and put in complete target area survey with the FSV.

The last information provided in this paragraph is on joint air attack teams (JAATs) and close air support (CAS). The number of sorties of CAS available, locations and employment responsibilities for CAS and JAAT are assigned. Employing these assets requires us to plan airspace coordination areas (ACAs) to protect the aircraft over the target.

Brigade Target List

The brigade target list is disseminated with the fire support execution matrix. The targets usually are situated on known or templated enemy locations, in engagement areas and

cover obstacles and key terrain. This targeting usually is done on a map, so the observers on the ground looking at the targets and trigger points will recommend any refinements to the grid.

To avoid confusion, the target is refined by deleting the old target and entering a new target with the refined grid. The task forces enter the additional targets they've been allocated to support the task-force scheme of maneuver. After all refinements are complete, the brigade publishes a final brigade target list (maximum 60 targets) and revises the brigade fire support execution matrix, as necessary. If task forces must have additional targets, they store them in the buffers of digital message devices (DMDs) or maintain a short target list with the observers.

Attack Matrix

The attack matrix is a single-page, unclassified document that graphically depicts the amount of ammunition required to achieve the desired effect against various targets. It's a tool that helps the maneuver commander manage his scarce fire support resources, quickly showing the cost in ammunition versus the benefits in effects.

For example, if the commander wanted to destroy (30 percent casualties) a Soviet Motorized Rifle Battalion, he would need 648 high-explosive (HE) rounds. The FSO also would advise him it would take a 24-gun battalion shooting at the sustained rate of fire for approximately 30 minutes to fire these rounds. The surviving units would have to displace because of counter-fire. Armed with this knowledge, the commander may choose to modify his defeat criteria or attack with other assets.

ATTACK MATRIX

TARGET		SUPP (10%) HE	SUPP (10%) DPICM	SUPP (10%) APICM	SUPP (10%) MLRS	NEUT (10%) HE	NEUT (10%) DPICM	NEUT (10%) APICM	NEUT (10%) MLRS	DEST (30%) HE	DEST (30%) DPICM	DEST (30%) APICM	DEST (30%) MLRS
	PLT	48	24		2		54		6		102		11
ARMOR	CO	96	48		6		102		11		204		17
	BN		96		17		204		24		612		66
	PLT	48	12		5	54	18		3	108	54		5
MECH	CO	60	12		6	78	18		3	162	78		7
	BN	102	78		12	216	102		10	648	324		27
DISMOUNTED INFANTRY													
	PLT	6	6	6	1	12	6	6	1	18	12	12	2
IN	CO	12	6	6	1	24	6	6	1	66	18	18	2
OPEN	BN	54	24	18	3	114	66	42	9	324	116	216	26
	PLT	18	12	6	1	42	18	6	2	108	30	66	4
DUG-IN NO OVERHEAD	CO	42	12	12	1	60	18	18	2	126	42	96	6
COVER	BN	108	54	54	6	216	102	174	12	648	246	540	36
DUG-IN	PLT	36	18	6	5	60	36	18	5	108	36	114	5
W/OVERHEA	CO	60	18	18	5	78	36	48	5	186	36	156	5
D	BN	168	54	108	5	324	84	264	11	864	240	756	36
COVER													
ARTY/MORT	PLT	48	12		2	54	18		3	108	54		5

NOTES: 1. ALL NUMBERS ARE IN ROUNDS. NOT DIFFERENTIATED BY CALIBER.
2. ARMOR (PLT = 3-4 TANKS); (CO = 10-13 TANKS);(BN = 36-40 TANKS).
3. MECH (PLT = 30 PERS, 3-4 APCs); (CO = 90 PERS, 10-13 APCs); (BN = 430 PERS, 36-40 APCs).
4. ARTY/MORT = 6 TUBES.
5. QUICK REFERENCE FOR DISTANCE TRAVELED:

Speed (KM/HR)	15	30	45	60	90
Mins. to travel 1 KM	4	2	1.5	1	.5

Figure 2: The Attack Matrix depicts the amount of ammunition required to achieve the desired effects on various targets.

PFC Quinn Dora Jackson, *Patriot*

Top-down fire planning funnels the plan from the brigade to the company and pushes refinements back up to the brigade.

Task-Force Fire Support Execution Matrix

The task force takes the guidance and resources provided by the brigade and plans fires to support the task-force commander's battle. The task-force planning tools and processes are similar to those used at the brigade. Again, the most important factor in developing a good fire support plan is the initial integrated planning with the commander, FSO, S2, S3 and engineer.

The task-force fire support execution matrix (see Figure 3) uses a format similar to that of the brigade matrix, but it portrays how the task force will fight the fire support battle. The most critical portion of the matrix is the commander's intent for fire support. The commander identifies

TASK-FORCE FIRE SUPPORT EXECUTION MATRIX

(SAMPLE TASK-FORCE DEFENSE)

Commander's Intent for Fire Support:

1. Mass fires and CAS on the enemy stopped at the obstacles and FASCAM; BB0001, BB3003
2. Fire mortar smoke and FA suppression to disengage B Co from BP 67
3. Mass FA into EA Black; Group B1B
4. Mortars support A Co in EA Ball

PRIORITY OF FIRES AND KEY TARGETS

PHASE LINE \ TRIG PT	PL/MACE	PL/BOW	PL/ARROW	PL/BLUE	
TF					
TM/CO A			BB 3401	BB 3111 BB 0012 ←MORTAR PRIORITY→	
TM/CO B	BB 0001 BB 3003 ←FA PRIORITY→	BB 3001 ←MORTAR PRIORITY→			
TM/CO C			BB 3010		
TM/CO D		BB 0007 BB 3002	BB 0013 BB 0009 ←FA PRIORITY→	BB 0015 GP B1B	
SCOUTS	BB 0029 BB 3004	BB 0017			
MORTARS	POS A1,A2	BB 3001 POS B1	POS B2,C1	BB 3111 POS C2	

FA ORGANIZATION FOR COMBAT	MORTAR POSITIONS	AMMUNITION AVAIL
4-5 FA (155SP) DS TO 2 BDE	POS A1 123455 A2 124456 POS B1 1274556	12 BN 3 RDS DPICM 20 PLT 6 RDS HE 30 Mins ARTY Smoke 20 Mins MORTAR Smoke 30 Mins ARTY Illum 30 Mins MORTAR Illum
F S COORD MEASURES	B2 128452	
CFL: PL BOW 0/0 CFL: PL ARROW 0/0 CFL: 0/0 CFL:	POS C1 131500 C2 130495	TAC AIR 4 TF SORTIES 4 ACAs (#) 20-23 (SEE ACA OVERLAY)
	BDE CDR ATT GUIDANCE	
FASCAM	DEST ADA NEUT RECON ELEMENTS SUPP AR, MECH PLTS	HIGH PAY OFF TGTS ZSU 32-4, SA 9, MRB'S CRP (3BMP, 1 BRDM) ENGINEERS
TF ALLOCATION: 2 BDE 2 PLANNED: 195450 200444 199455 221456		

COC IS: – A –, – B –, – C –, – D – FSO WITH – A – FSE BEING 0/0 BN FSE

C	DAY – 1 –	FA DS BN CDR: H70_	A	FSO: A99_	FA FDC: _H55_
E	CF 2: 45.20	BDE FSCOORD: E24_	B	FSO: B99_	MORTAR FDC: _U55_
O	FD 1: 55.70	BDE FSO: J99_	C	FSO: C99_	
I	MORTAR: 32.60	BN FSO: Q99_	D	FSO: D99_	OIC – O – NCOIC – N – RTO – R –

COORDINATING INSTRUCTIONS:

1. TARGET ALLOCATION: A 3, B 3, C 2, D 4.
2. CUT OFF FOR TARGET SUBMISSION 052200 OCT.
3. SURVEY TARGETS FOR D, A, B, MORTAR FIRING POSITIONS. FSOs TAKE SURVEY TO NEXT LOCATION.

Figure 3: Similar to the brigade matrix, the Task-Force Fire Support Execution Matrix portrays how the task force will fight the fire support battle.

exactly what he expects his indirect fire support assets to accomplish. A task-force commander's intent is more specific than the brigade's. It covers his area of responsibility and may identify specific targets and assets (especially his own organic mortars) to fire.

The primary difference between the brigade and the task-force fire support matrices is the inclusion of the scouts and mortars in the task-force matrix. The scouts are treated as any other maneuver unit. An FO team with responsibilities for targets usually is assigned to them. The matrix outlines the mortar sections' firing positions and their expected movement by phases.

Company Fire Support Execution Matrix

The company fire support teams are primarily responsible for executing the brigade fire support plan. These shooters stay with their company commanders, refine targets, identify trigger points and synchronize the battle. They ensure the company has primary and back-up observers able to observe the trigger points of their targets.

The company fire support matrix, a *maneuver document*, is the tool they use to execute the plan. It's designed so all key leaders in the company understand it and are able to execute the fire support battle *without the FSO*. It establishes who, when, where, and under what conditions they'll fire on each target.

The commander's intent for fire support outlines in detail his concept for engaging the key targets as he maneuvers the company. Targets, identified by target numbers, are fired as maneuver platoons pass specific points or are engaged by enemy units of a certain size. The commander locks them in to his maneuver plan.

A good plan violently executed* Now *is better than a perfect plan next week.

General George S. Patton, Jr.

SFC Dale Butler

Setting up aiming stakes and preparing to send a round down range at the NTC are members of B/5-41 FA, Fort Knox, Kentucky.

COMPANY FIRE SUPPORT MATRIX

COMMANDER'S INTENT FOR FIRE SUPPORT: COMPANY OFFENSE

Smoke on BB 1001 to cover our initial movement across the LD. Fire Group B1B on OBJ Fox as 2d and 3d platoons cross PL Blue. Use BB 3109 to help block a counterattack from Hill 333.

TGT #	GRID	DESCRIPTION	TRIGGER POINT	EXECUTION	
				PRIMARY	BACK-UP
BB 1001	123456	Smoke OP	When 1st Plt is ready to cross LD	1st Plt	FSO
BB 1002 (Group B1B)	123567	Suspected Inf Squad	2d and 3d Pits cross PL Blue	CO Cdr	2d Plt
BB 3108 (Group B1B)	135467	AT Position	2d and 3d Pits cross PL Blue	CO Cdr	2d Plt
BB 3109	143335	Road Junction	If counteratk Bridge at 146576	2d Plt	3d Plt
BB 2102	136324	Position Suspected AT	If receive fire from position	FSO	XO

HIGH PAYOFF TARGETS ALL AT-5 POSITIONS

ACTIONS UPON : XO monitors 4.2 mortar net for fire support coordination

LOSS OF FSO : Plt Ldrs switch to CF2 or the mortar net to fire missions

	PRIORITY OF FIRE				AMMUNITION AVAILABLE TO TF	CEOI	
	Cross LD		Cross PL Blue			DAY 05	DAY 06
	FA	MORT	FA	MORT			
CO	1st Plt	1st Plt	2d Plt	2d Plt	FA DPICM/HE 16 Bn 3 rds	FA NET 31:10	45:50
BN	A Co	B Co	A Co	B Co	FA Smk 25 min	MT NET 56:00	44:50
					MT HE 22 Plt 6	MT FDC D34	W45
BDE	3-37		3-37		MT Smk 20 min	FA FDC F7M33	H6178
						BN FSO K98	P72

COORDINATING INSTRUCTIONS:

1. Shoot 4.2 Mortar smoke on BB 1001.
2. Group B1B targets are artillery priority targets.
3. Shoot immediately any ZSU 23-4 or SA 9 targets.

Figure 4: To execute the brigade fire support plan, the company fire support teams use this matrix, which is a maneuver document.

The company matrix shows each target that will affect the company operation. It gives the target number, grid location and description of what's there. The matrix states if and when the target will be fired and who has primary and back-up responsibility to observe and fire on that target. The trigger points for firing the targets are tied to maneuver or enemy activities.

The matrix identifies high-payoff targets for the company. These targets come from the task-force matrix and are ones the company commander believes are critical to his company's success.

The matrix also tells how the company will call for fires and who will coordinate fires on which net. This allows the company to receive fire support if its FSO is out of action. The company knows who has priority of fires, what ammunition is available and what call signs and frequencies it needs to call for fire missions.

Conclusion

The First Infantry Division's execution of the top-down fire plan supports the maneuver brigade commanders' schemes of maneuver. We use our most experienced artillerymen to plan the battle and allow the company FSOs to refine and execute the plan. The Field Artillery and task-force plans are developed concurrently, and a brigade plan is always in place to support the fight.

The top-down fire planning process addresses many of the problems identified with fire support at the National Training Center (NTC), Fort Irwin, California. The bottom line is we provide more effective and timely fire support for our maneuver forces.

Major Peter S. Corpac is the Executive Officer of the 4th Battalion, 5th Field Artillery, 1st Infantry Division, (Mechanized), Fort Riley, Kansas. He has served in fire support positions from company through division levels, most recently as the Fire Support Officer and Assistant Fire Support Coordinator for the 2d Brigade 1st Infantry Division. Major Corpac commanded a firing battery in the 1st Battalion, 79th Field Artillery, in the 7th Infantry Division, Fort Ord, California, for two years. He holds a Master's of Business Administration from the University of San Francisco.

Fire Support: Parts and Means

by Colonel Tommy R. Franks and Lieutenant Colonel William J. Tetu

The "parts" of the modern fire support system and the "means" by which they are integrated into the scheme of maneuver on the battlefield present difficult challenges to fire supporters. Rotational units at the National Training Center at Fort Irwin, California, are all too frequently unsuccessful in bringing fire support assets to bear on the enemy at the critical time and place in the battle. Efforts to develop simple and executable plans to focus fire support where it's needed most often break down in the planning process.

Modern munitions, delivery systems, automation and communications offer us the potential to be the most lethal killers on the battlefield. But unless we thoroughly integrate these assets into the scheme of maneuver and then deliver combat power when and where the maneuver commander needs it, we fail to achieve this potential.

This article discusses a technique to plan and execute the focus of combat power — a technique we call the Fire Support Scheme of Maneuver. This allows planners and executors to identify and use all fire support assets in a coherent manner to support the maneuver scheme.

Parts: Players, Weapons and Communications

The parts of the fire support system include players, weapons and communications. The *players* include the commander, his battle staff (G2 or S2 and G3 or S3) and the fire support coordinator (FSCOORD). The FSCOORD directs a "Fire Support Orders Group," consisting of the Air Force liaison officer (ALO), Army aviation liaison officer (AVN LNO) and electronic warfare officer (EWO). Fire Support Orders Groups exist at each level, company through division, as shown in Figure 1, and serve the commander by centralizing fire support planning and execution. The Orders Group provides technical advice and planning assistance to the FSCOORD who executes the attack of target sets in support of the maneuver commander's scheme.

Field Artillery and mortars, close air support (CAS), electronic warfare (EW) — to include sensor and jamming assets — and attack helicopters are the *weapons* that form the fire support arsenal. The fire supporter

Echelon	FA	CAS	EW	Atk Helo
XX	FSCOORD AFSCOORD	ALO	EWO	Avn LNO
X	FSCOORD Bde FSO	ALO	EW NCO	Avn Cdr*
	Bn FSO	ALO	None	Avn Cdr*
	Co FSO	Co FSO	None	None

**Formerly called Battle Captain*

Figure 1: Fire Support Orders Groups centralize fire support planning and execution.

integrates the systems into the scheme of maneuver, based on mission, enemy, terrain, troops and time available (METT-T) and the availability of the systems.

While attack helicopters may be considered a maneuver asset because of their mobility, firepower and deep-strike capability, we must integrate them into the Fire Support Scheme of Maneuver. Failure to do so may well result in committing attack helicopters to an effort we might manage with less-scarce fire support assets, such as Field Artillery. In addition, fire supporters provide attack helicopters support similar to that provided to ground maneuver units. This includes provisions for priority of fires, priority of CAS and suppression of enemy air defense (SEAD).

We integrate electronic warfare into the Fire Support Scheme of Maneuver by prioritizing and tasking assets. Jammers and direction finders locate and (or) disrupt both digital and non-digital nets; countermortar and counterbattery radars focus on critical zones to protect friendly forces; and higher-echelon intelligence-gathering assets provide real-time targeting data. The ALO, EWO and division artillery S3 provide critical technical advice to the FSCOORD about EW capabilities.

Communications is the final part of the fire support system, bringing players and weapons to bear in battle. Field Artillerymen in their roles as FSCOORDs and brigade, task-force and company (or) team fire support officers (FSOs) link the fire support communications system to the maneuver commander. The interrelationship of communications, players, weapons and maneuver units is shown in Figure 2.

Just as the FSO is the central figure in the Fire Support Orders Group, so too is he the central figure in the communications process. The FSO links indirect fire, CAS, Army aviation and EW systems to the maneuver commander through unique, multi-level communications systems. It's this linkage that permits us to command and control combat power to support the maneuver commander's scheme.

Means: Intent, Time Line and Scheme

The means we use to organize and focus fire support are (1) the commander's intent, (2) the tactical time line and (3) the Fire Support Scheme of Maneuver. The *commander's intent* prioritizes fire support on the battlefield. From this intent, we build a tactical time line that focuses fire support planning on critical times and places in the battle. It's from this tactical time line that the fire support scheme evolves.

The *tactical time line* is a time-space-event continuum designed to focus and prioritize the fire support effort. Ideally, it graphically represents the when, where and what of the maneuver commander's critical task list, as reflected by both the specified and implied tasks derived from his intent. In turn, the *Fire Support Scheme of Maneuver* is based on the tactical time line and (1) focuses fire support execution at the critical time and place, (2) synchronizes fire support, (3) maneuvers fire support on the battlefield and (4) anticipates future operations.

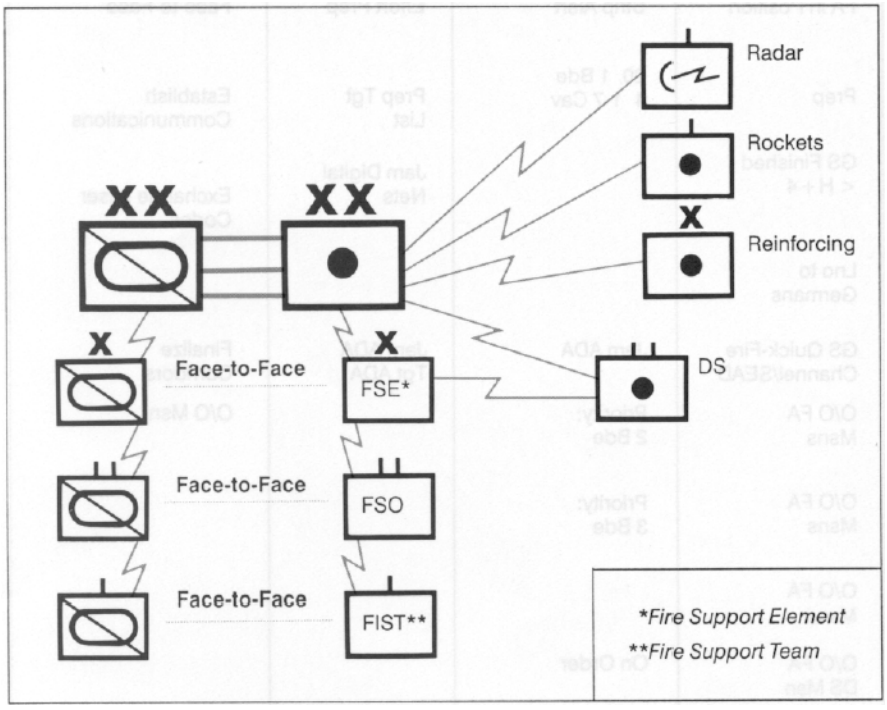


Figure 2: The Communications Interrelationship Among Players, Weapons and Maneuver Units

Fire Support Scheme of Maneuver

We build the Fire Support Scheme of Maneuver on the commander's intent, as depicted graphically on the tactical time line. A commander's intent that specifies a division attack to destroy enemy forces and implies a passage of lines, a river crossing and a cross-FLOT (forward line of own troops) attack helicopter operation involves a finite number of critical fire support tasks. We can deduce these tasks by developing a tactical time line and relating specific fire support tasks to time, space and (or) events on the time line. For example, consider the following commander's intent:

"We're going to convince the enemy we're attacking across the entire Division zone. The Cavalry Squadron will make a feint on the Division's left flank to fix the enemy forces and deceive them as to our main effort.

"When 1st Brigade secures PL Jack, we should be through the crust. If necessary, I'll commit the Aviation Brigade at this point to ensure success and maintain momentum. The 2d and 3d Brigades will move rapidly into the zone to find and destroy first-echelon regiments. If necessary, 2d Brigade will fix forces it can't

destroy and 3d Brigade will finish them.

"Once the regiments are defeated, 1st Brigade will clear the Division zone in the west to Objective Iowa. The Division will reorganize, as necessary, and prepare for future operations in the vicinity of Objectives Utah, Texas and Iowa."

If it's implied the Division must conduct a tactical road march from a staging area through a tactical assembly area and then execute an opposed river crossing, the tactical time line shown in Figure 3 represents the commander's intent. The times and events are best estimates, and the order in which events are spaced along the time line is based upon reasonable expectations of movement. The time line thus serves to organize the battle for the fire supporter. This application results in the Fire Support Scheme of Maneuver shown in Figure 4.

Each event on the tactical time line generates a corresponding fire support task to which assets must be committed. An opposed river crossing, for instance, may require a Field Artillery preparation, jamming of enemy digital nets, cueing of Fire-finder

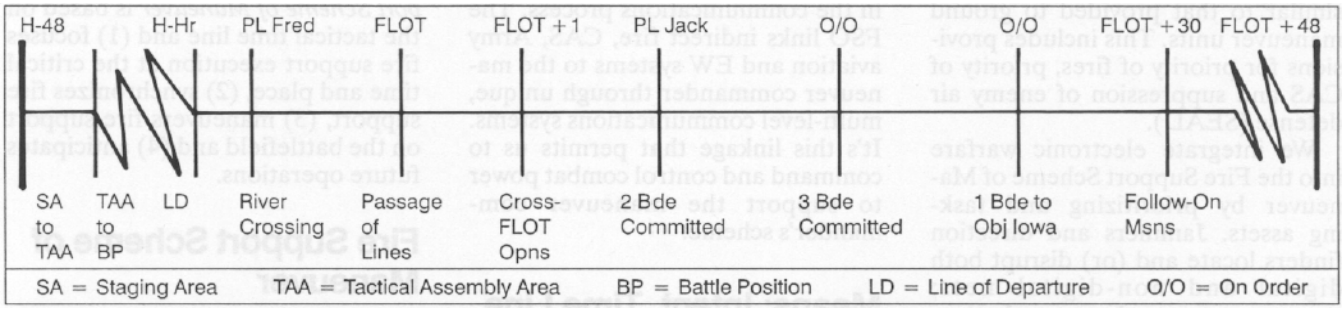


Figure 3: Tactical Time Line, an Example of the When, Where and What of the Maneuver Commander's Critical Task List Time/Event

Time/Event		FA	CAS	EW	Atk Helo
H-48	SA – TAA	FA in Position	60 Sorties/Day: Push-Package Strip Alert	Collection Effort Prep	War-game Msn Face-to-Face
	TAA – BP				
H-Hr	LD	Prep	20 1 Bde 4 1-7 Cav	Prep Tgt List	Establish Communications
Fred	River Crossing	GS Finished < H + 4		Jam Digital Nets	Exchange Laser Codes
FLOT	Passage of Lines	Lno to Germans			
FLOT + 1	Cross-FLOT Opns	GS Quick-Fire Channel/SEAD	Jam ADA	Jam ADA Tgt ADA	Finalize Corridors
Jack	2 Bde Committed	O/O FA Msns	Priority: 2 Bde		O/O Msn
O/O	3 Bde Committed	O/O FA Msns	Priority: 3 Bde		
O/O	1 Bde O/O Msn	O/O FA Msns			
FLOT + 30					
FLOT + 48	(Rear Battle)	O/O FA DS Msn	On Order		

Figure 4: You build the Fire Support Scheme of Maneuver on the commander's intent, as depicted by the tactical time line (Figure 3).

radars and CAS on the river's far bank. Each of these operations requires a specific piece of the fire support system at a specific time and place.

The Fire Support Scheme of Maneuver allows us to conceptualize the commitment of combat power during the battle. In its graphical form, the Scheme is the fire support annex to the operations order. Finally, we use the Scheme to ask the critical question, "Is this what the maneuver commander wants fire support to do for him in the battle?"

Flexibility and Speed

National Training Center rotations quickly turn Field Artillerymen into fire supporters and tankers and infantrymen into true combined-arms fighters. As fire supporters, we need to be able to react quickly to the maneuver commander's needs on a fast-paced, dynamic battlefield.

We found that the analysis required to develop the Fire Support Scheme of Maneuver, coupled with its simplicity of purpose, gives us the flexibility and speed to provide combat power at the right time and place.

Obviously, the Scheme is not a panacea; by itself, it won't make fire support "happen." But it does lend speed to the planning process, flexibility to execution and provides a valuable graphical tool that allows us to ***show*** the maneuver commander how fire support parts and means will support his scheme of maneuver.

Colonel Tommy R. Franks is Chief of Staff of the 1st Cavalry Division, Fort Hood, Texas. He commanded the 1st Cavalry Division Artillery; the 2d Battalion, 78th Field Artillery, 1st Armored Division US Army, Europe (USAREUR); a howitzer battery and the 84th Armored Engineer Company in the 2d Armored Cavalry Regiment, USAREUR; and a 105-mm battery at Fort Sill, Oklahoma. Colonel Franks also served in the Office of the Chief of Staff of the Army and as Deputy G3 of III Corps, Fort Hood.

Lieutenant Colonel William J. Tetu commands the 1st Battalion, 15th Field Artillery, 2d Infantry Division in South Korea. He served as Division Assistant Fire Support Coordinator, Division Artillery S3, and a direct support artillery battalion executive officer, all with the 1st Cavalry Division. He commanded a headquarters battery and an 8-inch cannon battery. Lieutenant Colonel Tetu holds master's degrees from the University of Kansas and Boston University.

Cannoneer Crossword Answers

Thanks for this crossword puzzle to Redlegs Major C.T. Botkin, USMC; Master Sergeant H.C. Cyphers, USA; and Corporal De La Vega, USMC, of the Staff Planning School, Landing Force Training Command, Naval Amphibious Base, Coronado, San Diego, California.

View from the Blockhouse

FROM THE SCHOOL

The Changing Role of the 93F NCO

Few MOSs have undergone the sweeping changes currently facing the 93F Field Artillery Meteorologist NCO. Changes in force structure, expanded responsibilities and new equipment are creating challenges for him.

Expanded Leadership Role

On 1 October 1988, the Army officially said "Goodbye" to the meteorology technician in the active component. With the loss of the warrant officer (MOS 201A), the NCO must shoulder the former responsibilities of the meteorology technician. In unit meteorology sections, he now must be the expert in all technical and tactical aspects of running the section. He must advise the commander and operations officer on meteorological support, coordinate operational and logistical support for his section, select tactical positions and supervise the emplacement, maintenance and security of his section in the field.

Expanded Technical Role

The 93F NCO has become the expert on meteorology for the Field Artillery. He can no longer concern himself only with ensuring the balloon is launched and the meteorological message is prepared on schedule. He now must understand all the effects of weather in and around the area of operations. For example, he must know how an approaching front affects fire support, chemical or biological agents, aircraft or other users of meteorological data. Finally, the 93F NCO must understand the basics of gunnery to advise the Field Artillery commander on how the weather affects the trajectory of a projectile.

Expanded Maintenance Role

Previously, the soldiers responsible for maintaining equipment were the meteorological technician and the 93FH1 Meteorological Equipment Repairman. Today, the 93F NCOIC must learn the "tricks of the trade" to keep his equipment running. Depending on his unit, his equipment may range from the new meteorological data system (MDS) to the 40-year-old ground meteorological data system GMD-1 Rawin Set. No matter what the equipment is, the NCOIC must be an expert on it. Whether or not he repairs the equipment himself, he must identify the problems and not just turn it in for repair on the DA Form 2407 Maintenance Request with the comment, "It's broken."

New MDS

A 93F may be assigned to a meteorological section with the new MDS that gives it several capabilities it never had before. With these capabilities come added responsibilities.

First, an MDS has digital communications capabilities never used by a meteorological section, unless it has a digital message device (DMD). Since MDS interfaces digitally with the tactical fire direction system (TACFIRE) and the battery computer system (BCS), the 93F NCO must learn the intricacies of digital communications. This isn't a monumental task, but he must master it.

Second, MDS allows us to launch the radiosonde near the battle with the section up to 20 kilometers away. This new launch capability and the ability to track the radiosonde while the section is on the move totally change the way a section operates. Another MDS capability not found on the GMD-1 is the choice of the radio direction finding (RDF) mode or navigational aid (NAVAID) mode. The MDS's RDF mode is like the GMD-1's, so the NCO will have to adjust very little.

Today's 93F may have to work with the new MDS, which interfaces digitally with TACFIRE and BCS.

But the NAVAID mode is quite different. Instead of the RDF tracking and computing the location of the radiosonde, the NAVAID radiosonde picks up signals from NAVAID stations around the world. The position is triangulated from three known stations and computed. The NCO using NAVAID must know what stations to use and which stations aren't available. Using NAVAID demands in-depth knowledge of this new concept and the associated rules. Of course, publications provide the necessary data, but they're currently very complex. In addition, schedules are published and must be reviewed frequently to inform NAVAID users when specific stations won't be operational. The NCO must consider all these factors as he prepares to operate the system.

Conclusion

The 93F NCO has several responsibilities beyond those previously in his meteorological field. For the most part, he must assume the duties of the warrant officer and, at the same time, learn the intricacies of a new system. In addition, he must advise Field Artillery commanders on the effects of meteorology on putting rounds on target. Now, more than ever, the 93F is a key member of the fire support team.

If soldiers have questions about the role of the 93F NCO, call the Meteorological Division, Target Acquisition Department, Field Artillery School, at AUTOVON 639-2406 or commercial (405) 351-2406.

MOS 13E AIT Training

The Field Artillery School recently has received several inquiries about the content of Field Artillery Cannon Fire Direction Specialist (MOS 13E10) advanced individual training (AIT). These inquiries indicate information about this course may not be available to commanders. The following is the instruction we provide:

Subject	*Hours*
Firing Charts	**16**
• Construct firing charts. • Determine chart data.	
Firing Data (GFT/TFT)	**26**
• Determine basic firing data. • Determine site. • Determine firing data and height of burst (HOB) corrections for dual-purpose improved conventional munitions (DPICMs).	
Back-up Computer System (BUCS)	**92**
• Introduce capabilities, limitations and start-up procedures. • Construct data base. • Maintain observer/target known-point files. • Perform BUCS operations — fire direction center (FDC) procedures. • Process fire missions. • Perform emergency back-up procedures. • Maintain muzzle-velocity files. • Perform registration: general, precision, HB/mean-point-of-impact (MPI), radar. • Process meteorological (Met) messages. • Perform Met conversions. • Handle special situations.	

Subject	*Hours*
Battery Computer System (BCS)	**36**
• Introduce maintenance and start-up procedures. • Construct BCS data base. • Process fire missions.	
Communications	**46**
• Employ proper procedures. • Install and maintain antennas. • Operate and maintain radio sets, including the single-channel ground and airborne radio system (SINCGARS). • Defend against electronic warfare. • Use automated communication-electronics operation instructions (CEOI). • Operate security equipment: telecommunications security (TSEC)/KY-57.	
Map Reading	**14**
• Identify terrain features, symbols and colors. • Use marginal information. • Determine coordinates, elevation and distance. • Determine azimuth, compute back azimuth and convert azimuth. • Determine location by intersection and resection.	

In May 1989, we started the "Fast Track" or enhanced AIT program. This program takes approximately 20 percent of the best-qualified initial entry training (IET) soldiers and teaches them 24 hours of skill-level-two tasks. Subjects taught in the Fast Track Course are operating and maintaining the BCS, constructing the BCS data base, processing BCS and performing registration. While all 13Es receive familiarization training on some BCS tasks, the Fast Track students train to established job performance standards.

The Fast Track soldier must maintain high academic standards in both AIT subjects and the advanced skill level training. One "No-Go" in any area, while not resulting in failure to graduate from AIT, is grounds for removal from the Fast Track course. The soldier graduating from AIT as a successful "Fast Tracker" receives a letter of commendation and a certificate of training and may receive advanced promotion to private second class.

If units have questions about MOS 13E AIT, call the Program Management Division, Directorate of Training and Doctrine at the Field Artillery School, AUTOVON 639-5740 or commercial (405) 351-5740.

New GDU Container and Power Cable

The Communications and Electronics Command (CECOM) has developed two new items of equipment for towed artillery units using the battery computer system (BCS); a weatherproof container for the gun display unit (GDU) case assembly and an extra-long power cable to remote the GDU to the weapon.

These items are type-classified and can be requisitioned through normal supply channels. The GDU container is a "no cost" item, while the power cable is "stock funded" with a per-item cost of $100.00. The CECOM has 200 of the GDU containers already fabricated and anticipates having 1,300 available by the end of the calendar year. The power cable already has been fabricated, and there are currently 1,000 in stock. Here is information to requisition these items:

ITEM	NSN
Container, Gun Display Unit	7025-01-277-7829
Cable Assy, Power	5995-01-271-9972

Address your questions concerning these items to Commandant, USAFAS, ATTN: ATSF-TSM-C3S, Fort Sill, Oklahoma 73503-5600.

Units can call the TRADOC System Manager, Fire Support Command, Control and Communications for more information at AUTOVON 639-6418/5607 or commercial (405) 351-6418/5607.

Marine C^2 Acquisition—Supporting Arms Integration

by Lieutenant Colonel Andrew F. Mazzara, USMC

The United States Marine Corps' current tactical bent toward maneuver warfare and special operations demands a continual reevaluation of emerging requirements for command and control and their potential solutions — be they doctrinal, training-related or technological. Whether the Marine expeditionary forces (MEF) or brigades (MEB) are fighting outnumbered or involved in low-intensity conflict, we must take advantage of rapidly advancing technology. At the same time, we must tailor our acquisition policies to new concepts of warfare.

MIFASS, the fully automated fire support system for the Marine Corps, was terminated in 1987 after eight years of engineering development.

The command and control (C^2) of Marine ground forces offers a unique challenge to the newly created Marine Research, Development and Acquisition Command (MCRDAC) in Quantico, Virginia. Can the Corps adjust to the evolving digital communications environment in combat? Through the aggressive use of competing technologies, can Marine commanders observe, orient, decide and act more quickly and effectively than their opponents?

MIFASS and TCO

The recent history of Marine endeavors in C^2 automation is not particularly impressive. The Marine integrated fire and air support system, or MIFASS, was an acquisition effort that failed. It was one most Marine officers above the rank of captain waited for throughout their careers. The system was to "do *everything* for fire support" — revolutionize the way we do business.

But MIFASS's first direct contact with its user, the fleet marine force (FMF), was unfortunately only months before the Commandant of the Marine Corps terminated it in May 1987. Starting with the original Marine tactical command and control system (MTACCS) concept in the mid-1960s through its final operational assessment, MIFASS stands as a lasting symbol to Marine decision-makers of how not to approach technology.

We now know that fielding a C^2 system doesn't fit the traditional lockstep acquisition process. Identifying C^2 requirements is a complex, never-ending cycle that can't be supported by the rigid budgetary rules usually imposed on procuring "straight-up" systems, such as trucks or radios.

The tactical combat operations system (TCO), the Corps' effort to provide automated assistance to our combat operations centers (COC), is another acquisition dinosaur. Our inability to cope with rapidly changing technology and shifting requirements created nothing more than a sink hole for Marine research and development dollars.

Both TCO and MIFASS undoubtedly will serve the Marine Corps well as excellent lessons learned, albeit

costly ones. Nevertheless, the "adventure" must continue. The modern battlefield, like its predecessors, will again see technological advances promising the combat-power multipliers we need for success. The Corps must be ready.

Supporting Arms Integration

Recognizing the integral aspects of fire support and maneuver, it's critical these functions are intertwined in battle. This is, and should be, the ultimate objective of the acquisition process. However, today maneuver C^2 projects in the Marine Corps are several years behind fire support in their development and require further definition of baseline requirements. In addition, we need a serious increase in institutional motivation to field even a basic capability.

This article focuses on automating C^2 for the supporting arms: artillery, naval gunfire, mortars and close air support.

Changing Old Habits

The Marine air-ground task force (MAGTF), by its very nature, suggests an expertise in amphibious or expeditionary operations and the integration of supporting arms. The Corps has developed a reputation for "putting it all together." This means we can project the full force of our combat power ashore at potential advanced naval bases by employing maneuver forces and integrating the fire support necessary to sustain them for specified periods of time.

Visits to COCs, fire support coordination centers (FSCCs), fire direction centers (FDCs) and direct air support centers (DASCs) impress even Marines themselves with our ability to get the job done with the meager resources at hand. Grease pencils, acetate overlays, paper maps, small yellow message pads and radios designed for voice communications remain as visible reminders of our heritage. Nothing much has changed since World War II.

Is the Corps capable of changing? Should it? The increasing presence of "non-ruggedized" Radio Shack-type microcomputers using home-grown software in these operational facilities is an indicator of our tactical staffs' growing frustration with managing the ever-increasing information glut. Our Marines are most definitely ready for technology!

The New MCRDAC

The MCRDAC recently restructured the Marine Corps acquisition process by giving program managers (PMs) responsibilities for research and development and procurement rather than maintaining the "decision by committee" management system. The PMs now follow their projects from concept to full operational fielding. The requirements work previously done in the old Development Center is done outside the acquisition community by the new Warfighting Center in Quantico.

The Warfighting Center

Creating the Warfighting Center is probably the most critical change in our acquisition process. A clearly defined set of *baseline* operational requirements is essential to initiating any successful acquisition process.

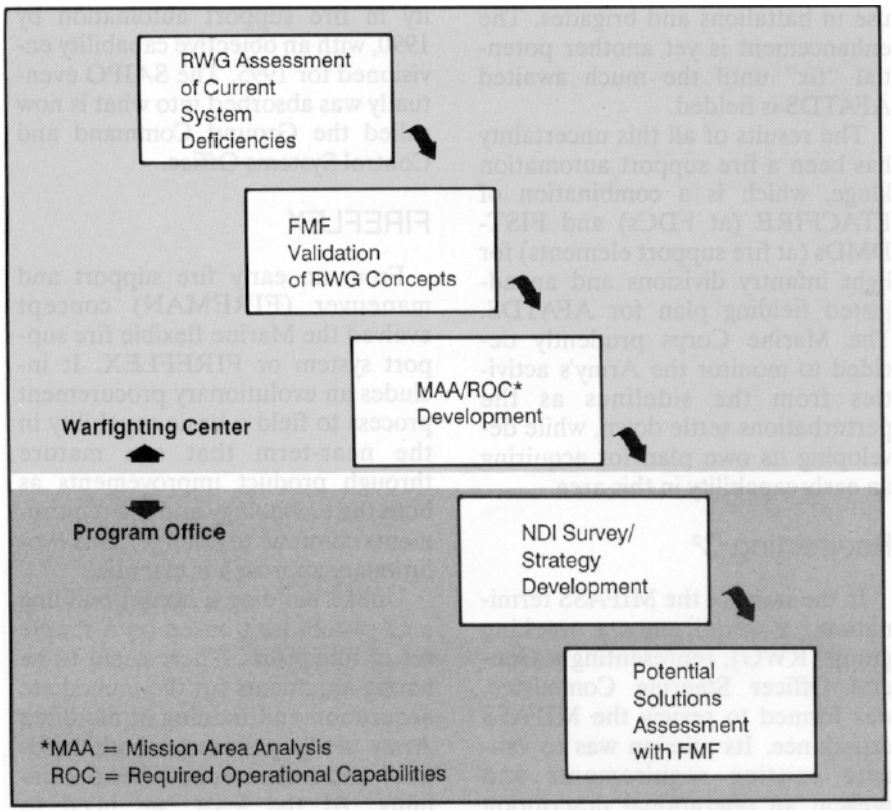
However, a complete "wringing out" of *final* system requirements isn't practical or even possible in the C^2 arena.

The Warfighting Center must be able to respond quickly to the needs of the FMF as well as the technological pull of American industry. We must nurture a proactive partnership between the Marine Corps Combat Development Command (MCCDC) and MCRDAC to provide Marines access to technology on the cutting edge. The success of our recovery from the MIFASS debacle will determine if the catalyst is present to make it all work.

Army C^2 Efforts

In addition, the progressively constrained fiscal environment also is changing perspectives on system acquisition in circles outside the Marine Corps. The US Army has been wrestling with its own MIFASS-like system, the advanced Field Artillery tactical data system (AFATDS).

AFATDS. This system is the next generation of automated C^2 for Army artillery after a decade of experience with the tactical fire direction system (TACFIRE). However



The FIREFLEX program envisions a slightly modified development cycle to ensure the user's (FMF) input.

over the years, AFATDS has had some significant schedule slippages, which have caused periodic political difficulties on Capitol Hill. It's apparently back on track, according to Army sources.

LTACFIRE. The Army, as a result of its urgent need for automated artillery C^2, was pushed by Congress toward an interim system for some divisions called LTACFIRE or Lightweight TACFIRE. Despite repeatedly saying they did not need or want LTACFIRE, the Army saw Congress legislate $24.3 million for them to buy the system to meet the perceived needs of the light infantry divisions.

Could the Marine Corps be next to have its fate on the battlefield so determined by external influence? The Corps must clearly articulate its approach to this complex problem so centers of influence, both internal and external to the Department of Defense, don't feel compelled to intervene.

FIST-DMD. The Army also has unofficially pursued enhancing a company-level tactical computer called the fire support team digital message device (FIST-DMD) for use in battalions and brigades. The enhancement is yet another potential "fix" until the much awaited AFATDS is fielded.

The results of all this uncertainty has been a fire support automation kluge, which is a combination of LTACFIRE (at FDCs) and FIST-DMDs (at fire support elements) for light infantry divisions and an adjusted fielding plan for AFATDS. The Marine Corps prudently decided to monitor the Army's activities from the sidelines as the perturbations settle down, while developing its own plan for acquiring an early capability in this area.

Redirecting C^2

In the wake of the MIFASS termination, a requirements working group (RWG), representing a General Officer Steering Committee, was formed to review the MIFASS experience. Its mission was to validate existing requirements and present an operational description of the Marine Corps fire support coordination system.

In an effort to enhance the Army's FIST-DMD, the Marine Corps modified it. The MOD FIST-DMD is being tested by the 2d Marine Division, Camp Lejeune, North Carolina.

Shortly thereafter, the Supporting Arms Integration Project Office (SAIPO) was established at Quantico in July 1987. The SAIPO's responsibilities included conducting a systems engineering assessment of available technologies. It was to emphasize modified non-developmental items (NDI) and the formulation of a streamlined acquisition strategy to field a core capability in fire support automation by 1990, with an objective capability envisioned for 1995. The SAIPO eventually was absorbed into what is now called the Ground Command and Control Systems Office.

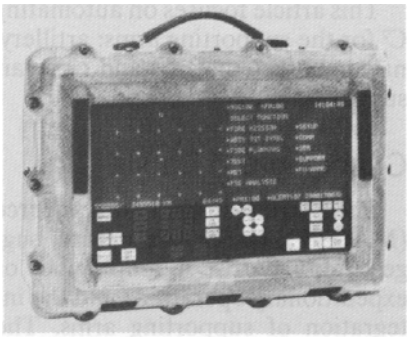
FIREFLEX

From an early fire support and maneuver (FIREMAN) concept evolved the Marine flexible fire support system or FIREFLEX. It includes an evolutionary procurement process to field a basic capability in the near-term that can mature through product improvements as both the technology and the requirements continue to emerge. This evolutionary approach is essential.

Unlike building a house, building a C^2 system isn't based on a simple set of blueprints. There seem to be strong arguments for the immediate acquisition and fielding of modified Army artillery systems, both hardware and software, as a basic capability. At the least, we need to establish a FMF (user) test bed.

This allows hardware and software modifications, such as enhancing close air and naval gunfire support functions and developing unique communications interfaces for the next-step system. It also allows us to work with the Army in "maturing" AFATDS.

Battlefield Command Terminal (AN/PYC-1)



- 36 lbs; Battery/Vehicle Power
- 6 Programmable Modems (Radio, Wire, Remote, Satellite Communications)
- 3 Ports (Map, Printer, Program Load)
- 1 MByte RAM, 64 KBytes ROM
- Light-Emitting Diode (LED) Display; 572 Programmable Switches

The Marines have modified the Army's briefcase terminal (BCT), which the Marines call battlefield command terminal, to test it for the Corps. The 1st Marine Division, Camp Pendleton, California, is currently evaluating the modified terminal.

Operational Deficiencies. The term "fire support," as defined in

Joint Chiefs of Staff (JCS) and Marine Corps publications, includes artillery, naval gunfire, rockets, mortars and close air support. Despite the clear requirement to design a system that integrates all supporting arms, the artillery community has been most vocal in identifying existing operational deficiencies.

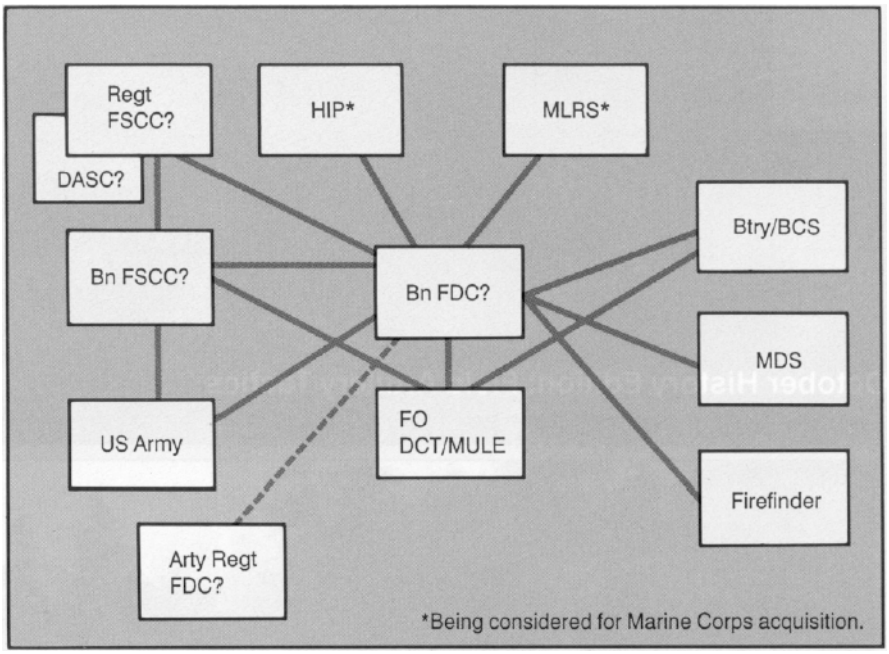
Fielding the battery computer system (BCS), the modular universal laser equipment (MULE), the meteorological data system (MDS), the digital communications terminal (DCT) and the AN/TPQ-36 Fire-finder radar has created an immediate dilemma for Marine cannon-cockers. These systems are at the input or output nodes in the fire support coordination process. They can all "talk" to each other digitally. However, at the battalion or regiment FSCCs or FDCs, we can't monitor these digital communications simultaneously over multiple radio nets. The commanders, their S3s and fire support centers can't tap into this critical digital network.

This inability to tie in directly to the digital communications traffic goes beyond the bounds of just artillery and infantry. The DASCs and MAGTF command element (CE) will both find it equally difficult to understand what's happening with fire support tacticallly in their areas of interest.

FIREFLEX Fixes. Once we identify a candidate system that can provide "connectivity," there's no reason the system couldn't provide the abilities to plan and execute fire support as well. The technology is available and affordable.

The decision before the Marine Corps then is not what type of system we should develop, but rather which developed system we should adopt and modify for our own purposes. Only through a strategy that plants a technological seed in the FMF and nurtures its growth can we compress the typically extended timelines for C^2 system acquisitions.

Under the aegis of the FIRE-FLEX program, MCRDAC is focusing on a major C^2 acquisition decision during FY 89. To support that process, we've carefully studied existing Army systems with rapidly prototyped modifications applied. Evaluating these systems while operating



FIREPLEX Digital Connectivity: After MIFASS was terminated, there was no system to "connect" other fielded or planned fire support systems.

in the FMF provides a baseline from which we can assess the potential to meet existing and emerging Marine Corps needs.

We must factor into each decision realities, such as extended contracting timelines, limited logistical support, training and manpower. If Army systems and programs eventually appear impractical, only then would we survey industry for alternatives.

The key to a successful FIRE-FLEX program is staying in touch with the entire FMF. Once we accept a particular strategy, the goal should be to field an improved fire support coordination capability through research and development activities in the field. A Brigade's worth of test prototypes might well be the scope of such an effort.

With the help of the FMF, we would develop a "core" capability until we make a second decision to freeze the design and exercise contract production options. The Corps might then field at least a MEF's worth of fire support C^2 automation on a compressed schedule while we pursue the traditional contracting process.

Conclusion

Is this scenario realistic? I think so. We must overcome many obstacles, not the least of which are pockets of inertia in the Corps wherever technology (especially C^2 technology) and evolutionary acquisition rear their heads. The current fiscal environment also will challenge programmers. However at a relatively modest cost (compared to tanks, planes and other delivery systems), FIREFLEX may be an acceptable alternative to multiply combat power significantly by more effectively integrating and controlling the supporting arms.

Lieutenant Colonel Andrew F. Mazzara, USMC, is the S3 of the 10th Marines, 2d Marine Division, Camp Lejeune, North Carolina. He recently completed an assignment as Assistant Program Manager, Tactical C^2 Systems, Ground C^2 Office of the Marine Research, Development and Acquisition Command at Quantico, Virginia. Lieutenant Colonel Mazzara commanded H Battery, 3d Battalion, 10th Marines, Camp LeJeune, and a Marine Corps Recruiting Station in northern New Jersey. He's a graduate of the US Naval Academy, Annapolis, Maryland, and the Marine Corps Command and General Staff College, Quantico, and holds a master's in Systems Management from the University of Southern California.