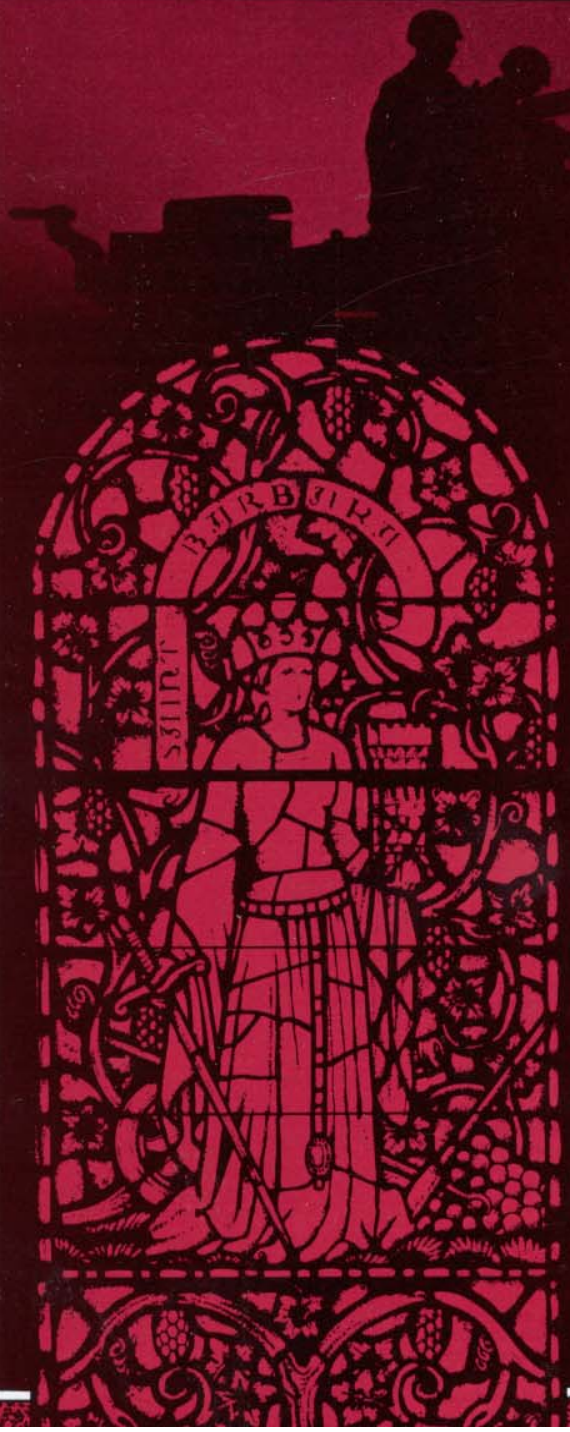
Field Artillery

A Professional Bulletin for Redlegs

December 1990



The Red Book
An Annual Report

As the storm clouds rumble
In a land so far away,
And Artillerymen are moving out
Preparing for—come what may.
We turn to you, Saint Barbara,
And ask you once again
Guide, comfort and protect
Our Field Artillerymen.

HQDA PB6-90-6

Field Artillery

A Professional Bulletin for Redlegs

December 1990 HQDA PB6-90-6

DISCLAIMER: ***Field Artillery***—a bimonthly professional bulletin for Redlegs (ISSN 0899-2525)—is published by Headquarters, Department of the Army under the auspices of the US Army Field Artillery School, Fort Sill, OK. The views expressed are those of the authors, not the Department of Defense or its elements. ***Field Artillery's*** content doesn't necessarily reflect the US Army's position and doesn't supersede information in other official Army publications. Use of news items constitutes neither affirmation of their accuracy nor product endorsement.

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, P.O. Box 33027, Fort Sill, OK 73503-0027. Telephone numbers are AUTOVON 639-5121/6806 or commercial (405) 355-4677 or 355-8745. Dues are $16.00 per year ($31.00 for two years and $46.00 for three years) to US and APO addresses. All others add $9.00 per subscription year for postage.

SUBMISSIONS: Mail to Editor, ***Field Artillery***, P.O. 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 space limitations.

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 at Lawton, OK 73501. Send address changes to ***Field Artillery***, P.O. Box 33311, Fort Sill, OK 73503-0311.

Traditions of Excellence

As your new Editor, I promise to continue ***Field Artillery*'s** tradition of excellence. I salute my predecessor, Major Charles W. Pope, Jr., for his three years of successful service as Editor and Executive Director of the US Field Artillery Association. On Chuck's watch, the magazine's professional growth was reflected in the growth of the Association—the membership has doubled in the past three years. He deserves our thanks for **a job well done.**

This edition, the Red Book annual report, is your update. We offer the latest in our Branch—from the Chief of the Field Artillery to the personnel managers at the Total Army Personnel Command.

We want to meet your needs. So let us know how we can serve you, the Redleg Community.

Editor

Hotlines

Redleg Hotlines:
AUTOVON 639-4020
commercial (405) 351-4020

ARTEP/MTP Hotline:
AUTOVON 639-5004 or
commercial (405) 351-5004

About the Cover. Photograph: A howitzer crew of the 319th Airborne Field Artillery Regiment, 82d Airborne Division, prepares for a twilight fire mission in Saudi Arabia during Operation Desert Shield. Poem: "On Mobilization to the Persian Gulf" by John J. McMahon, World War II Redleg of McLoud, Oklahoma. Mr. McMahon is the Poet Laureate of Field Artillery as author of four other poems published in ***Field Artillery***. Stained-Glass Window: Art Director Donna Jeanne Covert's rendition of the Saint Barbara's window in the Old Post Chapel, Fort Sill, the oldest chapel in Oklahoma.

Thanks. The *Field Artillery* staff thanks Captain Steven A. Gibson III for his many contributions to this edition.

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

Editor: Major Colin K. Dunn
Managing Editor: Patrecia Slayden Hollis
Art Director: Donna Jeanne Covert
Assistant Editor: Joanne Alexander Brown

Field Artillery State-of-the-Branch Address

by Major General Raphael J. Hallada

We've seen some tremendous changes in 1990, both in world politics and the Threat. In the past, our focus has been primarily on Europe. However with recent worldwide turmoil, the need for a strategic, deployable force has never been greater.

Improving Our Doctrine

This new global focus has given added importance to developing a how-to-fight doctrine appropriate for strategically deployable forces. The new AirLand Battle-Future (ALB-F) doctrine focuses on worldwide contingency operations. It maintains the three-dimensional nature of AirLand Battle while it reduces our reliance on forward deployed forces.

In today's resource-constrained climate, it's impossible to field the large armies of the past. The nature of war is changing. Stagnant, linear battlefields are giving way to smaller, nonlinear engagements, and our updated ALB-F meets the challenges of that modern battlefield.

In ALB-F, we envision four stages of conflict: acquisition, fires, maneuver and reconstitution.

The Acquisition Stage consists of locating and tracking the enemy from mobilization throughout the conflict. Modern technology allows us to track large forces virtually anywhere on the modern battlefield. Our advances in this area allow us to see enemy forces at great distances, locate them precisely and engage them with fires accordingly.

In the Fires Stage, we use long-range fires to attrit and destroy the enemy's will to fight before he engages our maneuver forces. The primary players in this stage are the corps artillery, Army aviation and the Air Force. The Corps Arty controls the long-range rocket and missile fires and coordinates other assets, such as attack helicopters, Tac Air aircraft and Naval gunfire.

In the third stage, maneuver means "close combat" and relies on speed, agility and lethality as the main ingredients for success. The primary artillery players during this stage are the Div Arty and the reinforcing battalions of the corps Artillery brigades. Their assets shield our tank and infantry battalions from hostile indirect and, to a degree, direct fire.

The Reconstitution Stage consists of recovery operations. During this Stage, consolidation and redistribution of soldiers, ammunition and vital supplies; maintenance of equipment; and planning and preparation for follow-on operations are the primary functions.

AirLand Battle-Future focuses on preparing for and fighting worldwide contingencies. It foresees fundamental changes in the nature of warfare, emphasizes force mixes and increases the role for fire support early in the fight. It's the foundation of modern warfare.

New Field Artillery Roles

With the shifting focus, we must relook and update our doctrine. Where we used to speak of three Field Artillery roles in AirLand Battle (close support, deep attack and counterfire), we now are thinking in terms of only two: close support and long-range fires.

Technological advances have overcome the need for the separate role of counterfire. Our new doctrine stresses that counterfire, which supports maneuver, is a part of both close support and long-range fires.

Corps Artillery

The Corps Arty is no longer a collection of Field Artillery brigades waiting to be apportioned in wartime. Instead, it's decisively engaged as a single tactical entity from the moment conflict begins.

The Corps Arty is evolving into a unit similar to the Div Arty. It'll play a major role in the planning, allocation and execution of long-range fires in support of the corps commander. It also will provide much of the Field Artillery assets needed in general support (GS) at the division level.

The Corps Arty commander becomes more of a combat leader than in the past as he plans, allocates and controls all fire support assets, particularly early during the Fires Stage. Obviously, he must base his fire support decisions on the corps commander's intent, and his focus is the corps area of interest. But the Corps Arty commander won't be blind to the Div Artys' needs.

Stagnant, linear battlefields are giving way to smaller, nonlinear engagements, and our updated ALB-F meets the challenges of that modern battlefield.

[The corps artillery is] decisively engaged as a single tactical entity from the moment conflict begins.

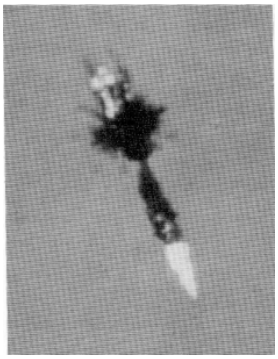
Division Artillery

The Div Arty, too, dons a new role. A viable Div Arty is essential to ensure the proper training of the direct support (DS) battalions. The Div Arty staff must coordinate those measures that add timeliness and precision to massed fires: survey and meteorological data and coordination among all elements of the fire support system.

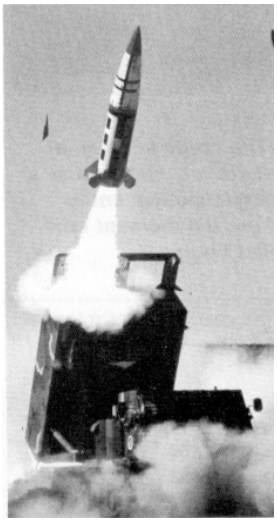
The Div Arty's key mission is to integrate, or better yet, orchestrate the fire support assets allocated by the corps. Recent automation and communications advances allow the Div Arty to accomplish these missions while becoming considerably leaner.

Upgrading Our Equipment

The nature of future warfare demands that we shift our focus and modernize with an eye toward more deployable and lethal systems that cost less.



Fire support for the maneuver force has and will always remain our number one priority.



Recent technological advances allow us to lighten our weapons and ammunition while improving our ability to destroy the enemy. New developmental systems—the lightweight towed 155-mm howitzer, high-mobility artillery rocket system (HIMARS), sense and destroy armor munitions (SADARM) and others—lighten our logistical load yet provide "more bang for our buck."

Other systems, such as the M109A6 Paladin and the Army tactical missile system (Army TACMS), provide accurate, high-volume and long-range fires. Command and control systems also will improve with the lightweight tactical fire direction system (LTACFIRE) and advanced Field Artillery tactical data system (AFATDS).

Our developmental efforts include the ground-launched Tacit Rainbow missile, future armored resupply vehicle-ammunition (FARV-A), the advanced Field Artillery system-cannon (AFAS-C) and more than 25 other systems being developed today for tomorrow's warfare.

Our equipment upgrade has been quite successful, given the tough times we've encountered these past few years. Field Artillery systems continue to meet acquisition milestones. Even better is the fact that our fielded systems perform as advertised, and most have gone beyond our expectations. They'll serve us well into the 2000 era.

Reducing the Force

It was once said that the surest way to start a war is to reduce the Army. That's an oversimplification of a very real perception that a reduction in armed forces equates to a weakened national will. But most Americans today understand the basic role of the Army. The harsh judgments of the Vietnam era and the misconceptions fostered in the 60s have given way to a new attitude about national security.

But the Army will get smaller. The Field Artillery will take its reductions in proportion by reducing its forward deployed units overseas and active units here at home.

Our role in global contingencies won't change. Fire support for the maneuver force has been and will always remain our number one priority. To accomplish our priorities in a smaller Army, we must take advantage of new technology to increase our efficiency.

Caring for Our Soldier

In tough, challenging times like these, leaders can't forget to take care of their most important asset, their soldiers. It's hard to reduce an army quickly. Our real challenge will be to take our share of the personnel cuts and still maintain a superbly trained force and continue its high morale.

Training for Tomorrow

Today's soldier must be able to solve difficult problems quickly, think for himself and use his intuition to accomplish numerous assigned missions. The recently revised military qualification standards (MQS) system provides our officers clear-cut, achievable goals that can be monitored throughout their careers. The new Self-Development Test (SDT) will do the same for our NCOs.

Training must be in the forefront of the allocation of our already limited resources. Commanders must never forget that training is our key peacetime mission.

Meeting the Challenge

This past year has brought tremendous change to our world. As our focus broadens to contingencies beyond Europe, we'll also be severely restricted by funding.

The Field Artillery continues to make tremendous gains in doctrine, materiel and training. However, it's still up to the leaders to take care of our soldiers and navigate the troubled waters ahead. I'm confident we'll continue to meet the challenge. Because, **The Future Belongs to the Field Artillery**—I guarantee it!

Major General Raphael J. Hallada has been Chief of Field Artillery and Commanding General of the US Army Field Artillery Center and Fort Sill, Oklahoma, since 1987. He has spent more than 15 years in troop assignments in three divisions, including heavy and light, with two tours in Vietnam. In the 82d Airborne Division, Fort Bragg, North Carolina, he commanded the 2d Battalion, 321st Field Artillery, and the Division Artillery and served twice as Chief of Staff and as the Assistant Division Commander. As a Brigadier General, he commanded the Division for three months. Among other assignments, Major General Hallada served on the Army Staff in the Office of the Deputy Chief of Staff for Operations and Plans, Washington, D.C.

Lieutenant General Dennis J. Reimer, Deputy Chief of Staff for Operations and Plans

Reshaping the Army:

A Versatile, Mobile Force to Project Power Worldwide

Interview by Patrecia Slayden Hollis, Managing Editor

What is the greatest challenge the Army faces today?

Our greatest challenge is reshaping the Army of the future. When I talk about reshaping, I'm really talking about that in terms of three vectors. First, the obvious one, is the buildup of the forces in Operation Desert Shield in Southwest Asia. The second is the requirement to provide a force capable of meeting any contingency anywhere in the world. The third vector is reshaping the Army to take us into the 21st century and meet the requirements and missions assigned to that Army.

Reshaping the Army is a very difficult challenge. It would be difficult if we controlled *all* the things that impact upon that challenge...but we don't. We don't control, for example, the resources we get. The Congress gives us resources. We don't control a lot of what's going on in terms of arms control reductions—the Strategic Arms Limitations talks, the Conventional Forces in Europe talks.

And last but not least, we don't control the Threat. We don't know what the Threat's going to do, and we have to make sure the Army can meet the challenges any threat may pose.

In meeting worldwide contingencies, what kinds of threats do we face?

The threats run the gamut. We have a sizeable threat we've faced historically—the Soviet Union. It has a strong, very sophisticated military force. And even though the probability of facing that threat is decreasing, the Soviet Union still is the only force in the world with the strategic capabilities to destroy the United States.

But there are other threats that have become far more likely, and they're scattered throughout the world. These threats come from developing nations, but they're not necessarily unsophisticated threats. For example, many other countries that might be threats have ballistic and cruise missiles, either getting them from world suppliers or developing their own capabilities.

Our greatest challenge is reshaping the Army of the future . . . . in terms of three vectors.

The threat we face in Operation Desert Shield is a sizeable one. Iraq has a lot of modern tanks and battle-experienced military men—not a threat to be taken lightly.

Because these threats range the entire spectrum, we'll have to be very versatile in the future.

In your opinion, what's the future of our forward deployed forces stationed in Europe and Korea?

It's obvious we'll be forward deployed in less numbers. But it's in the United States' best interest to have some forward deployed forces in certain places in the world, such as Europe and Korea, because our presence indicates the highest form of commitment. Certainly as we get closer to the 21st century, we'll have to reassess that strategy.

At the lower end of the spectrum of conflict, what role does Field Artillery play?

There's an obvious need for Field Artillery to accompany any combat forces we put into any country. In lower intensity conflicts, we place an even greater emphasis on surgical strikes.

We saw that in Operation Just Cause in Panama. The surgical nature of that operation was mind boggling in terms of having to root out an enemy enmeshed with the civilian populus. So, there's going to be increased emphasis on the accuracy of the Field Artillery—its ability to accomplish the mission very rapidly, reliably and accurately.

The Army is emphasizing versatile complementary force operations, combining the light, heavy and special forces in packages. How do you see this affecting the Field Artillery force structure?

There's no doubt we need a proper mix of heavy, light and special operating forces. And the artillery is going to have to be extremely versatile and highly mobile to support these forces in the different areas of the world.

And as we bring more of our forces back to the United States, we've got to be able to project that power throughout the world. With that projection, the artillery's going to have to be able to operate in desert conditions much as we're operating now in Desert Shield and, at the same time, be able to shift to operate in another area that may have extremely cold conditions. The bottom line in determining the size and packaging of the force we'll need will continue to be based on the mission, enemy, terrain, troops and time available—METT-T.

One final thought. If you're going to have a versatile, flexible force structure, you have to train with it. We've got to provide training opportunities to mix and match forces so they can train on the fighting techniques they need. We're training that way on contingency operations at the CTCs [Combat Training Centers], both in Europe and the United States. That's going to pay big dividends.

Our soldiers have to feel confident in their abilities to handle all types of contingencies and environments, and we can give them that confidence through tough, realistic training.

. . . it's in the United States' best interest to have some forward deployed forces in certain places in the world, such as Europe and Korea, because our presence indicates the highest form of commitment.

How would you assess our target acquisition and long-range engagement capabilities in our light forces?

That's something we're all concerned about, the ability to engage targets long-range before they become part of the close battle. We've made improvements, and we have additional improvements programmed for the future.

The OH58D [observation helicopter], for example, has given us a tremendous capability. Everyone who has used it loves its ability to see behind the enemy front lines and identify targets with a great deal of accuracy.

Obviously, we need UAVs [unmanned aerial vehicles] to give us even greater resolution of the battlefield behind the front lines; those are coming on board. The ASARS—the advanced synthetic aperture radar system—which the Air Force has currently deployed in Southwest Asia, provides decent battlefield resolution with an appropriate stand-off range for self protection.

We're definitely interested in the JSTARS [joint surveillance and target attack radar system] we're developing with the Air Force. It'll increase our ability to identify deep targets.

Our Q36 and Q37 Firefinder radars are the best in the world. But we need to downsize them and make them even more accurate.

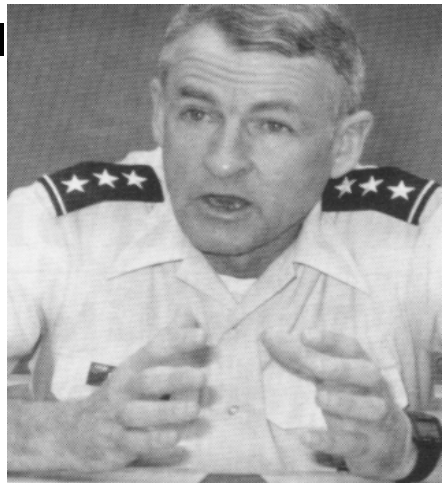
We need to do some work in terms of location devices, especially for our FISTs [fire support teams]. We're working on some global positioning and other systems that will enhance our target acquisition capabilities and provide us the accuracy we need to engage targets.

Overall, our target acquisition capability is good and getting better. But we'll need to bring some of these systems on board to get the full capabilities we need.

Given the changes in our threat, do we still need the Army TACMS [tactical missile system] to replace the aging, conventional Lance?

There's a definite need for Army TACMS. One of the first units we sent on Desert Shield was an Army TACMS battery from Fort Sill [Oklahoma]. We needed a deep-shooter to engage targets we may face.

It's very important that we continue



One of the first units we sent on Desert Shield was an Army TACMS battery. . . . We needed a deep-shooter to engage targets we may face.

to bring on Army TACMS. It gives us a very accurate, lethal deep-attack weapon that's responsive to the corps commander—that gives him flexibility.

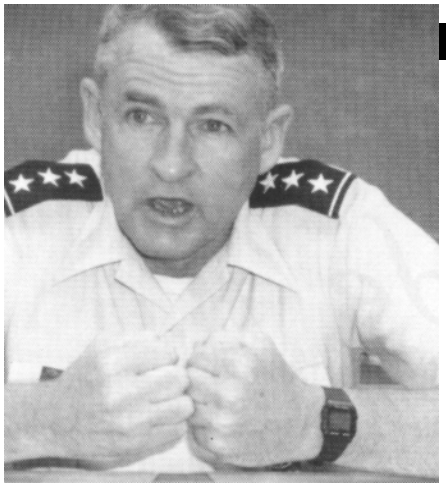
The more targets we can engage and the deeper we can engage them, the easier it will be for us to control the "head-knocking" area where our troops are engaged eyeball-to-eyeball with the enemy.

The Training and Doctrine Command has said that Operation Desert Shield will be the "base case" for the future Army. As shown by Desert Shield, how deployable are we?

The Iraqi attack on Kuwait occurred the second of August and about the sixth of August, the Saudis asked for our help. By the ninth of August, we had soldiers on the ground in Southwest Asia. I think we indicated our ability to deploy forces very quickly.

Our mission over there is to deter further aggression and defend the Kingdom of Saudi Arabia. We have done that exceptionally well. Elements of the 82d [Airborne Division, Fort Bragg, North Carolina] deployed initially because it was our most ready unit—ready to go in 18 hours.

The next unit that flowed from the continental United States was some of the heavy forces of the 24th Infantry Division [(Mechanized), Fort Stewart, Georgia]. Obviously, you can move the 82d by air whereas the 24th with its heavy equipment takes sealift. But we used the SL7s, our fast sealift capability,



. . . we moved more men and equipment in three weeks for Operation Desert Shield than we moved in three months for the Korean War.

to move the 24th over there.

We then started to flow units of the 101st Airborne Division [(Air Assault), Fort Campbell, Kentucky], followed by elements of the 1st Cav [Cavalry Division, Fort Hood, Texas] and the 3d ACR [Armored Cavalry Regiment, Fort Bliss, Texas]. So, we've been able to move a large force over there very quickly.

In comparison to other situations, we moved more men and equipment in three weeks for Operation Desert Shield than we moved in three months for the Korean War. It was a real success story. So the United States Army is a deployable army.

Now, can it be better? The answer is, Yes. Did it all go as smoothly as we'd like? The answer is, No. We learned from Desert Shield we need to improve our strategic deployability. We have to ensure our forces have the strategic deployability to accomplish the mission. And we're always looking for ways to improve.

And don't underestimate the challenge we face. It's a very difficult challenge to move as much men and equipment as we did over those distances into such an austere theater as that of Desert Shield. The people in the field, those working in the ports and those who deployed to the desert at Firebase Oasis, really deserve the credit.

With the Conventional Forces in Europe [CFE] talks and the anticipated limits on nuclear forces, what's the future of cannon-fired nuclear projectiles in Europe?

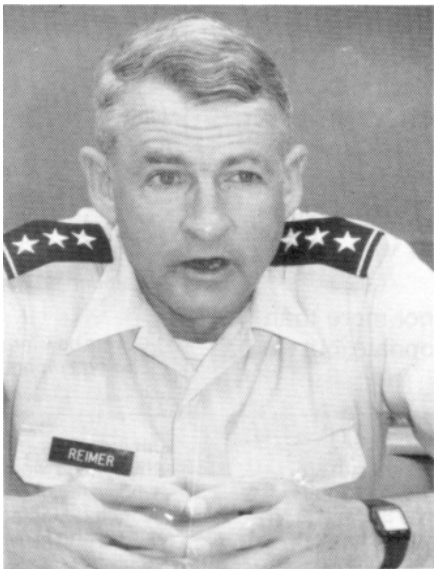
The US has announced we're prepared to withdraw all our artillery-fired atomic projectiles, or AFAPs, as long as the Soviets do. So the nature of and the requirement for AFAPs probably will change in Europe.

That doesn't necessarily mean they're going away. We can always reinforce Europe very quickly if we have to, so we don't have to have that capability stationed in Europe.

We're going to have to come to grips with just what the role of the nuclear Army is, and that's under a great deal of discussion right now. The important thing is the nuclear Army played a great part in winning the Cold War. We need that capability because it "buys" a great deal of deterrence.

So the question becomes, Can we maintain our nuclear readiness in places like Europe? And the answer is, we must maintain that capability, even if it's in a different form than we currently have.

Our NCOs are providing tremendous leadership—better than in anytime in my career. They take our units to the Combat Training Centers for tough, realistic training. We based our reorganization in Europe on retaining the best training areas to maintain readiness. Finally, we're going to have to rely even more heavily on simulations to maintain our combat readiness edge.



Our NCOs are providing tremendous leadership—better than anytime in my career.

Has Desert Shield caused us to reassess our chemical capabilities, and if so, how?

Basically, No. But what it has done is point out the importance of tough, realistic training under all conditions, including chemical. We do a lot of that at the National Training Center [Fort Irwin, California]—chemical training on defensive equipment and protecting soldiers in that environment. It gives our soldiers confidence that they can handle this type of threat.

We're still committed to doing away with offensive chemical weapons as long as the rest of the nations in the world do the same.

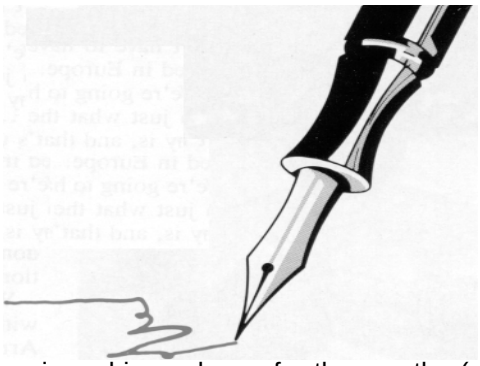
What message would you like to send Field Artillerymen worldwide?

The Field Artillery has played a key role in winning every war, and it'll continue to provide that edge in the future. Redlegs are a vital part of the combined-arms team, and you must train that way. It's more important than ever that you continue to train to the high standards you've always had.

As we face a dynamic and uncertain future, Field Artillerymen are going to have to be mobile and versatile enough to accomplish their missions wherever they're sent. There's no doubt that it's a tough job, but there's also no doubt Field Artillerymen can handle it.

Based in Washington, D.C., Lieutenant General Dennis J. Reimer is Deputy Chief of Staff for Operations and Plans (DCSOPs) and Senior Army member on the Military Staff Committee of the United Nations, Before becoming the DCSOPs, he was Commanding General of the 4th Infantry Division (Mechanized) and Fort Carson, Colorado. He also commanded III Corps Artillery, Fort Sill, Oklahoma; 8th Infantry Division (Mechanized) Artillery, US Army Europe; and 1st Battalion, 27th Field Artillery, 4th Infantry Division. Lieutenant General Reimer served two tours in Vietnam, including one as the Executive Officer and later as S3 of the 2d Battalion, 4th Field Artillery, 9th Infantry Division (Motorized). Other assignments include serving as the Chief of Staff of the 8th Infantry Division and Assistant Chief of Staff, C3/J3, for the Republic of Korea/United States Combined Forces Command.

Field Artillery Author's Guide



Field Artillery is the bi-monthly professional magazine for US Army and Marine Corps Active and Reserve Component Redlegs of all ranks. Our purpose is to keep Field Artillerymen worldwide current on the latest Branch developments, share success stories from field units and serve as a forum for professional discussions.

About 40 percent of our readers are battery-grade with the remaining 60 percent more senior soldiers and Marines; military personnel from other branches, services and our Allies; Department of Defense civilians; corporate executives; and politicians.

Though we have a theme for each edition, we aren't theme-bound. We publish timely, useful articles, regardless of their relevance to the theme.

Criteria for Publication

Your manuscript must—

- Have lessons learned that are applicable or content of special interest to Redlegs today.
- Be clearly written with a bottom line (thesis statement) up front.
- Be accurate, logical and complete.
- Have no classified information in it.
- Promote safe techniques and procedures.

Your article can disagree with current doctrine, tactics, techniques, procedures or Branch policies, as long as it meets the criteria listed above. If you have an idea for an article, give us a call. We may be able to save us both a lot of time by letting you know what we've recently published or are about to publish on the subject.

Submissions

- Double-spaced, typed manuscripts of not more than 2,500 words; include footnotes, as appropriate, but we may not publish them.
- Comprehensive biography of the author(s), including current job, address and telephone number and experience and training that credentials you as an author on that subject.
- Graphics with captions to illustrate your article, including black and white or color photographs, slides, maps, posters, charts, graphs, crests, unit symbols, etc. Send all to—

Field Artillery
P.O. Box 33311
Fort Sill, Oklahoma 73503-0311
AUTOVON 639-5121 or 6806
Commercial (405) 351-5121 or 6806

1991 *Field Artillery* Themes

Publication Date	Theme	Article Deadline
February	Fire Support in Complementary Force Operations	1 Oct 90
April	Redleg Light Fighters and Lower Intensity Conflict	3 Dec 90
June	Molding the Modern Field Artillery*	4 Feb 91
August	History Contest: Fire Support in Combined-Arms Operations	Contest: 4 Feb 91 Regular: 2 Apr 91
October	Field Artillery Lessons Learned in Desert Operations	3 Jun 91
December	Red Book, Annual Report	5 Aug 91

** Covers new force design, unit deactivations, movements of units and equipment, redefined threat, etc.*

1991 History Writing Contest Rules

The US Field Artillery Association is sponsoring its sixth annual History Writing Contest with the winners' articles to be published in the August 1991 edition of ***Field Artillery***. Submit an original, unpublished manuscript on the theme "Fire Support in Combined-Arms Operations" by 4 February to compete.

The Association will award $300 for the First Place article, $150 for Second Place and $50 for Third. Selected Honorable Mention articles also may appear in the August ***Field Artillery***.

Civilians of any nationality or military of all branches and services, including Allies, are eligible. You don't have to be a member of the Association to compete. Your submission should include your (1) double-spaced typed manuscript of no more than 2,500 words, (2) biography and (3) graphics (black and white or color photographs, etc.) to support your article. Be sure to include footnotes and a bibliography with your manuscript.

The article should include specific lessons or concepts that apply to today's Redlegs in combined-arms operations. It should not just record history or document the details of an operation. Authors may draw from any historical period they choose.

By 4 February, send the article to the US Field Artillery Association, ATTN: History Contest, P.O. Box 33027, Fort Sill, Oklahoma 73503-0027. For more details, see the article "1991 History Writing Contest," Page 29, August 1990.

I Corps Artillery

I Corps Arty, headquartered in Salt Lake City, Utah, is composed of dedicated and knowledgeable personnel who are totally committed to supporting the First US Corps—America's Corps—with units ready to deploy, fight and sustain during any contingency. I Corps Arty has earned the reputation of being technically and tactically proficient in providing effective fire support for the Corps.

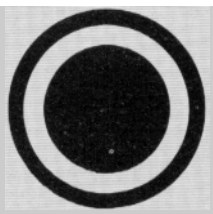
Throughout the current FY, I Corps Arty has enthusiastically met its obligations by aggressive commitment. Our responsibilities include providing mission guidance and training assistance to six FA brigades and their subordinate battalions as well as participating in a variety of CONUS and OCONUS training exercises. The exercises include Team Spirit and Ulchi Focus in South Korea, Yama Sakura in Japan and Cascade Peak (Warfighter-BCTP) in Fort Lewis, Washington.

I Corps Arty is a major subordinate command of the Utah ARNG. Our Headquarters commands and controls up to 24 FA battalions—Active, Reserve and National Guard. These units are located throughout the United States from Wisconsin in the East to Utah in the West and from South Dakota in the North to Arizona in the South. By this integration, I Corps and I Corps Arty truly understand the One-Army Concept.

BCTP Warfighter

1989 provided I Corps Arty the challenge and opportunity to participate in the I Corps Warfighter exercise. Because of progressive planning and proactive execution, the exercise was a noticeable success. This training, as well as other exercises, has definitely honed I Corps Arty into an effective fire support headquarters for the I Corps Commander.

The success during Warfighter 89 was the result of a proactive fire strike coupled with an innovative counterfire program. The exercise was preceded by two very productive seminars conducted at Fort Lewis and Fort Leavenworth, Kansas. The initial command guidance and foresight demonstrated by our senior leadership provided the catalyst for an effective and successful operation.



In Yama Sukura in Japan, I Corps Arty works for IX Corps.

Fire Support/Capstone Conference

During January 1991, I Corps Artillery will host the ninth annual I Corps Fire Support/Capstone Conference. I Corps Arty is anticipating another successful conference by gathering together some of the most knowledgeable and experienced Field Artillerymen, both Active and Reserve Components.

As in the past, representatives from all levels of the fire support family will be attending to share ideas and receive command guidance on current and future operations. Representatives from maneuver commands and I Corps support units also will attend. The Conference theme will be how to meet training readiness with limited resources.

Continuing Challenges

This year has been a productive but challenging one for the proud members of America's Corps Artillery. And we're ready to meet the challenge of the new year.

We'll continue to effectively integrate the old with the new as we slowly modernize our brigades and battalions with the TACFIRE equipment as well as other equipment being fielded or handed down to us by our Active Component cousins.

We're planning innovative and realistic training opportunities, even though resources as well as time will be limited. We accept the challenge for finding new ways to accomplish our goals and objectives.

The future will bring more emphasis on using training aids, devices and simulators to help hone our units to a high state of readiness. We support using large-unit live-fire exercises and will aggressively plan for their implementation and execution. During these trying but exciting times, we'll remain second to none.

I Corps Arty is proud of its accomplishments and looks to the future with great optimism. ***America's Corps Artillery!***

I Corps Arty in a staging area in Pusan, Korea, during Team Spirit 90.

III Corps Artillery

The III Corps Arty, Fort Sill, Oklahoma, had a superb year with many Army firsts in FY 90. We can deploy, fight and support the Phantom Corps with high-quality soldiers and units in any part of the world. With the deployment of our units to the Persian Gulf in Desert Shield, our soldiers daily demonstrate their competence.

Roadrunner

III Corps Arty participated in Roadrunner 90 in May. This exercise included corps, divisional and brigade headquarters elements maneuvering in central Texas over distances similar to those expected in a European scenario. The exercise began in Brady under torrential rains that limited maneuver space for all units.

In this exercise, we accomplished Army firsts with the fielding of MSE, which provided dependable, efficient, tactical communications. The maneuver control system (MCS) provided the Corps Arty Commander another means of getting information on unit strengths, positions and supply status. These systems were fully tested by III Corps Arty. Finally, Roadrunner 90 included the first field test of the DA-sanctioned standard CP.

Lance Rotations

The 212th Bde's Lance battalion, 6-32 FA, sent a battery of soldiers to South Korea as a total unit replacement for a Lance battery rotating back to CONUS. This unit is the last of its kind and the second Lance battery to be trained and moved collectively to Korea in the past two years. In the future, Lance battery personnel will revert to the usual individual replacement system.

MLRS Collective Training

The 3-9 FA in the 214th Bde is very busy wearing two hats. It recently completed the stand-down of the Pershing II missile system and fielded MLRS to do collective training for OCONUS units. The Alpha and Bravo Batteries of 2-32 FA from Germany were the first group to be trained. Soldiers were taught MLRS tasks in an eight-week cycle. The 3-9 FA also trained C/2-32d FA.

SAE IIB

The 2-17 FA and 3-18 FA, 212th Bde, conducted the Soviet Artillery Effects (SAE) Test IIB and fired more than 8,000 155-mm projectiles. The FA Board test parameters required 2,600 rounds of 155-mm ammunition using 24 howitzers to be fired in a 90-minute period. This means firing a round every 40 seconds—a tremendous training opportunity for III Corps Arty.

Army TACMS

In February, the 6-27 FA (MLRS), 75th FA Bde, conducted individual and collective training on TACFIRE Version 9 and MLRS Version 6 software for the operation of the deep-attack MLRS launcher in preparation for the Army TACMS' initial testing. The MLRS Battalion deployed to White Sands Missile Range, New Mexico, for more than two months. The unit conducted three ground pilot tests and two intense 96-hour tests under simulated combat conditions. In the flight test, 6-27 FA fired 15 Army TACMS in single, multiple and dual shoots—the first and only tactical unit to live-fire the Army TACMS. This test has been lauded as the new standard for excellence.

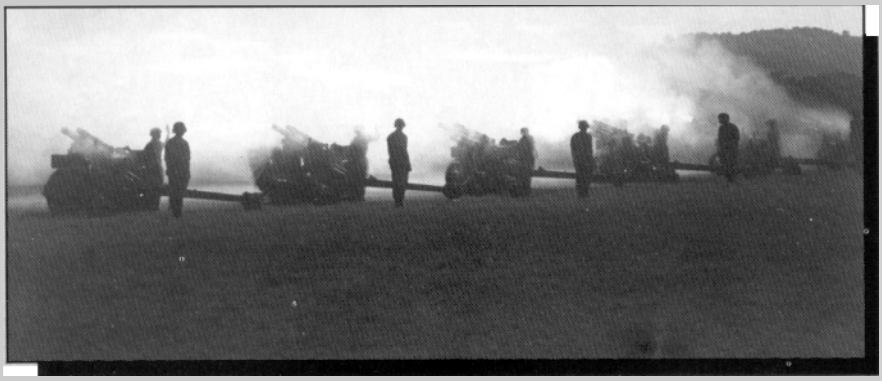
The 6-27 FA, the first unit to fire Army TACMS, fires one of 15 missiles at White Sands.

Gouda Orion

III Corps Arty implemented the DA initiative Gouda Orion in mid-April through August. The Gouda Orion test validated the feasibility of placing authority for determining the nuclear qualification status of noncustodial, nuclear-capable units on the first General Officer in the chain of command (corps arty or division commander). This program would replace the current SEE and TVI with a single tactical evaluation.

The commander can establish objectives for nuclear qualification criteria, and nuclear capabilities are evaluated in the unit's SEE, emergency action procedure (EAP) certification and readiness data. Units receive one of three ratings: nuclear capable, nuclear capable with limitations or not nuclear capable. We've evaluated Lance, 8-inch and 155-mm battalions using this system.

We remain trained and deployable for any contingency as the ***Phantom Corps Arty.***



B/2-2 FA fires a salute at Fort Sill.

V Corps Artillery

1990 has been a year of unprecedented change for V Corps Arty, headquartered in Frankfurt, Germany. We witnessed evolutionary changes in the threat, our alliance and our training environment. Correspondingly, we trained smarter, cheaper and safer.

V Corps Arty focuses on the deep battle to support our maneuver forces. This year, we participated in demanding NATO, USAREUR, corps and division FTXs and CPXs.

Our units participated in exciting new training at the CMTC. They supported a brigade-sized task force in the field and a computer-simulated brigade with FDC support. Unique at the CMTC, FA battalions train with their maneuver elements without entire FA battalions in the field.

We assembled our Reserve Capstone artillery trace for a Redleg terrain walk to keep these artillerists abreast of changes in our mission and maintain our solid working relationships.

The CINCUSAREUR directed the Corps Arty develop a new training strategy, now approved for all FA units in USAREUR. Our FA Tables train the gunnery team before live firing, link live rounds with METL tasks, train all parts of the gunnery/fire support team and maximize simulation use.

V Corps Arty pioneered the application of deep-attack concepts against JESS. We interdicted simulated enemy forces with a full range of fire support assets and synchronized the Corps rear, close and deep fights.

Caravan Guard 89 was a division-on-division FTX that simulated enemy first- and second-echelon forces. V Corps Arty was the Force Artillery Headquarters, performing deep-fire missions.

REFORGER 90, Centurion Shield, was the largest simulation exercise ever in USAREUR and verified the value of simulation-driven field training. It integrated the Corps' deep fire support assets and focused combat power on simulated deep-operations objectives. Warfighter 90 further validated our deep-battle doctrine and gave us the first opportunity to use Army TACMS.

41st Field Artillery Brigade

The 41 FA Railgunners Bde had a very successful year. In Caravan Guard 89, it fine tuned operations for REFORGER 90, where it supported a CONUS-based division, armored cavalry regiment and allied armored brigade.

Each battalion developed a realistic, cost-effective METL training program. Cannon battalions provided direct and general support fires to maneuver units at the CMTC. The Lance battalion fires annually at Crete, Greece; all Brigade units conducted challenging training in maneuver rights areas (MRAs). The Brigade reevaluates training every 16 months in battalion SEEs.

V Corps Arty soldiers have an NBC evaluation during their Howitzer Section Evaluation.

Cannon battalion SEEs include a MRA phase with the live-fire portion at Grafenwoehr, evaluating continuous, integrated nuclear and conventional operations. They also evaluated tactical river crossings, helicopter medical evacuations, aerial observer missions and major subordinate unit (MSU) operations.

42d Field Artillery Brigade

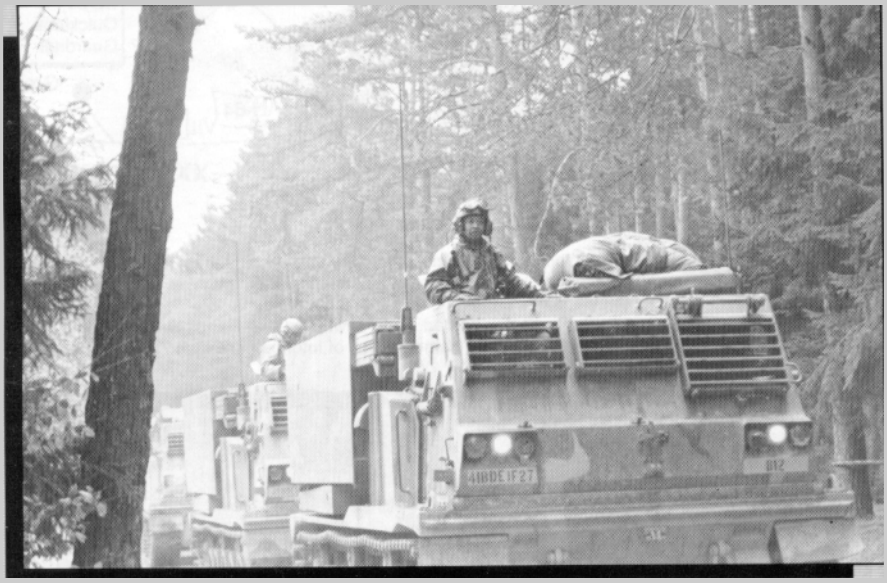
The 42d FA Wheel Horse Bde enjoyed an exciting and successful year. Intensive training in force artillery firing exercises at Grafenwoehr, CMTC rotations at Hohenfels, Caravan Guard 89, REFORGER 90 and Warfighter 90 (BCTP) honed individual, crew and staff skills. Additionally, it strengthened its MSU relationship with the 3d AR Div Arty.

One Lance battalion converted into the Army's first MLRS/Army TACMS battalion, completing battery ARTEPs. The other Lance battalion validated its compressed (3x4) TOE in rigorous field trials, culminating in a close-out nuclear weapons inspection.

New Challenges

In 1990, we fully integrated our commanders, staffs and units into V Corps Train Smart, the simulation training of the future. In 1991, we'll pursue excellence through safe, mission-oriented training; concentrate decisive combat power any time and place; and remain a leader in corps fire support doctrine.

The V Corps Arty motto ***Steadfast and Strong*** reflects our determination to remain consistently excellent in a world of change and to defend freedom in Europe and throughout the world.



Soldiers of the 1-27 FA, 41 FA Bde, move out during an MLRS exercise in Germany.

VII Corps Artillery

1990 was a good year for the VII Corps Arty. Headquartered in Augsburg, Germany, the Artillery of the Jayhawk Corps continued its drive toward excellence. Our primary focus was on METL-related training.

The Corps Commander appointed the Corps Arty Commander as his executive agent to plan quarterly deep-attack exercises. These exercises integrated all battlefield operating systems, joint and echelons-above-corps, and several corps and divisional commands. (See the Figure.)

The Gunnery Tables for the USAREUR FA Training Strategy developed by V Corps Arty were tested by eight VII Corps Arty units. With six to eight weeks of training, they proved standards could be met with proper use of the "Training Gates" in the Tables.

Corps Arty units experimented with new methods of using the Combat Vehicle Support System (CVSS). The old method used CVSS for battery training, sending each to GTA for gunnery only. This didn't benefit the battalion gunnery team. The new method takes all six FDCs, command and control (C^2) assets, survey and the entire gunnery team and borrows the six CVSS howitzers to tie one to each FDC. The new CVSS training takes 12 days, rotating gun crews through three-day cycles. We think it helped.

We also are using dry-fire phases in ARTEPs but without the howitzers and FAASV/M548s. The entire C^2 system participates as do all advanced parties, survey and logistical elements. We achieved doctrinal distances and stressed the C^2 and logistical systems to the limit. Our leaders derived collective training benefits without the cost of having tracked vehicles on the German countryside.

This year, Corps Arty units provided reinforcing fires for all divisional units in support of their semiannual CALFEXs and CMTC rotations, strengthening the solid relationships between Corps units and our divisional counterparts.

Combat Brigades

The 17th Thunderbolt Bde's year was marked by rapid changes that required us to provide reinforcing artillery fires anywhere with any C^2 interface. The Brigade was mobile and flexible during REFORGER 90, in support of the 1st Armored Division at the CMTC and CALFEX ranges at Grafenwoehr and during BCTP Warfighters with both the 1st Armored and 3d Infantry Divisions. The 17th FA Thunderbolts remain ready to fight and win anywhere, anytime.

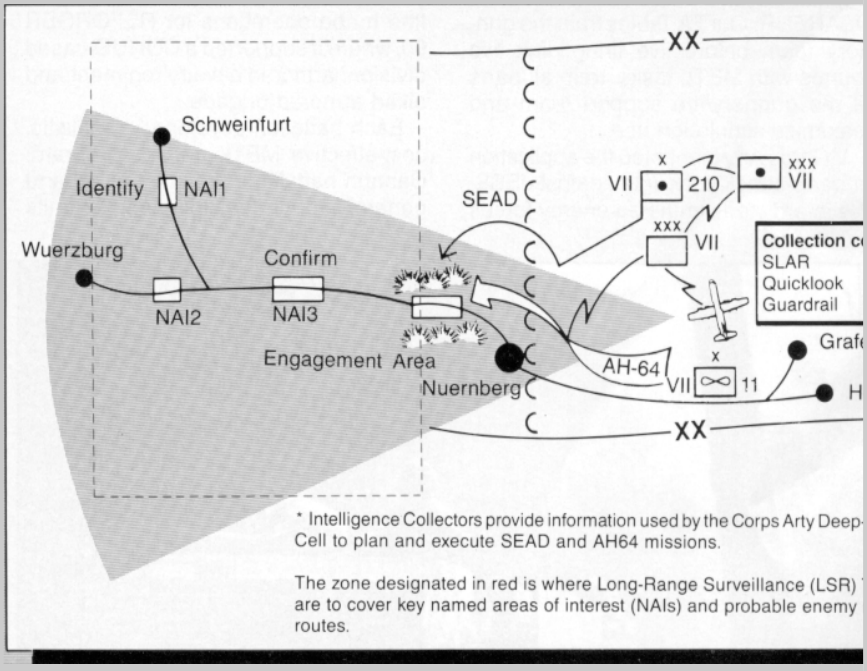
The 72d On Time, On Target Bde focused on agility and flexibility in keeping with the Agile Corps concept. During Eiserner Express, a tri-national exercise, the 72d Bde worked with the German 12th Panzer Division, French 6th Armored Division and 3d (US) Infantry Division. In two Grafenwoehr rotations, the Brigade joined the 3d Div Arty in live-fire exercises where the firepower of the Brigade, 3d Div Arty and attack helicopters of the Marne Division's 4th Bde was successfully synchronized.

The 210th Crescent Bde participated in several exercises that proved its mettle during FY 90. Synchronization and agility were commonplace during REFORGER 90 and against the OPFOR at the CMTC. Responsiveness to maneuver operations and accuracy of massed fires were demonstrated during the August Grafenwoehr density when the Brigade responded to many fire requests. In live JAAT exercises with battalion-sized organizations, combined with SEAD fires for corps cross-FLOT operations, the Brigade synchronized fires from battalion to corps.

Future Challenges

The VII Corps Arty has faced many challenges in Europe during the past 72 years. We face new challenges as we prepare to meet the uncertainty of the post-Conventional Forces in Europe (CFE) European Theater and an inevitable reduction in resources. We'll meet these challenges by training smarter, with fewer large-scale exercises and relying more on computer simulations and training devices.

We remain combat ready—now and in the future—with firepower as the ***Free World's Largest Corps Artillery.***



VII Corps Deep-Attack Exercises. This figure shows how the Corps lined up for action, using the 3d Infantry Division coming from its home stations in Wuerzburg and Schweinfurt to the GTA and CMTC. Participating Units: VII Corps—TOC and Collection Assets; Corps Arty—TOC and TACFIRE; 210th FA Bde—TOC and TACFIRE; 69th ADA Bde—ADA Targets; 3 ID—Convoys; and 11th Avn Bde—AH64 Task Force.

XVIII Airborne Corps Artillery

As amply shown by our deployments in Desert Shield, the XVIII Abn Corps, headquartered at Fort Bragg, North Carolina, remains the Nation's airborne strategic contingency force. We're always prepared for forced-entry operations and battle across the full spectrum of combat intensity.

As the Contingency Corps Arty, the FA and FSE of the XVIII Abn Corps Arty can deploy by air (including parachute assault) and surface to provide artillery fires, TA and all other fire support to the Corps' maneuver force.

In the past year, we've honed our war-fighting skills by participating in exercises to refine fire support operations and adopt current doctrine for fire support in the contingency and airborne communities.

The Corps Arty operates as often as part of a joint force as it does as an Army Force (ARFOR) element. Our principal training opportunities are the JTX, corps battle simulation (CBS) and BCTP. This year we participated in JTXs Sand Eagle, Solid Shield, Bright Star, Ocean Venture and Internal Look 90. In support of these exercises, our gunners have parachuted into drop zones from Cedar Island on the North Carolina coast to Wadi Netrun in Egypt. Other JTXs have taken us to Puerto Rico and the NTC.

Readied and tempered by our realistic training environment, the Corps Arty's FSE planned, coordinated and controlled the fires of Operation Just Cause. The FSE employed Firefinder radars and AC-130 aircraft to cover all Joint Task Force-South ground operations. Responding to targets acquired by Q36 radars, the FSE destroyed them with artillery and AC-130 fires.

18th Field Artillery Brigade (Airborne)

Primarily at Fort Bragg, the 18th FA Bde has logged another action-packed year. The Brigade continued a close relationship with the divisions of the Corps through NTC rotations and emergency deployment readiness exercises (EDRE). The Brigade's 155-mm airborne battalion, 1-39 FA, can have a platoon airborne within 18 hours.

It demonstrated its readiness during an EDRE when it executed an airborne insertion with virtually the entire battalion together with the Corps Arty and 18th FA Bde assault CPs. The Battalion also teamed up with the 10th Mountain Div Arty to provide 155-mm fires to a division task force during a Corps EDRE.

The battalions of the 8th FA have been equally busy. The 3-8 FA's year was highlighted by an NTC rotation with the 197th Sep IN Bde. For the 5-8 FA, support to the 101st Abn Div (AAslt) remains the priority. Battery C, stationed at Fort Campbell, Kentucky, provides daily support to the 101st Div Arty.

The low-altitude parachute extraction system (LAPES) is another way to get the Contingency Corps' equipment on the battlefield rapidly.

Another great day in the life of an XVIII Abn Corps Redleg—Airborne all the way!

3d Battalion, 27th Field Artillery (MLRS)

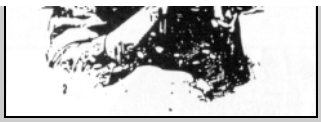
The 3-27 FA remains the Contingency Corps' deep-strike artillery. The Battalion has set the pace for the MLRS community in live-fire training realism. Strictly using the data provided by the onboard computer, the 3-27 FA launchers aren't restricted to a limited number of surveyed firing points at Fort Bragg.

Capstone Teammates

Our Capstone/DTA Reserve Component FA brigades are full-time teammates. We contribute to their unique training requirements, while they're tempered by the challenge of fast-paced Active Component JTXs.

The Dragon Fire joint live-fire exercise series culminates the Corps Arty's year of training. The lessons learned and operational procedures developed during JTXs are put to the live-fire test. Massing the fires of the 18th FA Bde, our Reserve Component FA brigades, available Div Artys and the 10th Marine Regiment in Dragon Fire II synchronized the fires of more than 160 howitzers.

The XVIII Airborne Corps Arty has outstanding soldiers and leaders with units trained and ready. God willing, our readiness will not be tested on the sands of the Arabian Peninsula. But should we have to fight, we're ready as the ***Contingency Corps Arty.***



56th Field Artillery Command

During 1990, Intermediate-Range Nuclear Forces (INF) Treaty compliance became the most important mission for the 56th FA Command headquartered in Schwabish-Gmuend, Germany.

On 1 June 1988, we had three basic missions to perform: maintain combat readiness, support Soviet on-site inspections and retrograde and inactivate the Pershing force in Europe. For the first two years of the three-year Treaty period, the maintenance of combat readiness occupied most of the Command's efforts.

INF Compliance

As we move into the final year of the INF Treaty, combat readiness is drawing to a close. We underwent our last NATO-administered tactical evaluation (TACEVAL) in March 1990.

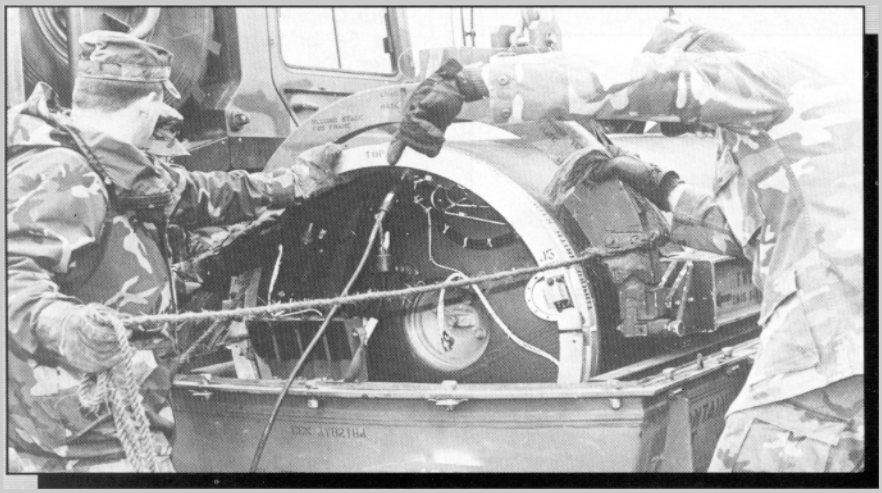
The Command continued our own program of quick reaction alert (QRA) inspections at the battery level. Individual batteries still received the no-notice alerts with subsequent deployments and missile operations.

The last QRA was in September, marking the end of Pershing missile operations in Europe. Our focus then shifted to the retrograde and inactivation of the deployed Pershing force.

The six on-pad protective shelters (OPPS) were completed in late 1988 as environmental shelters for missiles at the Waldheide and Lemgrube combat alert sites. Each structure was 75 meters long, 13 meters wide and 15 meters high with its own electrical and heating units. One OPPS could house three erect Pershing missiles as crews practiced countdown procedures. Under the INF Treaty, the last OPPS was destroyed and the concrete foundations rubbled by September. Soviet inspectors subsequently verified the destruction of the shelters.

As the Soviets conducted their elimination inspection of Heilbronn this year, they verified the area is no longer a missile operating base. The last Pershing missiles departed from Heilbronn on 15 April 1990, when D/4-9 FA completed its de-mating and shipped its last missile. All batteries and support companies in the task force transferred the rest of their equipment to the 29th Area Support Group for redistribution in Europe.

The 4-9 FA became the first Pershing battalion in Europe to inactivate on 10 August 1990. The 56th FA Command hosted an inactivation ceremony for the 4-9 FA, attended by the Honorable Vernon Walters, US Ambassador to the Federal Republic of Germany, and General Crosbie Saint, USAREUR Commander. At the ceremony, the 4-9 FA colors were cased and Lieutenant Colonel Frank Varsolona, the last Pershing Commander of 4-9 FA, thanked his soldiers for their work:



Soldiers of D/4-9 FA prepare part of a PII missile for storage. The Battery was the final unit of 4-9 FA to inactivate its missiles.

Soldiers of 4-9 FA lower the second stage of a PII missile into a storage container.

"There is simply no easy way to turn in 15,283 lines of equipment valued at over 270 million dollars. It takes talented soldiers, solid organizations and a lot of hard work. Reassigning 1,521 soldiers and their families is a real and important challenge. Our soldiers are our most precious asset."

The Command supported the Soviet verification inspections as we continued our annual quota inspections. Soviet teams visited the Command three times during the year. On each visit, the Pershing battalion commander in each community hosted the Soviet team.

In the Heilbronn, the responsibility for hosting the Soviet inspection team was passed from the Command to VII Corps to sponsor the inspection until 2001.

End of an Era

During the next year, the remaining units in the 56th FA Command will retrograde their Pershing missiles, turn in their equipment and inactivate units. The Command's inactivation ceremony is scheduled for 31 May 1991. Ambassador Walters set the tone for the Pershing inactivations when he spoke at the 4-9 FA inactivation ceremony:

"A different time is opening before us, and the inactivation of a unit that is normally a time of sadness is not an occasion of sadness. It is an occasion of your triumph for those things that brought you here—those things you said, those things for which you made sacrifices. And because of what you and soldiers like you have done, we are moving into a different world . . . . **You were the leverage point on which the wheel of history turned . . . ."**

US Army Field Artillery School (USAFAS)

The Field Artillery School, Fort Sill, Oklahoma, is fine tuning our instruction, equipment and doctrine to best support the field units. This effort relies heavily on our instructors, evaluators and project managers who are among the best the School has seen in years. Another critical element is the excellent feedback from our "daily users," the FA units worldwide.

Instruction

Small-group instruction is in high gear in the Officer Advanced Course and is producing artillerymen who are thoroughly trained and confident in their abilities to perform as FSOs and BCs. Some additions to the course this year include a week-long FTX with each student's performing various tasks in a battery position. Another is gunnery sustainment packages to sharpen an officer's gunnery skills during the entire Course. Fort Sill also is involved in a pilot program for the Advanced NCO Course (ANCOC). It's a distributive training program in which NCOs complete a nonresident study package before attending the resident phase at Fort Sill. The intent is to reduce training time away from home station and prevent lengthy vacancies of critical leaders in a unit. Depending on the program's success, it may be adopted Armywide.

If you've seen School instructors at any of the CTCs, it wasn't by accident. We're routinely sending them to collect lessons learned and gain first-hand experience to integrate the information into our instruction and doctrine.

Force Development

The Field Artillery School continues to be an Army leader in combat and force development. The Paladin M109A6 program is on track and progressing toward providing a howitzer of advanced capabilities. Other items being fielded or near fielding include the Light TACFIRE system and M119 105-mm howitzers for our light units. The latter provides our DS artillery units extended range to support their maneuver forces.

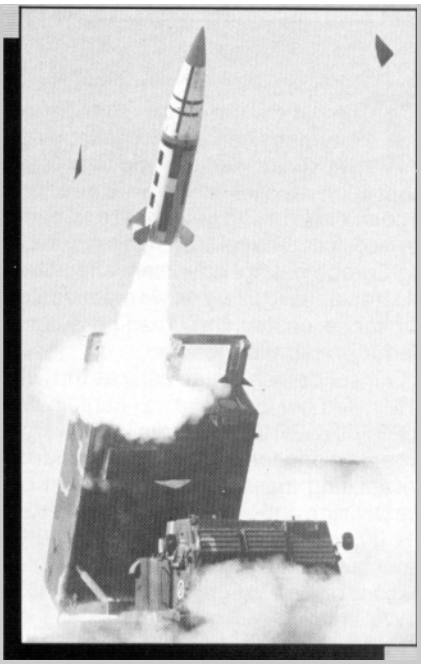
Other systems rapidly progressing toward completion are AFATDS and Army TACMS. AFATDS will replace TACFIRE and provide a system that's smaller and easier to use. Army TACMS is on the verge of completion and will soon be in the field, providing the force a real deep-attack capability.

Training

The School continues to create new and better ways to provide training. With large decreases in the budget, training simulators will be used more in the future. In the concept development stage is the Closed-Loop Artillery Simulation System (CLASS). CLASS would use an observed fire trainer, existing fire direction equipment, a turret trainer or strap-on device and a computerized monitoring system to provide realistic feedback on the observed fire trainer's screen. This is a significant improvement over other simulators in that errors in all critical areas of the gunnery team will show up in the observed fire simulator and in the monitoring system.

The Combined Arms Training Integrated Evaluation System (CATIES) now at the NTC simulates the effects of artillery fires. The system uses MILES-like equipment to indicate artillery effects, and the first units training with the equipment are proving the system's effectiveness.

A new Low-Cost Indirect Fire Training Round (LITR) more closely represents the signature of an high-explosive round. Our TACFIRE system is the mainstay of our fire direction capability and received a software update in the form of Version 9, solving some of our longstanding problems.



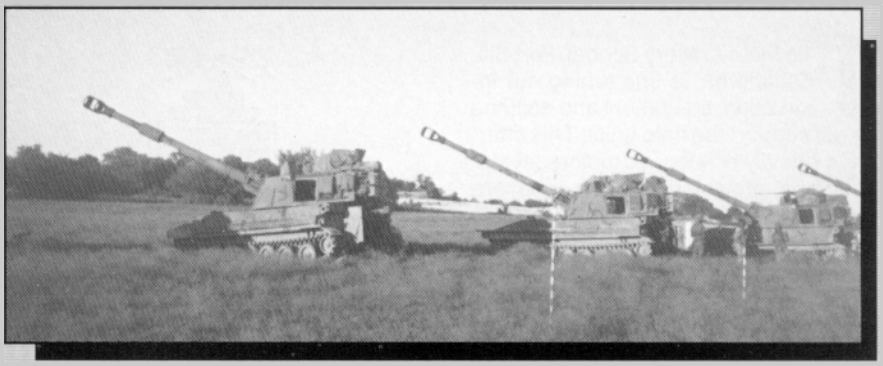
The fielding of the Army TACMS will provide the corps commander deep-attack flexibility.

Capable of semiautonomous operations, the M109A6 Paladin is setting the standard for fire support.

Field Feedback

In true Redleg tradition, Fort Sill was chosen as the best post in the Army. Central to the tradition of FA quality worldwide is the School's continuous support of our Branch in the field. Please continue to tell us your questions, problems and great ideas. Together, we can remain **Field Artillery as, now and forever, the King of Battle**.

1st Armored Division Artillery



The Iron Gunners of the 1st Armored Div Arty occupy a position.

The 1st Div Arty Iron Gunners of Germany had a very challenging yet successful training year. Key innovations and initiatives were devised to counter shrinking personnel and budget resources. The political changes sweeping Europe did not adversely affect the Old Ironsides Artillery as we maintained our focus on training, readiness and leader preparation for war.

Our successes began early as the Div Arty rolled out in January to participate in REFORGER 90. We exercised several organizations for combat and provided devastating massed fires in support of the Division and VII Corps. In REFORGER 90, we trained alongside the 10th Mountain Div Arty, learning very valuable lessons on how to fight a heavy/light mix.

We enjoyed outstanding success in providing fire support for the Division's maneuver brigades in exercises at the CMTC in Hohenfels. Our focus was on task-force and company-level fire support, but all aspects of synchronization and coordination of close support artillery were exercised from company through brigade levels in a high-stress environment. Using the Warlord simulator, we maximized our training at the CMTC.

At Grafenwoehr, the Iron Gunners honed their gunnery skills at all levels at exercises, including the Interdiction-Counterfire Exercise (ICE), which closely tied the Iron Gunners with the 17th FA Bde. In this exercise, we massed multiple-battalion fires against counterfire and deep-attack targets while coordinating joint air attack teams for both close and deep operations.

The Iron Gunners train for a variety of missions by planning to deter opposing forces in several contingency plans. At the CALFEX range at Grafenwoehr, we linked the target acquisition assets across the Division with our mass fire capability and overlayed this with the close fight. Our focus on providing direct-support fires balances with our training to win the counter-artillery battle and the deep fight. ***Iron Gunners!***

1st Cavalry Division Artillery

The 1st Cav Div Arty, The Red Team, at Fort Hood, Texas, lives life in the fast lane. Four NTC rotations in 16 months, participation in a major CALFEX for the Supreme Soviet, a 21-gun salute to the President, deactivation of the 1-20 FA (8-inch) and participation in two major equipment tests (MSE and SINCGARS) have kept life interesting. And to top-off an already busy year, the Red Team painted its equipment sand, uploaded ammunition and deployed to Saudi Arabia for Operation Desert Shield.

The 1st Cav Div Arty beating the OPFOR at the NTC.

Our training focus this past year has been on rapid movement, massing fires, counterfire and crew drills with ruthless adherence to standards and secondary checks. By participating in and thoroughly understanding the maneuver commander's intent, we can develop a fire support scheme of maneuver that focuses massed fires at the right time and place.

The Div Arty TOC frequently deploys to the NTC to hone the skills required for the counterfire battle. Rigid adherence to standardized procedures on the gun line and in the FDCs has produced two firing incident free NTC rotations.

As we loaded out for the desert, there was an air of confidence in Red Team soldiers and the maneuver forces they support. We're trained and ready for the challenge ahead. ***Saint Barbara be with us.***

1st Infantry Division (Mechanized) Artillery

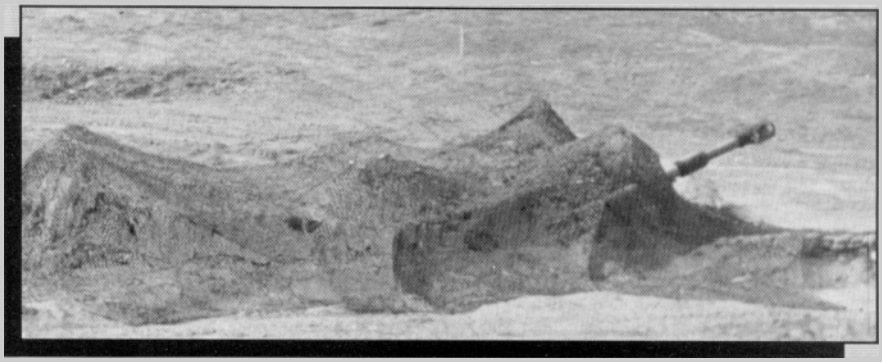
1990 was a dynamic year for the 1st Div Arty, Fort Riley, Kansas. In January, the 4-5 FA deployed to the NTC in support of the 2d Bde.

In March, we exercised in the Division's BCTP. The success enjoyed by the Div Arty and the Division was the result of nine months of team-building. Fundamental to the training and preparation was the Div Arty's Drumfire-TACFIRE exercises using the BBS. During the course of these exercises, the Division's entire fire support structure, including the TOC, TACFIRE and FDCs, trained to synchronize the Division's fires.

After our BCTP exercise, 4-5 FA underwent a nuclear SEE, culminating in a highly successful DAIG TVI. The 1-5 FA supported the ROTC Advanced Camp at Fort Riley during June and July by providing an outstanding fire support committee. The Battalion trained the cadets in observed fire and service of the piece, had them participate in the Division live-fire exercise Green Thunder and held a successful FA orientation during Operation Decision. In August, both battalions trained for their December NTC rotation. While 4-5 FA is deploying the entire Battalion, 1-5 FA is deploying its TOC to support force-on-force operations.

The Div Arty Headquarters, B/6 FA (MLRS) and D/25 FA (TA) continue to develop a counterfire program, involving the Counterfire Team in a fully integrated live-fire FTX. The Div Arty TOC initiates counterfire missions and transmits them to the MLRS Battery for engagement. Once fired, radars from the TAB acquire the MLRS battery firing and transmit the acquisition to the Div Arty TOC as a counterfire target. Each segment of the mission is timed. This closes the counterfire loop and gives us a better idea of mission processing time for "hot," "warm" and "cool" MLRS platoons.

Fundamental to our training is a logical, stair-stepped approach to readiness. The Big Red One Div Arty continues to stress the gunner's test, followed by section and platoon evaluations. ***Drumfire!***



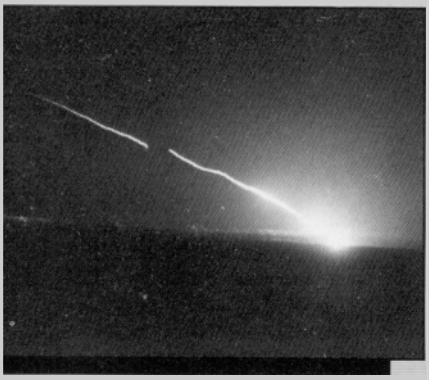
Drumfire Artillery—survivable and lethal.

2d Armored Division Artillery

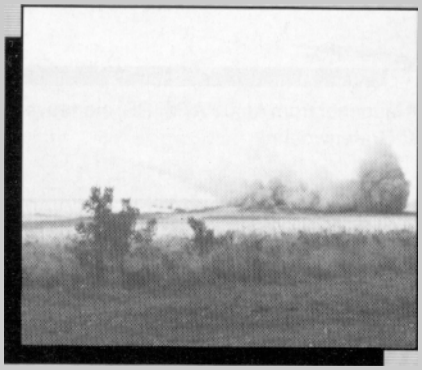
The 2d Armored Div Arty, Fort Hood, Texas, trained and deployed around the world in 1990, starting with the deployment of 450 soldiers to REFORGER 90 and ending with a deployment to Southwest Asia for Operation Desert Shield.

The Div Arty deployment to West Germany as part of REFORGER 90 differed from previous ones in that the Division deployed only elements of command and control, the focus of the exercise. The Division was victorious in both the offensive and defensive phases of the exercise—the results of hard work and intensive training.

The Div Arty has been involved in a number of corps-level exercises. Most notable was Roadrunner, a simulation that included the deployment of TOCs across Texas, and Phantom Sabre, a CPX. All units were involved in Hell's Forge, helping the 1st Bde battle team and 1-3 FA train for their NTC rotation. Involvement with the 49th Armored Div Arty (Texas ARNG) included planning and executing the SEE for the 2-131 FA during its annual training.



A/92 FA (MLRS) lights up the Texas night.



A/92 FA live fires at Fort Hood.

The 1-3 FA had an active year. After REFORGER, it underwent a SEE and prepared with its maneuver brigade for an NTC rotation in the fall. But in October, the Battalion deployed to Southwest Asia for Desert Shield.

The 3-3 FA inactivated with its Final-Round Ceremony on 16 May. Before inactivating, the Top Gunners participated in REFORGER 90.

The Division's A/92 FA (MLRS) had a special ammunition exercise and evaluation in April. In August, it had an extensive live-fire exercise to prepare for Desert Shield and with C/26 FA (TA) deployed to Southwest Asia.

The Division celebrated its 50th anniversary with a week of ceremonies, displays and demonstrations in May, including a fire-for-effect by 1-3 FA and a three MLRS 36-rocket simultaneous mission by A/92 FA.

The Div Arty stands ready to deploy worldwide and provide timely, accurate fires for the Division. ***Hell's Fires!***

2d Infantry Division Artillery

The Redlegs of the 2d Infantry Div Arty in South Korea had another banner year. The fact that peace still endures on the Korean peninsula, even though fragile, is greatly attributable to the high degree of training and readiness of US and Republic of Korea (ROK) military forces.

We demonstrated tactical and technical competence in a variety of tactical exercises this year, to include monthly battalion FTXs, quarterly fire support CPXs, Copperhead and MLRS live-fire exercises and periodic joint interoperability exercises with ROK maneuver and artillery units of the Combined Field Army.

The major combined exercise of our training program was Team Spirit 1990. This annual spring Division FTX affords us the unique opportunity to train with major force headquarters, integrating our operations as a division within a ROK corps organization as part of the Combined Field Army.

The Div Arty continues to evolve under the Army of Excellence. Our 8-inch/MLRS composite battalion soon transitions into a MLRS/Army TACMS battalion. We've reorganized our three direct-support battalions into 3x8 split batteries with one battalion also changing from M198 to M109 howitzers.

Last fall, the Division underwent BCTP. The lessons the Div Arty learned from this exercise have enhanced fire support coordination, targeting and counterfire procedures.

The 2d Infantry Div Arty continues to meet the challenges of the future. Our Threat is real and extremely unpredictable. Thus, we stand instantly ready to provide accurate and timely fire support to the Division and our Korean Allies. Our units continue to set the standard and are truly ***Second to None!***

Battery B of the Automatic Eighth (8-8 FA) moves out to a new position.

3d Armored Division Artillery

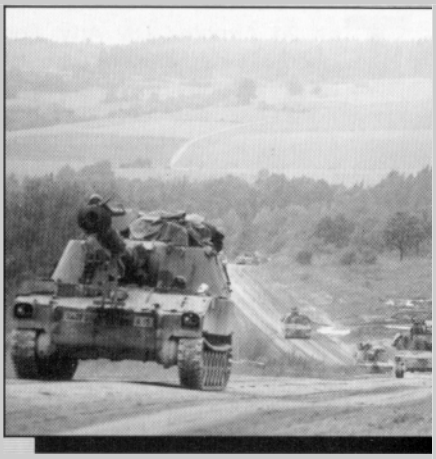
The 1990 training year was an exciting and challenging one for the soldiers of Spearhead Steel—3d Armored Div Arty, Germany. We continued to conduct demanding and realistic training in support of our mission to defend the Fulda Gap. The focus of our training was the synchronization of fire support with the other battlefield operating systems.

The Div Arty participated in several training exercises to enhance its capability to support the Division. We began our year with the command field exercise Caravan Guard. Then we had our annual section competitions where our sections competed against each other as measured by the standards.

In January, we participated in Centurion Shield (REFORGER 90). During this exercise, the Div Arty operated as the Force Artillery Headquarters, controlling 14 FA battalions during the covering force battle.

Immediately after REFORGER, the Div Arty deployed to Grafenwoehr for the first part of Spearhead Scrimmage IV. While there, we conducted two ARTEPs that included on- and off-post components. The second part of Spearhead Scrimmage IV was our CMTC rotation. Two of our battalions supported their maneuver brigade's ARTEPs, performing such tasks as movement to contact and hasty attack.

A launcher from A/40 FA (MLRS) maneuvers at Grafenwoehr.



An M109 howitzer of 1/A/2-3 FA at Graf.

Soon after the CMTC, the Div Arty deployed to Fulda for the BCTP (Warfighter 90). Warfighter 90 was the capstone of collective training the Div Arty conducted this year. In the counterfire battle, the Div Arty artillery kills exceeded the Red Artillery by a five-to-one ratio.

Tough, realistic training combined with the Spearhead Spirit continues to keep the ***Spearhead*** *Steel* Div Arty combat ready to fight and win.

3d Infantry Division (Mechanized) Artillery

The Marne Artillery in Germany spent this year refining our ability to synchronize the battlefield operating systems and mass the Div Arty fires in support of maneuver forces. We began by developing and implementing section- and platoon-level battle drills. These drills were developed from the collective tasks that support the Div Arty METL and provide a foundation for Div Arty training.

Our DS battalions maneuvered more than 200 miles in the maneuver rights area in the execution of their SEEs. This fast-paced, complex exercise driven by our associated maneuver brigade TOCs stressed the very limits of shoot, move and communicate.

These evaluations prepared our DS battalions for Marne Battle III, their latest rotation through the CMTC. The rotations trained battalion staffs, firing batteries and FSEs by providing intense, realistic challenges in sustainment operations and in providing fire support for a maneuver brigade under all conditions.

During Marne Battle III, 5-41 FA was supported by 3-35 FA, a reinforcing battalion from the 72d FA Bde. This was the first CMTC rotation in which a reinforcing battalion TOC has been used, providing new operational and logistical challenges.

C/6-41 FA at a firing point at Grafenwoehr.

A/76 FA (MLRS) moves out during training at Grafenwoehr.

Our live-fire exercises at Grafenwoehr concentrated on synchronizing and massing all fires available to the Division. These Marne Hammer exercises displayed the Div Arty's massing ability with fires from the72d FA Bde, 12th Panzer Artillery, the Division mortars and the 4th Aviation Bde.

Division CPXs and the BCTP Warfighter Exercise provided intense, realistic training that tested interoperability, target processing and our massing abilities. Future training will be realistic and demanding as we continuously improve our ability to provide the best fire support possible. ***Fulfill Your Mission!***

4th Infantry Division (Mechanized) Artillery

The Ironhorse Artillerymen of Fort Carson, Colorado, experienced another challenging and successful year. We focused on realistic, demanding training and provided responsive fire support to the Ivy Division at every opportunity.

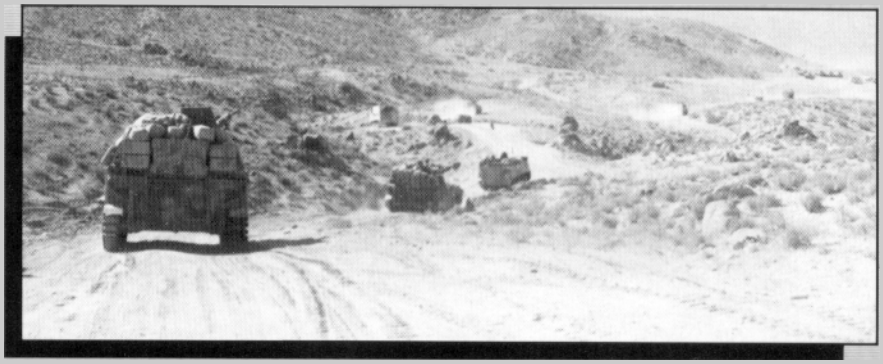
During several exercises, including the BCTP Warfighter, the Div Arty's consistent performances garnered much of the credit for the Division's successes. Our units participated superbly in FCXs, CALFEXs, force-on-force training at the Pinon Canyon Maneuver Site and USAF F-16 live-fire training at Hill AFB, Utah.

The 5-29 FA Eagles successfully completed a SEE and TVI, followed by a stellar NTC rotation. The 3-29 FA Pacesetters justified their name with noteworthy performances during the SEE at the NTC and in the deployment of our certified COHORT unit, A Battery, to South Korea. C/10 FA (MLRS) conducted periodic LFXs, successfully completed a SEE and served as our salute battery for the SPACECOM change of command, in numerous Division ceremonies and in 1812 Overture performances statewide.

The Div Arty experienced major force structure changes with the deactivation of the 1-29 FA Red Barons and the gain of the 31st and 172d Chemical Companies. The Div Arty set the Ironhorse standard in fielding MSE and the maneuver control system (MCS). We also fielded MDS, FIST-DMD and upgraded our TACFIRE hardware and software.

The Div Arty supported Reserve Component annual training in California, Oklahoma and Idaho with the 40th IN Div Arty, 169th FA Bde and 1-148 FA of the 116th Hy Spt Bde, the newly designated round-out brigade for the Ivy Division. We also helped in home-station training throughout the year.

The Div Arty is proud of several initiatives, to include mortar certifications, section rollouts, a revised indirect-fire safety SOP, radar survivability exercises and a standardized 3x8 tactical SOP. These innovations continue to promote training, combined-arms integration and combat readiness. The Steadfast and Loyal 4th Div Arty—***First Rounds, First Class!***



The Eagles—5-29 FA—road march at the NTC.

C/21 FA (MLRS) conducts LFXs at the multipurpose range complex.

5th Infantry Division (Mechanized) Artillery

For the artillerymen of the 5th Division, Fort Polk, Louisiana, 1990 opened dramatically in the wake of Operation Just Cause. Division elements took part in show-of-force and combat operations in Panama. These included the FSEs of 4-1 FA and 5-1 FA and sections of H/25 FA (TA). (See "Red Devil Redlegs: Fire Support in Operation Just Cause," October 90.) The reality of combat flaring up on the Nation's doorstep added urgency to our training and modernization efforts.

Red Devil Redlegs made their presence known at the NTC in 1990 where we trained to employ Q36 radars with our DS battalions and sharpened our gunnery team's ability to mass fires with TACFIRE. Our recent conversion to the 3x8 configuration added both depth to our fires and challenges to our leadership team. The 4-1 FA and 5-1 FA complemented each other again at the NTC, alternating between the DS and reinforcing roles.

During all of this, we continued force modernization. We added the OH58D helicopter, FISTV and MSE, among other items. The new equipment complemented our Division's combat power and Fort Polk's training and support facilities.

Realism was again the key to the Div Arty's fire support training in 1990. Our MLRS unit, C/21 FA, conducted LFXs, expanding its available firing sites with the opening of our multipurpose range complex (MPRC). The 4-1 FA and 5-1 FA executed a live-fire test and demonstration of the Copperhead projectile.

The Div Arty Headquarters not only orchestrated all of these events, but also deployed more than 100 personnel in CPX Omega Victory with V Corps in Germany.

The 5th Div Arty helped train the Total Army in 1990. Summer saw us spread out from Wyoming to Georgia as we conducted SEEs and sent out mobile training teams to our associated ARNG unit, the 35th IN Div Arty.

Fort Polk's Cannoneers look forward to more challenges to build our war-fighting skills in 1991. ***Red Devil Redlegs!***

6th Infantry Division (Light) Artillery

The 6th Div Arty fires one of its 105-mm howitzers in the Alaskan snow.

During World War II, the Division became known as the Sightseeing Six, based on its many far-flung exploits. This tradition continues with the Division, based at Fort Richardson, Alaska, deploying worldwide to train or support US national interests.

In the past year, elements from the Div Arty deployed to the JRTC, NTC, Colorado, Washington State, Japan and South Korea. Although we now have a worldwide deployable mission, we still focus much of our training on the arctic environment with lengthy FTXs in the Yukon Training Area, the Tanana Flats, the Aleutians and at Fort Greely. Realistic training is conducted to exacting standards.

Arctic Thunder Artillerymen continue to operate in -30 degree temperatures.

In December 1989, our airborne FIST sections jumped into Fort Greely with 1-501 Abn Bn for its EXEVAL. The tubes of the 4-11 FA followed shortly thereafter, operating in temperatures in excess of -30 degrees.

The next major training event was in February 1990 when the Div Arty moved onto the more than a half-a-million acres of training area at Fort Greely for a 27-day exercise. During exercise Arctic Thunder I, every level of FA and fire support was evaluated from the section to the division. After battery and battalion EXEVALs, the highlight was a division-level, live-fire synchronization exercise. On a near realtime basis, maneuver and fire support coordinated and then executed joint air attack team operations and several iterations of CALFEXs.

In 1990, the sound of Arctic Thunder will be heard loud and clear from the guns of the 6th Div Arty as we fire into the snow-covered plains of Fort Greely for the joint FTX Arctic Warrior and again for battery and battalion EXEVALS. We remain ready for deployments worldwide and to landslide the enemy with firepower from ***Arctic Thunder!***

7th Infantry Division (Light) Artillery

Bayonet Artillerymen of Fort Ord, California, continue to focus on their mission to deploy rapidly to support light or mixed forces across the spectrum of conflict anywhere in the world. In December 1989, nearly 600 Bayonet Artillerymen deployed rapidly to Panama for Operation Just Cause with elements of the Div Arty Headquarters and three battalions. The four firing batteries provided direct fire support for the infantry, and cannoneers from B/7-15 FA conducted a direct-fire mission in support of TF Atlantic operations in Colon.

Early in the conflict, artillerymen also had to perform non-artillery missions. FIST personnel and sections with their howitzers manned roadblocks and checkpoints. The only complete FA battalion to deploy to Panama, 6/8 FA, pacified four provinces surrounding Rio Hato through fire and maneuver and air assaults and provided a critical political structure, helping to reestablish the local government. (See "Bayonet Artillery in Operation Just Cause," June 90.)

Demanding and varied training laid the foundation for success in Just Cause and continues to be an integral part of our training program. Highlights this year included a JRTC rotation at Fort Huachuca, Arizona, involving 6-8 FA, and the first light-heavy rotation at the NTC, involving 2-8 FA and 5-15 FA. This was the final major exercise for soldiers of the On-the-Way Battalion, as 5-15 FA deactivated in September 1990. Other operations included a CALFEX, suppression of enemy air defense and joint attacks with helicopters and aircraft, and heavy drop of equipment and assault strip operations with the Air Force.

The 7th Div Arty led the Army in force modernization this year. We were the first to receive the M119 light howitzer and the Light TACFIRE, as well as the first light division to have an attached TA detachment of two Q37 radars and a TPS-25 moving target locating radar—the 3d FAD, activated September 1989.

Our light fighters continue to prove they're ready with high-quality fire support—anytime, anywhere. ***Bayonet Artillery!***

Elements of the 7th Div Arty Headquarters and three battalions—nearly 600 Bayonet Artillerymen—deployed to Panama in Operation Just Cause.

8th Infantry Division (Mechanized) Artillery

The 8th Div Arty, headquartered in Baumholder, Germany, had a challenging, realistic training year.

The Div Arty's first challenge was to train all umpires at Grafenwoehr for REFORGER 90, Centurion Shield. We provided intensive training on engineer, air defense artillery, maneuver, fire support and logistical operations.

The REFORGER combined FTX and CPX units in the field with "electronic" units in the computer model. During the exercise, the devastating effects of our accurate indirect artillery proved to be a significant combat multiplier. At major training areas, the Div Arty used the FA Training Tables and conducted dry-fire and live-fire exercises. The Tables closely link ammunition to our METL tasks.

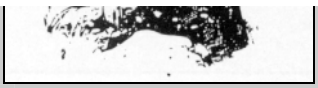
Highlights of our training include the conduct of aggressive five-day SEEs for selected DS battalions and separate batteries based on a GDP scenario both in the maneuver rights area and Grafenwoehr Training Area. Additionally at Grafenwoehr, we had live-fire exercises with the 41st FA Bde and CALFEXs for several maneuver task forces to hone the Div Arty's ability to synchronize the fire support critical to success on the AirLand Battlefield. Moreover, our DS battalions trained at the demanding CMTC at Hohenfels with great success.

In the Baumholder Training Area, the Div Arty continued to refine and develop the fire support Redleg CPX. Conducted quarterly, this exercise hones the TACFIRE skills to quickly synchronize fire support.

The goal for the next year is to continue striving for excellence in training and sustain high combat readiness. Quality individual and section-level training by our strong NCO Corps will provide the foundation to achieve training excellence at the collective level.

Pathfinder's Power stands ready to provide devastating fire support to the Pathfinder Division!

In Grafenwoehr, soldiers of C/4-29 FA load their M109 howitzer for the return trip to Baumholder.

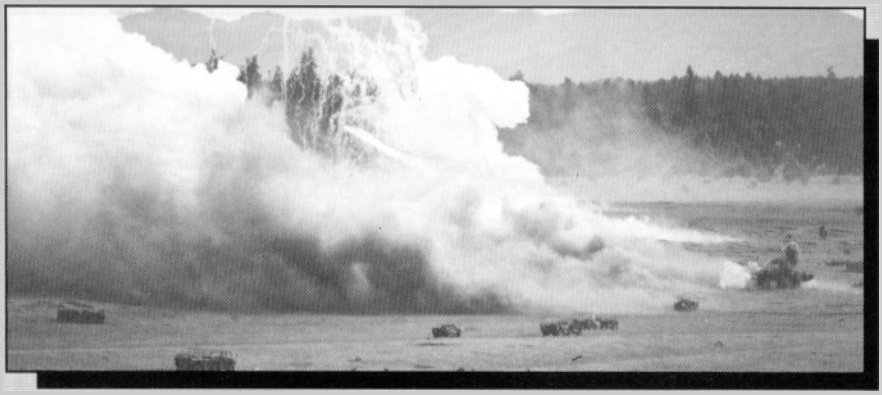


9th Infantry Division (Motorized) Artillery

The Old Reliables of the 9th Div Arty, Fort Lewis, Washington, had a rewarding year of training in 1990 with primary emphasis on war-fighting and preparing for reorganization and partial inactivation. In February, two-thirds of the Div Arty deployed to the NTC. Spearheading the Div Arty's NTC effort was the 3-11 FA, which provided continuous and effective fire support to the Go Devil Brigade.

After returning from the NTC, the 3-11 FA with elements of other Div Arty units deployed to the Yakima Training Center for Exercise Mountain Strike, applying NTC lessons learned in support of the Division's 3d Bde.

During an active summer of ROTC and Reserve Component support, the Div Arty continued to demonstrate a high degree of professionalism. The 1-11 FA led the Division in its support of Camp Adventure 90. One of the Battalion's many responsibilities included training the future officers in fire support tasks and the duties of a junior FA officer. In June, the Div Arty provided a professional evaluation of the 147th FA Bde (South Dakota ARNG).



Old Reliable Redlegs mass fires with deadly effectiveness.

As a part of the overall downsizing of the Army, the Div Arty completed its plans for inactivation. The 1-84 LAR (light artillery and rocket, a composite battalion) will complete its inactivation in January 1991. In September, the 3-11 FA completed its transition from a divisional DS battalion to a corps GS battalion. The last battalion to reorganize, the 1-11 FA, will become the DS unit for the future 199th Separate Motorized Bde (SMB) in April.

With ceremonies marking its tradition of excellence, the 9th Div Arty will inactivate in 1991, after proudly serving with honor at Fort Lewis since 1972. Until the last unit inactivates, the ***Old Reliable Redlegs*** stand ready!

10th Mountain Division (Light Infantry) Artillery

The Light Fighters of the 10th Div Arty, Fort Drum, New York, once again have demonstrated their ability to deploy worldwide and to provide accurate, responsive fires to the Division.

Winter saw the Div Arty participating in its first REFORGER and meeting the challenge of fire support for light forces in Germany. Both brigades succeeded in the offense and defense and integrated Light TACFIRE into the fire support infrastucture. The Div Arty also used REFORGER as a test bed to develop fire support tactics and techniques for light-heavy forces.

Knowing that battlefield success depends on the strength of the combined-arms team, the Div Arty exploited every training opportunity to include maneuver and combat support elements. In addition to a program of CALFEXs at the battery and platoon levels, the Div Arty was the proponent for joint air attack and joint suppression of enemy air defense operations. Redleg participation in task force rotations to the NTC, JRTC and the MOUT facility at Fort Pickett, Virginia, also significantly enhanced the Division's war-fighting abilities.

The Div Arty used exercises such as Redleg Thunder II, a combined FTX/CPX, to enhance fire support operations at the brigade and division levels. Participation in a series of CPXs culminating in the Warfighter Phase of BCTP will further refine fire support coordination throughout the Division.

10th Div Arty soldiers put steel on the target.

Mountain Artillerymen prepare for action!

Dedicated to the One-Army concept, the Div Arty devoted resources to Reserve Component support. Mobile training teams worked throughout the year with our dedicated training association (DTA) units—26th Infantry Div Arty (Massachusetts ARNG) and 1-156 FA, our round-out battalion—at their home stations. During the spring and summer, evaluation teams advised and learned from our DTA units, 103d FA Bde (Rhode Island ARNG), 197th FA Bde (New Hampshire ARNG) and 479th FA Bde (USAR).

The 10th Mountain Div Arty continues to seek new challenges and reaffirm its commitment to excellence in all endeavors in its ***Climb to Glory!***

24th Infantry Division (Mechanized) Artillery

The 24th Div Arty, Fort Stewart, Georgia, has had another busy year. The Victory Division Artillery said goodbye to the 1-14 FA (8-inch). The inactivation will leave us with two 155-mm battalions, 1-41 FA and 3-41 FA, A/13 FA (MLRS), G/333d FA (TA) and HHB.

As always, training has remained our top priority. In the past 12 months, we've gone through two rotations at the NTC and four Division CPXs. Each CPX focused on a different enemy and a variety of tactical situations.

In addition to unit exercises, individual training also has been stressed. Common task skills and marksmanship training have been emphasized to increase combat effectiveness. Soldier survivability has been enhanced through the large number of soldiers enrolled in our Combat Lifesaver and NBC Training Programs.

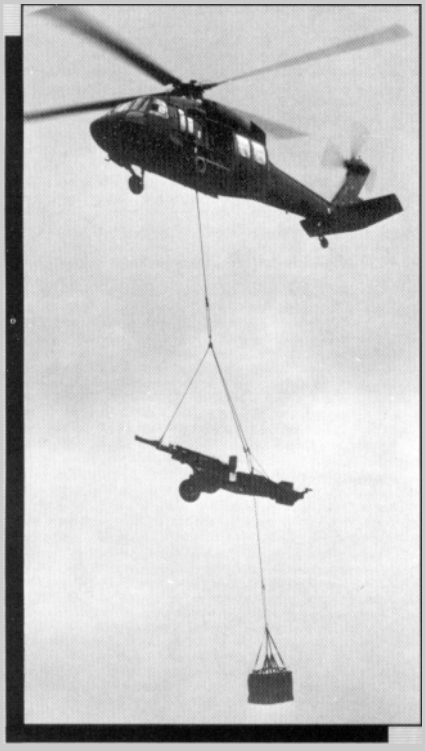
In keeping up with the challenges of our real world mission, the 24th Div Arty participated in several overseas deployments. Operation Bright Star familiarized Div Arty units with the Egyptian Army. Other exercises titled Display Determination and Dense Crop took our units to Turkey.

Our most intense overseas deployment came in August with Operation Desert Shield. As part of the Persian Gulf force, the Victory Division deployed as a whole to Saudi Arabia with the 82d Airborne Division and other units to help deter Iraqi advances. The 4-41 FA (155-mm, self-propelled) along with the 197 IN Bde (Mech) were attached to our Division for deployment.

The ***Victory Artillery*** is trained and ready for combat action—if necessary—for the first time since Korea.

Soldiers of the 24th Div Arty train to shoot and survive, helping to prepare them for Desert Shield.

25th Infantry Division (Light) Artillery



An M102 howitzer and its ammunition move rapidly to an artillery raid position.

The Tropic Thunder Artillery of the 25th Division at Schofield Barracks, Hawaii, stands ready to deploy anywhere in the Pacific within 18 hours of notification. The Div Arty displays abundant flexibility in supporting the Division's diverse missions, ranging from fire support for noncombatant evacuation operations (NEO) to providing nuclear fires.

Tropic Thunder Redlegs deploy and train worldwide. This year we participated in several exercises, including Team Spirit in South Korea, Cabin Fever in Utah, Cobra Gold in Thailand, Calm Thunder in Wyoming, Pacific Bond in Australia and at the JRTC.

We also had several battalion and battery deployments to the Pohakuloa Training Area (PTA) on the "Big Island" of Hawaii and to the island of Kahoolawe. The islands provide excellent range facilities to conduct joint exercises with Air Force close air support and Marine aircraft, allowing us to cross train with the 1-12 Marine FA (155-mm) and naval gunfire support.

The Division's Warfighter BCTP was a tremendous success and an invaluable learning experience. An imaginative counter-artillery program and the Div Arty's ability to synchronize and mass all available artillery assets contributed immeasurably to the Division's success.

A section from A/3-7 FA in exercise Div Arty Thunder at Pohakuloa.

Major force modernization changes will occur in the Div Arty this year. We'll field SINCGARS, Light TACFIRE and MDS. Additionally, the 1-8 FA will "up-gun" to a 3x8 155-mm (M198) battalion and the 25th FA Detachment (TA) will activate with AN/TPQ-37 Firefinders and AN/TPS-25 ground surveillance radars. These force modernization upgrades will put Tropic Thunder at the cutting edge of artillery technology.

The 25th Div Arty, one of the most frequently deployed artillery units in the Army, continues to prepare for our varied and challenging missions. ***Tropic Thunder!***

26th Infantry Division Artillery

The 26th Yankee Div Arty with elements in Massachusetts, Connecticut and Vermont continued to pursue excellence in Training Year 90. This led to an extremely successful annual training period for all Div Arty elements.

The 26th Div Arty consists of the 1-101 FA (Massachusetts ARNG), a 3x8 M114A2 DS battalion; 2-192 FA (Connecticut ARNG), a 3x6 M114A2 DS battalion; 1-86 FA (Vermont ARNG), a 3x6 M109A3 DS battalion; 1-211 FA(Massachusetts ARNG), a 3x4 M110A2 GS battalion; and E/211 FA (TA) (Massachusetts ARNG), a Firefinder battery.

During the past year, the Div Arty concentrated on learning and reinforcing battery-level skills for all firing elements, conducted an external evaluation for the Firefinder TAB, E/211 FA, and conducted intensive staff battle training. As a result, the Div Arty had an excellent training year, testing the skills of our Redlegs and reinforcing the basics. The Yankee Artillery is well-prepared for the challenges that lie ahead.

During Training Year 91, we'll concentrate on battalion-level skills, conduct two SEEs, "up-gun" one battalion to the M198 system, increase the tempo of staff training and continue integrating fire support with maneuver. Our testing and reinforcing skills at the battalion level will further prepare us for future challenges.

We continue to lead the 26th Infantry Division through emphasis on soldier and crew skills at every level as the ***Yankee Artillery!***

Soldiers of 1-211 FA direct fire at Fort Drum, New York, during Annual Training 90.

28th Infantry Division Artillery

The 28th Infantry Div Arty (Pennsylvania ARNG) conducts training year round and is dedicated to providing devastating fire support to America's Oldest Infantry Division.

From our Headquarters in Hershey, the Div Arty commands and controls DS 105-mm battalions in Pittsburgh (1-107 FA), Carlisle (1-108 FA) and New Castle (1-229 FA) and a GS composite battalion, 155-mm/8-inch, in Wilkes-Barre (1-109 FA). Targets are provided for these battalions by the target acquisition battery, F/109 FA, in York, equipped with the Firefinder radar.

The Div Arty once again played a major support role in the 28th Infantry Division's annual reunion, providing an appropriate setting and firepower exercise in honor of our veterans, many of whom fought in the Battle of the Bulge.

While maintaining skills with live-fire and command post exercises, the 28th Div Arty contributes to Division-wide training by conducting fire support conferences and joint air attack team (JAAT) operations throughout the year.

1991 will be the dawn of a new era for the 28th Div Arty as the 1-229 FA is scheduled to receive 18 M198 155-mm howitzers. This is a prelude to a redesigned Div Arty of two M198 battalions, a 109A3 battalion and an M110 203-mm GS battalion.

Training for the coming year will concentrate on the big four: Shoot, Move, Communicate and Coordinate. These priorities will ensure that the fire support of ***America's Oldest Infantry Division*** continues to be timely, accurate and devastating.

The 28th Div Arty fires a salute to welcome the new Division Commander.

A 28th Div Arty howitzer section occupies a position.

29th Infantry Division (Light) Artillery

Training Year 90 saw the 29th Div Arty (Virginia ARNG) complete a heavy evaluation schedule and rigorous annual training period entirely in a tactical environment. Although we emphasized combined-arms training, we still focused on sustaining proficiency in perishable skills through a command-sponsored gunnery safety certification program. This approach paid dividends—as seen by a section from C/1-246 FA (DS) capturing top honors at the First Army Howitzer Competition.

Also successful were units that had external SEEs—the 1-246 FA (DS), Danville, and the 1-111 FA (GS), Norfolk (attached to the Div Arty for training). Internal SEEs were conducted for the 2-110 FA (DS), Pikesville, Maryland; 2-111 FA (DS), Richmond; and E/111 FA (GS), Emporia. The SEEs integrated the 10-day Alphine-Thunder III FTX scenario, allowing us to execute fire planning at all levels.

The 209th FA Bde, Rochester, New York, administered the SEE for the 1-111 FA (GS). Working closely with the 209th FA Bde, we had the rare chance to interface with corps-level artillery assets and exercise command, control and communication procedures.

The Division's fire support operating system benefitted from the close coordination with infantry 81-mm mortars. Highlights included both 105-mm and 155-mm howitzers firing night HE missions under mortar illumination. The technical strides made by our fire support elements with the mortar platoons increased the effectiveness of all indirect fires in the Division.

Also, significant gains resulted from the acquisition of PADS in our survey sections. We're currently activating a corps-level TA detachment that will support us on a routine basis. Our 129 FA Detachment (TA), Sandston, will allow us to train more effectively on counterbattery missions.

These evaluations, training opportunities and additions have increased our combat capabilities and responsiveness significantly. By expeditiously synchronizing the Division's fire support assets, ***We Stand Ready.***

Soldiers of the 29th Div Arty lay their piece for action.

35th Infantry Division (Mechanized) Artillery

The ability of the 35th Infantry Div Arty (Kansas ARNG) to mobilize and deploy as well as fight was significantly improved during Annual Training 90.

The 1-161 FA along with HHB Div Arty and E/161 FA (TA) successfully deployed by bus, rail and air to Fort Stewart, Georgia, to train with the 2-138 FA and the 35th Division Headquarters.

The Div Arty's ability to command and control units over a wide front was tested as both the 1-168 FA and 2-130 FA were in the field at Camp Guernsey, Wyoming, during the same time as the training at Fort Stewart.

The effectiveness of the training in the Div Arty in "fight" tasks was verified by the successful completion of two battalion SEEs administered by the Div Arty Headquarters this year as well as by the successful exercise of the Division counterfire system. Both the 1-127 FA and the 1-168 FA performed extremely well in their SEEs at Fort Riley, Kansas, and Camp Guernsey, respectively.

The Div Arty's success this year and our improved ability to perform all facets of our mission are attributable to the tremendous skills of our NCOs—the backbone of the Div Arty. Their willingness to accept responsibility and to identify and seek solutions to the many problems is the reason we continue to improve our support of the historic 35th Infantry Division—***The Santa Fe Division.***

The 1-161 FA Redlegs from Dodge City displace during their highly successful Ex Eval at Fort Carson, Colorado.

38th Infantry Division Artillery

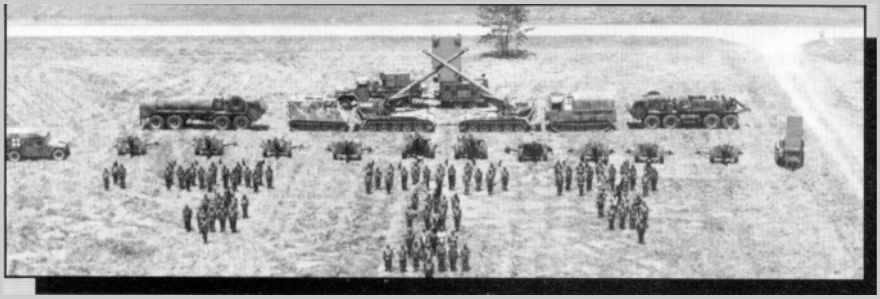
All Indiana ARNG elements of the Div Arty—3-139 FA, 2-150 FA, 1-163 FA, E/139 FA (TA) and HHB—attended annual training at Camp Atterbury in June. The Michigan ARNG element of the Div Arty, the 1-119 FA, conducted its annual training at Camp Grayling, Michigan, in July. Once again, soldiers from the professionals of the 101st Abn Div Arty, Fort Campbell, Kentucky, helped and evaluated our units during annual training. Cyclone's Cannons was the name of the European-based operations scenario, master event list and intelligence play used throughout Annual Training 90.

All training was evaluated, including that of the Div Arty Headquarters. We had base-piece competition among the best firing howitzer crews, NBC task evaluations by our chemical officers and NCOs, and battery defense evaluations by the intelligence officer. The 3-139 FA had a SEE and finished with 100 percent "GOs" on firing tasks and 98.9 percent "GOs" on operational tasks.

Three joint air attacks were conducted during annual training. Fast movers from Battlecreek, Michigan, attacked after we fired for effect on the targets. This was the first attempt at air-artillery coordination at the Div Arty level in several years.

The 1-119th FA conducted a joint artillery exercise with the 182d FA (Michigan ARNG) that included a tactical scenario for the operations and intelligence sections of both battalions as well as massing fires. The senior annual training evaluator, Lieutenant Colonel Harlan A. Lawson, said, "The Div Arty's massing of fires was impressive. On short notice, all units put steel on target on time."

On the last day of annual training, we had a capabilities exercise at Camp Atterbury and invited our family members. We had equipment displays and demonstrations of A-7 aircraft from the Air National Guard, a 105-mm battery emergency mission, an air assault operation with two helicopters filled with Redlegs of the 101st and 38th Div Artys, a UH1 helicopter hoist rescue, and a mounted review of the entire 38th Div Arty. ***The Avengers of Bataan!***



Elements of the 38th Div Arty in formation at Camp Atterbury.

40th Infantry Division (Mechanized) Artillery

The Sunburst Div Arty (California ARNG) had another exceptionally busy year as two of our cannon battalions underwent separate SEEs and two battalions prepared for their upcoming SEEs. But the highlight of the year was our portion of planning and executing a highly successful Warfighter CPX as part of the Army's BCTP.

During the Warfighter CPX, the Div Arty paved the way for the Division's extremely effective deliberate attack, river crossing and final hasty defense as part of the I (US) Corps' response to a Korean contingency. The Division FSE had the unique opportunity to realistically interact with Air Force Liaison Officers, Active Component Air Defense representatives and Division chemical representatives during the intense CPX. Additionally, the vital coordination required between the Div Arty's TOC, FSEs at both the DTAC and DTOC, the G2 and G3 created an atmosphere of "learning and improving by doing." Warfighter also gave the FSE a welcome opportunity to interact with maneuver and aviation brigade FSOs. These elements quickly became very proactive in ensuring that all remained informed of their tactical situation.

Also represented during Warfighter were personnel from our Capstone reinforcing FA brigade. Their presence further enabled the Div Arty TOC to become proficient at delegating counterfire missions by assigning the brigade the mission of Force Artillery Counterfire Headquarters.

With Warfighter behind us, we look forward to another challenging year of sustaining our skills and bringing quality fire support to the ***Fighting Fortieth Infantry Division.***

The Sunburst Div Arty TOC orchestrates the "battle" during the BCTP Warfighter CPX.

42d Infantry Division Artillery

New York's Artillery finished one chapter of its history this year and began the next as the 42d Div Arty (New York ARNG) acted in anticipation of "Post Cold War" reorganization. The colors of E/105th FA (TAB), 1-187th FA and 1-209th FA were honored at this year's Div Arty Review as they were paraded together for the last time before their deactivation in FY 91.

In preparation for merging into a single light battalion, our 8-inch and 155-mm battalions conducted 105-mm transition training. Concurrently, the original light battalions began operations foreshadowing their own consolidation. Nevertheless, normal training activities such as SQT, CTT, CPX and TOC exercises continued as did survey and fire support schools and emergency action procedures (EAP) training.

Ceremonial and social activities included a National Salute and participation in an "1812 Overture" performance, as well as the usual support of community and charitable affairs. One particular highlight was 2-104 FA's firing in conjunction with naval activities in New York Harbor in June: traditional salutes were exchanged between a composite battery and the visiting flagship, the *USS Kennedy.*

The 2-104 FA exchanges salutes with the *USS Kennedy* in New York Harbor.

As the training year closed, implementation of next year's program began, which includes hosting divisional nuclear target analyst and AFSO training, completing our reconfiguration and the first extended field training of the reorganized commands.

Whatever else changes in this new era, the 42d Div Arty will continue the tradition started with Lamb's and Hamilton's batteries—training highly competent and motivated **New York Artillerymen** for service to the nation and community, in both peace and war.

47th Infantry Division Artillery

Training Year 90 for the 47th Div Arty (Minnesota ARNG) was marked by a myriad of training exercises at various locations. Units deployed to five different locations for their annual training while the Div Arty Headquarters participated in the major division-level exercise Valiant Viking. The exercise was conducted in preparation for our 1991 BCTP.

The 1-151 FA was selected for a rotation at the JRTC in support of the 1st Brigade. The July rotation included a major mobilization exercise as part of the deployment. Batteries B and C of the Battalion didn't accompany them to the JRTC but conducted winter training at Camp Ripley to prepare for a winter SEE in February 1992.

The 1-175 FA had its annual training at Camp Ripley in June, emphasizing train-up for its SEE in Training Year 91. The Battalion also participated in Operation Viking, a complex exercise that successfully tested the unit's ability to mobilize.

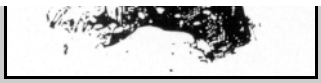
The 1-194 FA (Iowa ARNG) emphasized fire support coordination with maneuver. Its training at Camp Guernsey, Wyoming, consisted of internal battery evaluations, a 36-hour battalion FTX and the massing of battalion fires and culminated with intensive split-battery operations.

The 2-123 FA (Illinois ARNG) trained at Fort McCoy, Wisconsin, and concentrated on preparing for its Training Year 91 SEE. The Division's target acquisition battery, E/151 FA, sent sections to each major training period in support of its mission. It also conducted a 13R MOS-producing school during June that allowed the Battery to significantly increase its training readiness.

The 47th Div Arty looks forward to a busy Training Year 91 that will include conducting two SEEs, participating in BCTP at Fort Leavenworth, Kansas, and a Div Arty external STX, as well as supporting two other annual training periods.

Next year also marks the end of the 47th Infantry Division—***Viking Artillery.*** On 10 February 1991, it will be redesignated as the 34th Infantry Division.

A howitzer crew of B/1-151 FA prepares to fire during winter training at Camp Ripley.



49th Armored Division Artillery

The Lone Star Artillery is Death on Call for the 49th Armored Division (Texas ARNG), the free world's largest armored division.

This past year saw the successful completion of a SEE by the 2-131 FA and the 3-133 FA at Fort Hood and Fort Bliss, respectively. Additionally, the 4-133 FA successfully underwent a mini-SEE administered by the Fifth Army Readiness Group at Fort Hood.

The Div Arty had annual training at two locations (Forts Hood and Bliss) in three increments this year. The Div Arty is currently fielding MSE for better communications, the HMMWV and the HEMTT.

The Texas Artillery is one of the few National Guard Div Artys to have a full complement of Firefinder radars. In addition to the traditional missions of a Div Arty, the 49th Div Arty has a corps MLRS battery attached for administration and training.

This past year saw special emphasis placed on standardization throughout the Div Arty. In support of this, a pocket-sized "Safety During Live Fire" SOP has been developed. This SOP will help ensure 1991 will be a safe and productive year for the Texas Artillery.

The ***Lone Star Artillery*** stands ready to support the largest armored division in the free world with deadly fires—on call.

The 3-132 FA prepares to fire its first rounds since converting to FA from Armor and Combat Engineers.

50th Armored Division Artillery

Training Year 90 provided elements of the 50th Armored Div Arty (New Jersey ARNG) opportunities to participate in exercises that emphasized its wartime mission—Steel on Target. To attain this high degree of readiness, the 50th Div Arty continued to emphasize the integration of fire support with the maneuver units.

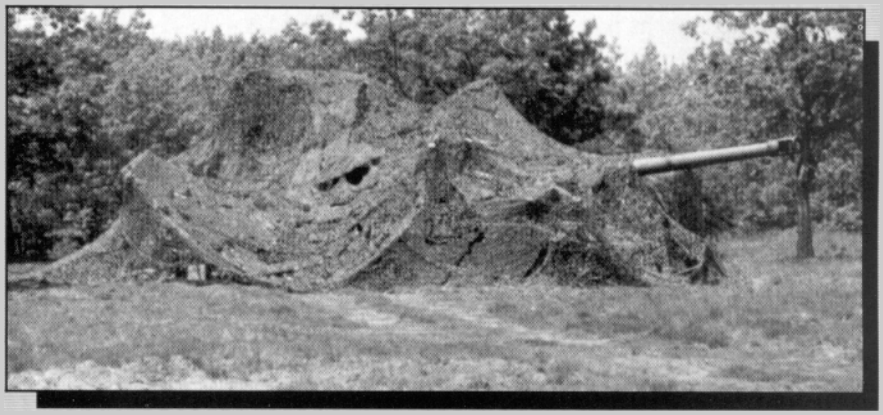
Successful training programs conducted this year included the continuation of the 13F and 13B MOS qualification courses, the Div Arty survey training program, internal ARTEPs, section- and team-level training to standards in technical and soldier skills and leadership development. The Div Arty hosted the Best Section Howitzer Competition, which included sections representing six Army National Guard commands in the First Army area.

Div Arty personnel also participated in the KPUP, "Keep Up," which included two on-the-ground exercises with British soldiers. The common thread of all training was the emphasis placed on maintaining an interactive dialogue to efficiently command and coordinate resources to meet mission taskings from higher headquarters.

Div Arty elements supported the Division Headquarters during annual training at both Fort Hood, Texas, and Fort Drum, New York, which was highlighted by our participation in the JAAT Exercise with the 10th Mountain Div Arty. We also played a key role in the Division's CPX, Golden Sabre.

In the upcoming year, challenges facing the 50th Div Arty include the imminent reorganization and conversion to the L-series TOE, ARTBASS training and new equipment training that will include the fielding of MSE.

Noteworthy throughout the Div Arty's training exercises was the degree of professional dedication exhibited by the Redlegs to ensure that every training task was performed to standards. The 50th Div Arty knows how to ***Make it Happen!***



A/4-112 FA shows the benefits of proper concealment.

82d Airborne Division Artillery

Deploy anywhere in the world within 18 hours and fight and win. That's the mission of the 82d Abn Div Arty, Fort Bragg, North Carolina.

In the early hours of 20 December 1989 aboard C-141B Starlifters 500 feet above Panama's Torrijos International Airport, the 82d Div Arty demonstrated readiness to execute its mission in Operation Just Cause. Gunners from throughout the Div Arty, including the Assault CP and A/3-319 AFAR, as well as FISTs from all three FA battalions, jumped into history. In a challenging environment, where limitations on collateral damage made the employment of assets other than indirect fire the order of the day, fire supporters performed superbly, directing AC-130 gunships and Apache attack helicopters with devastating effects.

The success of Just Cause reinforced our training program mixing the fundamentals and the exotic. We evaluate the NCO Corps' role in individual and section-level training in the Gunner's Test and Section Certification. A showcase for higher collective skills remains frequent danger-close CALFEXs, while off-post training adds a touch of the unknown—Bright Star (Egypt, Oman and Jordan) and Ocean Venture (Puerto Rico).

This year, we also demonstrated our airborne capabilities for the Soviet Minister of Defense and officials of the Soviet Armed Forces. As part of this exercise, C/2-319 AFAR heavy dropped four M102 howitzers, parachuted onto its equipment and put steel on target 10 minutes later.

The 2 August Iraqi invasion of Kuwait triggered our second operational deployment in less than eight months. Much of the history of Operation Desert Shield remains to be written, but this much is known—the first US FA to arrive in Saudi Arabia to demonstrate American resolve and deter further Iraqi aggression belonged to the 319th AFAR.

The fielding of the M119 105-mm howitzer and Light TACFIRE further enhanced our ability to "Mass the Fire." But hardware doesn't accomplish missions. It's the professionalism and spirit of Redlegs in the only Abn FA Regiment—the 319th—who go ***All the Way!***

A crew of B/1-319 AFAR prepares to "send a message" to would-be aggressors in Southwest Asia.

A section from 1-319 AFAR emplaces its howitzer during Operation Desert Shield.

101st Airborne Division (Air Assault) Artillery

The 101st Div Arty, Fort Campbell, Kentucky, takes great pride in its mission to provide fire support for one of the best and most powerful divisions in the Army and the only air assault division in the free world. We stand ready to deploy anywhere, anytime—as proven by our short-notice deployment to the Persian Gulf.

During the past year, we demonstrated new standards of excellence while conducting countless deliberate air assaults and FA raids, ensuring our readiness for Desert Shield. The ability to deploy worldwide, fight and win remains the highest priority for Screaming Eagle Artillerymen.

Div Arty units performed magnificently during rotations at the NTC and JRTC. Our units also participated in several major exercises this year, including the JCS-sponsored Ocean Venture and Exercise Internal Look 90, a US Central Command (USCENTCOM) CPX.

The SEE remains our principal collective training evaluation tool, and all Div Arty DS battalions and batteries were administered SEEs in 1990. The Div Arty administered its Master Section Competition semiannually. This evaluation of individual and section/crew performance has proven to be a tremendous training assessment tool.

In the coming year, Div Arty units will move toward the future as we begin fielding the Light TACFIRE system in January.

The 101st Div Arty exemplifies our Division training philosophy by building combat readiness through realistic training and maintenance, dynamic leadership and disciplined soldiers who attain the highest standards. Our incomparable air assault operations, rich tradition and proud history give the ***Guns of Glory*** a true sense of direction and purpose. Count on us to get the job done!

Redlegs from C/3-320 FA—the Taking Care of Business Battalion—conduct an air assault artillery raid.

Field Artillery Training Center

The Field Artillery Training Center (FATC) at Fort Sill, Oklahoma, acts as the Department of Defense's agency for training all cannoneers, including those in the Reserve Components and the USMC. Using basic combat training (BCT), advanced individual training (AIT) and one-station unit training (OSUT), the Center trains 20,000 soldiers a year in all artillery and several communication MOS and ASIs. To support this training, FATC operates and

An instructor from 1-78 FA teaches OSUT trainees the basics of firing the M105 howitzer.

On the AIT FTX, soldiers get a realistic refresher course in war-fighting skills.

maintains 130 howitzer systems and 20 range complexes. The goal of the Center's initial entry training (IET) strategy is threefold: produce motivated, disciplined and physically fit soldiers; train them in common tasks and MOS/ASI skills; and send our units soldiers who are immediately productive members of combat teams.

The emphasis in this year of budget cutbacks has been on reorganizing the Center and consolidating scarce resources. FATC discontinued one battalion, streamlined the others and relocated most units and the Center's headquarters into one geographical area. What has emerged is a leaner, more efficient organization that can keep Army and USMC units in the field combat ready through an uninterrupted flow of qualified cannoneer replacements. Additionally, the Center conducts BCT for all 13M (MLRS) soldiers, with a long-term goal of developing a 13M OSUT program of instruction.

Finally, this past year FATC emphasized even more realistic, field-oriented training. We've developed an integrated FTX for both AIT and OSUT soldiers training in MOS 13B (Cannon Crewmember), 13E (Fire Direction Specialist), 13F (Fire Support Specialist) and 82C (Surveyor). For other AIT specialties, the Center has highly realistic, demanding FTXs that emphasize basic war-fighting skills. This challenging field training not only contributes to technical proficiency, but also teaches soldiers they're not just individuals doing a job, but members of a larger team that must work together to win. ***Mission First—People Always!***

59th Ordnance Brigade

With more Redlegs than a Division Artillery, the 59th Ordnance Brigade is the largest and among the most unique brigades in the US Army. Deployed from the Alps to the North Sea and from the inner German border into the Netherlands, the Brigade provides special-weapons and guided-missile support to five NATO member nations and three US corps.

With five FA groups and three ordnance battalions, the 59th has uniquely meshed the two branches and earned the praise of being called the Backbone of NATO, a title our Redleg-Ordnance team wears proudly. The Redlegs of the 59th have unequalled training opportunities

In the 59th Bde, soldiers train to qualify with host-nation weapons.

Top-notch training in 294 USAAG resulted in a 100% graduation rate from the Primary Leadership Development Course in FY 90.

as they live and work with the allied units they support.

Our NCOs have led the way in training to enhance interoperability and war-fighting skills with our Dutch, Belgian, British and German Redlegs. An increased emphasis in joint training, partnership activities and cultural exchanges helped develop total familiarity with host-nation systems and tactics. The 59th also hosts a semiannual Tactical Operations Tournament that pits the best physical security teams in NATO against each other in a realistic mission-specific evaluation and tests basic soldier skills.

In addition to joint training, our Redlegs also enjoy combined host-nation and local civilian activities: the 570th FA Group hosts an annual Redleg run and the 557th's 85th FA Detachment sponsors an annual "Run Through Three Countries"—Germany, Belgium and the Netherlands.

The Artillery-Ordnance soldiers of the 59th Ordnance Brigade continue to lead, think and train as a cohesive, combat-ready team in harmony with our NATO Allies. We're the largest and most unique Brigade in the Army with ***Power to Spare.***

Redleg Leathernecks

The Marine Corps Artillery continues to adapt to profound changes in the structure and orientation necessary to accomplish its primary mission of providing supporting fire to the maneuver elements of the Marine Air-Ground Task Force (MAGTF).

Unchanged is that each of the four artillery regiments will provide support to its parent division—three active duty and one reserve. The structure within the regiments has evolved with the phase-out of the M110 8-inch and M109 155-mm self-propelled howitzers.

Reorganization

The reorganization of the 5th Battalions in the 10th and 11th Marines has resulted in each active-duty regiment having three battalions in a 3x8 structure with M198 howitzers and the 4th Battalion configured 3x6, also with M198s. In the fourth battalions, one forward observer team officer and three enlisted Marines have been added to each firing battery. This gives each battery a DS capability to further enhance flexibility.

In the Selected Marine Corps Reserves (SMCR), the M110 8-inch howitzers have been removed from the 5th Battalion of the 14th Marines and replaced with M109 self-propelled howitzers. This leaves the 14th Marines with three battalions of M198 howitzers organized in a 3x8 structure and two battalions of M109 howitzers in a 3x6 configuration. Plans call for replacing the two battalions of M109s with M198s.

The Nuclear Ordnance Platoon (NOP), which has six officers and 54 enlisted Marines, has been transferred from the Force Service Support Group (FSSG) to the Artillery Regimental Headquarters Battery. This transition makes the NOP the sole agency responsible for special weapons support operations in the Artillery Regiment. The Marine Expeditionary Force (MEF) or Marine Expeditionary Brigade (MEB) command element will be exclusively responsible for the peacetime storage of sealed authenticator system (SAS) material to promote MAGTF control of special weapons capabilities and reduce the administrative burden on subordinate elements.

Materiel

The Marine Corps continues to aggressively participate in the research and development of new technologies while actively upgrading present inventories of equipment.

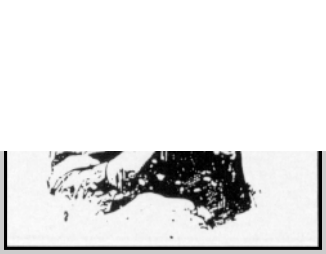
The lightweight 155-mm howitzer program was allocated funds in the POM FY 92 for research and development. One prototype of the lightweight 155-mm, made by a company in England, is currently undergoing an early operational assessment (EOA) at Camp Lejeune, North Carolina. The 10th Marines and the Army XVIII Airborne Corps will each participate in a field exercise to measure various ARTEP/MCCRES tasks during an eight- to 12-hour evaluation. A prototype designed by another British firm is also under development and will compete in a "shoot-off" during FY 92.

The artillery master plan continues to maintain a requirement for a GS rocket system to augment cannon artillery in each regiment. Yet the MLRS failed to meet the cut for POM-92.

The Marine Corps currently is considering participating in a joint program with the Army for development of the high-mobility artillery rocket system (HIMARS). As an enhancement to the Marine Corps expeditionary capabilities, HIMARS is viewed as a multi-service, strategically deployable, tactically mobile, indirect-fire rocket or missile system.

Redleg Marines hustle a 155-mm round to their M198 at 29 Palms.

Arty Marines quickly prepare an M198 howitzer for airlift by a CH-53E helicopter at Camp Pendleton.



It'll require less lift than an equivalent number of MLRS launchers and, therefore, expand our airlift capacity by increasing the available airlift platforms (C-130 aircraft).

Marines direct fire their M198 howitzer at 29 Palms.

Redleg Leathernecks ram an M198 round home, preparing to fire at 29 Palms.

The Marine Corps is currently participating in the AFATDS Program to ensure compatibility with Marine communications and terminology in Block I development and the inclusion of close air support and naval gunfire functions in Block II software development. Currently we're fielding as much fire support command and control technology (FIST-DMD and the Battlefield Computer Terminal, or BCT) as is available and affordable to use as a test bed to—

- Provide an immediate enhancement to current capabilities,
- Develop expertise with digital fire support automation so concepts and techniques can be carried into AFATDS and
- Help define future fire support automation requirements.

The initial operational capability (IOC) for AFATDS is FY 95. The Marine Corps Combat Development Command (MCCDC) and Marine Corps Research, Development and Acquisition Command (MCRDAC) are working to field an interim system to provide an immediate capability until AFATDS is fielded.

Also being adopted is the requirement for the meteorological measuring system (MMS), formerly referred to as the lightweight artillery meteorological system (LAMS). MMS will augment MDS to provide artillery battalions a more expeditionary meteorological capability.

Under consideration for adoption is the lightweight laser designator rangefinder (LLDR). The cumbersome weight and size of current systems establish a need for a lightweight laser designator that's mobile, easily deployable and within the weight limit of the equipment carried by the foot-mobile Marine. The LLDR will self-locate and then range and designate targets throughout the battlefield.

Conclusion

Undaunted by a fluctuating environment, Marine Corps Artillerymen maintain a long tradition of distinguished service to their country. Following training at Fort Sill, Marines continue to refine their skills at Camp LeJeune, North Carolina; Camp Pendleton and 29 Palms, California; Camp Butler, Okinawa; and Camp Hawaii.

Our mission takes us around the world where America needs us most—Grenada, Lebanon or the Persian Gulf. The reorganizing ***Redleg Leathernecks*** remain ready to support our national interests.

Field Artillery Commanders and Command Sergeants Major

As of 1 October 1990

Active Army

Training and Doctrine Command

US Army Field Artillery School and Fort Sill

MG	Hallada, Raphael J. Commandant/CG
CSM	Taylor, David P. Fort Sill
BG	Franks, Tommy R. Asst. Commandant
COL	Jones, John A.
CSM	Stewart, David P. 30th FA Regiment
LTC	Munden, Ronald L.
CSM	Green, Gary R. 1st Bn, 30th FA
LTC	Murati, George J.
SGM	Jones, Benjamin R. 3d Bn, 30th FA
COL	Monko, Joseph P., Jr.
CSM	Edwards, John A. USAFATC
LTC	Sheridan, Joseph C.
CSM	Thompson, Thomas H. 1st Bn, 19th FA
LTC	Boynton, John G.
CSM	Cline, Danny R. 2d Bn, 30th FA
LTC	Zahorsky, Michael, Jr.
CSM	Noel, Thomas E. 1st Bn, 31st FA
LTC	Mackiewicz, Thomas L.
CSM	Shimizu, Antonio T. L. 1st Bn, 33d FA
LTC	Kelly, Edward M., Jr.
CSM	Mull, David L. 1st Bn, 78th FA
LTC	Weidner, Glenn R.
CSM	Camel, Enos, Jr. 2d Bn, 80th FA
LTC	Martin, Phillip M.
CSM	Caldwell, William E. 3d Bn, 321st FA

Forces Command

III Corps

BG	Miller, Frank L., Jr.
CSM	Eldridge, Timothy U. III Corps Arty
COL	Laws, Jerry L.
CSM	Taylor, Rufus 75th FA Bde
LTC	Greene, Edward E., Jr.
CSM	Dunn, Michael A. 1st Bn, 12th FA
LTC	Bryant, Byron D.
CSM	Blackwell, Glenn A. 1st Bn, 17th FA
LTC	Arntz, Stephen J.
CSM	Speichinger, Robert 5th Bn, 18th FA
LTC	Maples, Michael D.
CSM	Stockton, Gaylen 6th Bn, 27th FA
COL	Banks, Floyd T.
CSM	Reed, James A. 212th FA Bde
LTC	Williams, Charles M.
CSM	Santos, Angel, Jr. 2d Bn, 17th FA
LTC	Morris, Robert G., III
CSM	Williamson, Guy 2d Bn, 18th FA
LTC	Rowan, James H.
CSM	Shellman, Gary S. 3d Bn, 18th FA
LTC	Guillory, Kenneth D.
CSM	Reynolds, Raymond 6th Bn, 32d FA
COL	Bishop, Lewis, Jr.
CSM	Smith, Fred F. 214th FA Bde
LTC	Barber, George F.
CSM	Martin, Robert 2d Bn, 2d FA
LTC	McKenzie, Eugene
CSM	Marable, Joseph L. 3d Bn, 9th FA

XVIII Airborne Corps

BG	Tragemann, Richard W.
CSM	Johnson, Shelton
XVIII	Abn Corps Arty
LTC	Thrasher, Alan L.
CSM	Boone, Robert L. 3d Bn, 27th FA
COL	McFarren, F.E.
CSM	Murrell, Angelo B. 18th FA Bde (Abn)
LTC	Wood, John R.
CSM	Melvin, Richard L. 3d Bn, 8th FA
LTC	Johnson, Lonnie L.
CSM	Stewart, Quenten M. 5th Bn, 8th FA
LTC	Groening, William H.
CSM	Deese, Gary W. 1st Bn, 39th FA (Abn)

10th Mountain Division (Light) Artillery

Division Artilleries

COL	Gass, James M.
CSM	Cates, David L. 1st Cav Div Arty
LTC	Anderson, John K.
CSM	Tavares, Michael D. 1st Bn, 82d FA
LTC	Knight, Kenneth R.
CSM	Tolleson, Gordon C. 3d Bn, 82d FA
COL	Dodson, Michael L.
CSM	Manning, Curtis E. 1st IN Div (Mech) Arty
LTC	Emerson, Harry M., III
CSM	Snell, Stephen A. 1st Bn, 5th FA
LTC	Gingrich, John R.
CSM	Lane, Calvin W. 4th Bn, 5th FA
COL	Townsend, Ronald E.
CSM	Gies, Anthony P. 2d AR Div Arty
LTC	Kerin, James R., Jr.
CSM	Brodeur, Albert J. 1st Bn, 3d FA
COL	Zimmerman, LeRoy
CSM	Cupp, Lonny J. 4th IN Div (Mech) Arty
LTC	Bourn, Guy M.
CSM	Villines, Kenneth M. 3d Bn, 29th FA
LTC	Heilman, William P.
CSM	Smith, Robert C., Jr. 5th Bn, 29th FA
COL	Ripley, Ralph R.
CSM	Haynes, Ellis J. 5th IN Div (Mech) Arty
LTC	Kane, Robert P.
CSM	Chittum, Steven W. 4th Bn, 1st FA
LTC	Murphy, Thomas J.
CSM	Brown, George D. 5th Bn, 1st FA
COL	Rigby, Randall L.
CSM	Montgomery, Roger L. 6th IN Div (L) Arty
LTC	Hardin, James R.
CSM	Boyles, Terry W. 4th Bn, 11th FA
LTC	Allen, William W.
CSM	Skipper, Windell K. 5th Bn, 11th FA
COL	Ryneska, John J.
CSM	Perry, William J., III 7th IN Div (L) Arty
LTC	Oslin, David R.
CSM	Bragg, Joseph C. 2d Bn, 8th FA
LTC	Emison, Steven
CSM	Ostos, Joseph M. 6th Bn, 8th FA
LTC	McCabe, Bernard J., Jr.
CSM	Vogt, David E. 7th Bn, 15th FA
COL	Middleton, Douglas J.
CSM	Toliver, Ronald E. 9th IN Div (Mtz) Arty
LTC	Moman, Frankie L.
CSM	Stewart, John T. 1st Bn, 11th FA
LTC	Reitz, John W.
CSM	Phillips, Richard A. 3d Bn, 11th FA
LTC	Ryan, William A.
CSM	Archbold, Cecilio M. 1st Bn, 84th FA
COL	O'Connor, William G.
CSM	Smith, Walter L. 10th Mtn Div (L) Arty
LTC	Ervin, Kent E.
CSM	Peterman, Thomas E. 1st Bn, 7th FA
LTC	Olson, Russell V., Jr.
CSM	Cunningham, Jack L. 2d Bn, 7th FA
COL	Rolston, David A.
CSM	Collins, Carl H. 24th IN Div (Mech) Arty

LTC Floris, John P.
CSM Prothro, Randolph
1st Bn, 41st FA
LTC Lutz, Stephen M.
CSM Luke, Ashley J.
3d Bn, 41st FA
COL von Kaenel, H. Jack
CSM Acosta, Felix
82d Abn Div Arty
LTC Taylor, Jerry A.
CSM Austin, Johnny J.
1st Bn, 319th FA
LTC Cummins, Gerald, Jr.
CSM Dungey, William E.
2d Bn, 319th FA
LTC Spohn, Edward A. III
CSM Lugo, Luis A.
3d Bn, 319th FA
COL Anderson, Randall J.
CSM Dulin, Harry E.
101st Abn Div (AA) Arty
LTC Lawson, Harlan A.
CSM Duggins, Kalub D.
1st Bn, 320th FA
LTC Hartsell, H. Lynn
CSM Unroe, James P.
2d Bn, 320th FA
LTC Costello, Thomas J.
CSM Burgos, David
3d Bn, 320th FA

Separate Commands

COL Elder, Robin L.
SGM Cadena, Jose
TEXCOM FA Board
COL Webb, Myrt W., Jr.
SGM Ojeda, Carlos Pena
US Army Garrison,
Fort Chaffee
LTC Engel, William F.
CSM Kirchoff, Lyle R.
4th Bn, 41st FA
(197th IN Bde)

United States Army, Europe

V Corps

BG Miller, Leonard D.
CSM Covey, William M.
V Corps Arty
COL Newman, George E., III
CSM Stanislas, Rawle B.
41st FA Bde
LTC Rasmussen, Raymond E.
CSM Devoe, Walter
4th Bn, 18th FA
LTC Faircloth, William R.
CSM Yancey, Andrew C.
3d Bn, 20th FA
LTC Vallario, Richard A.
CSM Wood, David C.
1st Bn, 27th FA
LTC Brzozowski, Mark A.
CSM Brooks, Ernest L.
1st Bn, 32d FA
LTC Wilson, Jerre W.
CSM Sexton, Frederick E.
4th Bn, 77th FA
COL Boyd, Morris J.
CSM Woodley, John L.
42d FA Bde
LTC Rudman, John F.
CSM Adams, Paul C.
5th Bn, 3d FA
LTC Hanson, Robert L., Jr.
CSM Marlow, Charles D.
4th Bn, 7th FA
LTC Vanderbeek, Walter A.
CSM Morales, Jorge E.
2d Bn, 20th FA
LTC Retzloff, Curtis L.
CSM Mitchell, Sammie L.
2d Bn, 32d FA
LTC Denny, Dennis P.
CSM Thompson, Donald
3d Bn, 32d FA

Division Artilleries

COL Michitsch, John F.
CSM Carr, Thomas E.
3d AR Div Arty
LTC Treharne, Richard J.
CSM Hawkins, Joseph A., Jr.
2d Bn, 3d FA
LTC Absher, Charles W.
CSM Young, Richard A.
2d Bn, 82d FA
LTC Davis, M. Thomas
CSM Flores, Francisco R.
4th Bn, 82d FA
COL Hicks, Robert R., Jr.
CSM Morant, Benny J.
8th IN Div (Mech) Arty
LTC Stratman, Henry W.
CSM Parsons, Robert E.
2d Bn, 29th FA
LTC Randolph, Stephen C.
CSM Eason, Guy R.
4th Bn, 29th FA
LTC Gay, Mark P.
CSM Allen, Bobby W.
6th Bn, 29th FA

VII Corps

BG Abrams, Creighton W., Jr.
CSM Pippin, Larry V.
VII Corps Arty
COL Ott, William H.
CSM Higginbotham, Walter D.
17th FA Bde
LTC Ryan, Sylvester A., Jr.
CSM Tillman, Melvin
4th Bn, 12th FA
LTC Coomler, James D.
CSM Mitchell, Joe W.
1st Bn, 18th FA
LTC Daly, Stephen C.
CSM Rivera, Santiago R.
1st Bn, 36th FA
LTC Durden, Richard L.
CSM Kraus, Lawrence H.
2d Bn, 77th FA
COL Clark, William B.
CSM Barber, David P.
72d FA Bde
LTC Gray, Dwight
CSM Underwood, Johnny W.
3d Bn, 12th FA
LTC Melville, Edmond K.
CSM Powell, Twin L., Jr.
2d Bn, 14th FA
LTC Morgan, Gary D.
CSM Dade, William E.
4th Bn, 14th FA
LTC Breitenbach, Daniel L.
CSM Strackbein, James E.
4th Bn, 27th FA
LTC Godwin, James B., Jr.
CSM Duncan, Gary A.
3d Bn, 35th FA
COL Bourne, Garrett D.
CSM Edmundson, Thomas J.
210th FA Bde
LTC Danner, Stephen A.
CSM Heritage, John, Jr.
3d Bn, 5th FA
LTC Thieme, Thomas N.
CSM Quandt, David T.
2d Bn, 12th FA
LTC McCausland, Jeffrey D.
CSM McFadden, Joseph J.
3d Bn, 17th FA
LTC Canton, Raymond P.
MSG Walley, Marion O.
5th Bn, 17th FA

Division Artilleries

COL Corn, Vollney B., Jr.
CSM Wright, Daniel E.
1st AR Div Arty
LTC Unterseher, James E.
MSG(P) Nelson, George H.
2d Bn, 1st FA
LTC Hahn, Daniel A.
CSM Smith, James F.
3d Bn, 1st FA
LTC Johnson, Alan E.
CSM Dixon, Donald L.
6th Bn, 1st FA
COL Baxter, Leo J.
CSM Calloway, Robert E.
3d IN Div (Mech) Arty
LTC Leahy, Michael L., III
CSM Horsley, Johnny
2d Bn, 41st FA
LTC Nelson, Terrance E.
CSM McMullan, James
5th Bn, 41st FA
LTC Adair, Lawrence R.
CSM Warrick, Ronald E.
6th Bn, 41st FA

56th Field Artillery Command

MG Bean, Roger K.
CSM Tompkins, Ian R.
56th FA Cmd
LTC Seay, Stephen M.
CSM Irving, Herman E.
1st Bn, 9th FA
LTC Bowden, Thomas G.
CSM Lopes, Lucio O.
2d Bn, 9th FA

59th Ordnance Brigade

LTC Cerami, Joseph
CSM West, Joseph C.
294th Arty Group
LTC Kaylor, Charles R.
CSM Thompkins, Carroll E.
512th Arty Group
LTC Grimes, Richard A.
CSM Carnegie, Guillermo E.
552d Arty Group
LTC Megorden, Frank M.
CSM Nave, James C.
557th Arty Group
LTC Shannahan, Patrick M.
CSM Jefferson, Henry C.
570th Arty Group

Southern European Task Force

COL Cameron, Thomas B.
CSM Adams, Thomas S.
528th Arty Group
COL Gallivan, James J.
CSM Brewington, Avan, Jr.
558th Arty Group
COL Counts, Edward T.
CSM McNair, Liddell
559th Arty Group

Separate Commands

COL Harris, Nick C.
CSM Rundle, Dennis L.
Grafenwoehr TA

V Corps Artillery

LTC Lantzy, Walter P.
CSM Williams, L.C.
4th Bn, 3d FA
(2d AD Fwd)

LTC Bruce, William A.
CSM Hill, Jerry A.
2d Bn, 5th FA
(1st ID Fwd)

US Army Pacific

COL Shane, James E., Jr.
CSM Graves, Roy L.
25th IN Div (L) Arty

LTC Northrop, John H.
CSM Perry, Sidney G.
3d Bn, 7th FA

LTC Davis, Lawrence E.
CSM Najar, Joe C.
1st Bn, 8th FA

LTC Krebs, Robert G., Jr.
CSM Lewis, Harold E.
7th Bn, 8th FA

LTC Johnson, David E.
CSM Lunceford, Danny L.
2d Bn, 11th FA

Korea and the Eighth Army

COL Richardson, Sterling R.
CSM Mabry, Jimmy L.
2d IN Div Arty

LTC Ishii, Melvin Y.
CSM Cruz, Arthur E.
1st Bn, 4th FA

LTC Bailer, Richard O.
CSM Cobb, Jessie
8th Bn, 8th FA

LTC Tetu, William J.
CSM Hornsby, Winston D.
1st Bn, 15th FA

LTC Hoffer, Edward E.
CSM Crowe, William L.
6th Bn, 37th FA

Separate Command

LTC Ortenzio, Thomas J.
1SG Cone, John H., Sr.
Sp Wpns Spt Det, Korea

Army National Guard

I Corps

BG Ence, Randy J.
CSM Nelson, John W.
I Corps Arty

LTC Eichers, Brent S.
CSM Boyington, Richard L.
1st Bn, 140th FA

MAJ(P) Bertolio, William D.
CSM Williams, Brock H.
1st Bn, 145th FA
LTC Fuellenbach, Mark A.
CSM Bishop, Kent A.
2d Bn, 222d FA

Division Artilleries

COL Russell, James W.
CSM Brennan, Paul M.
26th IN Div Arty
LTC Huskes, Richard W., Jr.
CSM Charbonneau, Edward G.
1st Bn, 86th FA
LTC Leite, Abel C.
CSM Beirne, John E.
1st Bn, 101st FA
MAJ(P) Raphael, Jaoa
CSM Tassone, Vincent J.
2d Bn, 192d FA
LTC Sanfason, David B.
CSM Engler, Paul D.
1st Bn, 211th FA
COL Babb, Heinrich N.
CSM Sheard, James J., Jr.
28th IN Div Arty
LTC Zak, Leo P.
CSM Honkus, Thomas D.
1st Bn, 107th FA
LTC McClintock, Charles F.
1SG Nett, David L.
1st Bn, 108th FA
MAJ Ormando, John J.
CSM Sauer, John J., Jr.
1st Bn, 109th FA
LTC Messina, Michael R.
CSM Houston, David J.
1st Bn, 229th FA
COL Vick, William A.
CSM Eldredge, Robert A.
29th IN Div (L) Arty
LTC Rodier, Edward A., Jr.
CSM Perando, Scott A.
2d Bn, 110th FA
LTC Stevens, Wayne S.
CSM Yeager, Thomas E.
2d Bn, 111th FA
LTC Fowle, William H., Jr.
CSM Ferguson, Lowell T.
1st Bn, 246th FA
COL Eggleston, Jerry J.
MSG Johnson, Roy V.
35th IN Div (Mech) Arty
MAJ Johansen, Forrest R.
CSM Gorman, Jerry F.
1st Bn, 127th FA
LTC Kelley, Aaron D., Jr.
CSM Rudder, John L.
2d Bn, 130th FA
LTC Smith, James L.
CSM Bush, Robert J.
2d Bn, 138th FA
MAJ Smith, Dennis E.
SGM Stevens, George E.
1st Bn, 161st FA
MAJ Grandstaff, Curtis G.
CSM Langhofer, Ronald E.
1st Bn, 168th FA
COL Henry, Ronald W.
CSM Osborne, John D.
38th IN Div Arty
LTC Vadnais, Gregory J.
CSM Pennell, Wayne G.
1st Bn, 119th FA
LTC Montgomery, Michael B.
1SG Nicholson, Jerry D.
3d Bn, 139th FA
LTC Noel, Jack E.
CSM Scott, Ronald K.
2d Bn, 150th FA

LTC Green, Frank B.
CSM Mattingly, James R.
1st Bn, 163d FA
COL Schmidt, Eugene W.
CSM Marschall, Josef O.
40th IN Div (Mech) Arty
LTC Minetti, Gerald P.
MSG Tafoya, Raymond A.
1st Bn, 143d FA
LTC Ramsey, Edwin P., Jr.
MSG Franco, Anthony J.
1st Bn, 144th FA
LTC Kelley, William J., Jr.
CSM Morrison, Michael M.
2d Bn, 144th FA
MAJ Foster, Edward A., Jr.
CSM Andrews, Gary W.
3d Bn, 144th FA
COL Beck, Richard J.
CSM Murfitt, Arthur M.
42d IN Div Arty
LTC Alesia, Pasquale A.
MSG Christopher, Michael G.
2d Bn, 104th FA
MAJ Riggio, Frank X.
CSM Smith, Walter, Jr
1st Bn, 187th FA
LTC Lundell, Carl F.
CSM Santovito, Ronald J.
1st Bn, 209th FA
MAJ Gidansky, Martin
CSM Adinolfi, Albert A.
1st Bn, 258th FA
COL Bode, Louis O.
CSM Benda, Charles J.
47th IN Div Arty
LTC Perry, James F., Jr.
CSM Egger, Kenneth J.
2d Bn, 123d FA
LTC Trost, Jon L.
MSG Flodin, Richard G.
1st Bn, 151st FA
LTC Anderson, Boyd W.
CSM Hodge, Harold L.
1st Bn, 175th FA
LTC Warnock, Tracy L.
CSM Peterson, Leslie D.
1st Bn, 194th FA
COL Harvie, James C.
CSM Wesch, Larry
49th AR Div Arty

LTC Kreger, John W.
CSM Talbot, Joseph E.
2d Bn, 131st FA
LTC Powers, Christopher J.
CSM Black, Clyde D.
3d Bn, 132d FA
LTC Ortiz, Victor M., Jr
CSM Shamy, Robert G.
3d Bn, 133d FA
LTC Nichols, Richard W.
CSM Belyeu, Leonard W.
4th Bn, 133d FA
COL Blysak, George J.
CSM Wagner, Roy R.
50th AR Div Arty
LTC Chiste, Ronald L.
CSM Szymborski, Stanley
1st Bn, 112th FA
LTC Moore, Kenneth B.
CSM Newman, Frank T.
3d Bn, 112th FA
LTC Kasiski, Stanley A.
CSM Chiacchio, Charles G.
4th Bn, 112th FA
LTC Lippke, Lawrence A.
CSM Smith, Charles W.
1st Bn, 133d FA

Brigades

COL Martin, Paul D.
CSM Clinton, Don C.
45th FA Bde
MAJ Haub, Larry D.
CSM Spruill, James D.
1st Bn, 158th FA
LTC South, Arthur R.
CSM Ahrens, Lewis E.
1st Bn, 171st FA
LTC Morford, Jim E.
CSM Ray, Robert F.
1st Bn, 189th FA
COL Holmes, James W.
CSM Koehler, Lowell M.
57th FA Bde
LTC Friedl, Michael J.
CSM Paul, James L., Jr.
1st Bn, 121st FA
LTC McRoberts, Ronald E.
CSM Anderson, Jerome A.
1st Bn, 125th FA
LTC Krug, Randall E.
CSM Villnow, William W.
1st Bn, 126th FA

COL Kanaczet, Richard P.
CSM Iannelli, Paul A.
103d FA Bde

LTC Zifcak, Dennis J.
1SG Fiske, Harold L., Jr.
1st Bn, 103d FA

LTC Goddard, Joseph E.
CSM Wagner, Gerard J.
2d Bn, 103d FA

COL Sexton, Paul W.
CSM Hoover, Harold W.
113th FA Bde

MAJ(P) Stallings, Jack B., Jr.
CSM Barger, Raymond
4th Bn, 113th FA

LTC Midyette, Jack B.
CSM Ellington, Orman B., Jr.
5th Bn, 113th FA

COL Sharp, Robert G.
CSM Daniels, Ralph C.
115th FA Bde

LTC Wilkerson, Terry G.
CSM Cash, Jack H.
1st Bn, 49th FA

COL Pearce, Cecil L.
CSM Harville, Rodney J.
118th FA Bde

LTC Brossett, Wayne R.
CSM Youngblood, Enoch J.
2d Bn, 117th FA

LTC Tinley, Henry E.
CSM Nicora, Barry D.
1st Bn, 214th FA

LTC Reddick, Terrell T.
CSM Tant, Kenneth W.
2d Bn, 214th FA

COL Gottschalk, Dempsey D.
CSM Blair, Charles M.
135th FA Bde

LTC Schrimpf, John D.
CSM Heinzler, James J.
1st Bn, 128th FA

LTC Courtney, John M.
CSM Dew, Larry E.
1st Bn, 129th FA

COL McClure, Samuel T.
CSM Dermon, Robert E.
138th FA Bde

MAJ Smith, John W.
CSM Hoffman, William F.
1st Bn, 623d FA

COL Armistead, Bobby H.
CSM Fondren, Bobby D.
142d FA Bde

LTC Meeks, Gary W.
CSM McCutchen, Wendell L.
1st Bn, 142d FA

LTC Horne, Nathan N.
CSM Fagala, Robin F.
2d Bn, 142d FA

C Btry, 7-8th FA

COL Hansem, Michael H.
CSM Bjerk, Orlo R.
147th FA Bde

LTC Goldhorn, Donald J.
CSM Hurney, Richard J.
1st Bn, 147th FA

LTC Bialas, David A.
CSM Logan, Richard L.
2d Bn, 147th FA

LTC(P) Sipe, Nicholas P.
CSM Floyd, Lloyd H.
151st FA Bde

LTC Demby, Robert E.
CSM Davis, Albert E.
3d Bn, 178th FA

MAJ(P) Richardson, Henry B., Jr.
CSM Smith, James D.
4th Bn, 178th FA

COL Muller, Felix J.
CSM Wright, Gerald A.
153d FA Bde

MAJ(P) Jensen, Paul E.
CSM Lara, Ysabel S.
1st Bn, 180th FA

LTC Perrin, John W.
CSM Ditsch, Thomas D.
2d Bn, 180th FA

COL Suhre, William R.
CSM Haptonstall, Emmett L.
169th FA Bde

LTC Stremme, Lynn R.
CSM Curtis, James M.
1st Bn, 157th FA

LTC Martinez, Matthew M.
MSG Craver, Kenneth E.
2d Bn, 157th FA

COL Darling, James P.
CSM Davis, Bobby G.
196th FA Bde

LTC Tipps, Jerry W.
CSM Pratt, John F.
1st Bn, 115th FA

LTC Bean, Dennis N.
CSM McDaniel, John C.
1st Bn, 181st FA

COL Kehr, T.W.
CSM Ziarko, Stanley W.
197th FA Bde

LTC Dupee, Bradley S.
CSM Rice, Michael F.
1st Bn, 172d FA

MAJ Lemoine, Ronald R.
CSM Hammell, Leonard D., Jr.
2d Bn, 197th FA

LTC LeClerc, Joseph G.E.
CSM Barrett, Stephen W.
3d Bn, 197th FA

COL Losel, Glenn W.
CSM Flye, Jerome E.
209th FA Bde

COL Lorenzo, Leo A.
CSM Van Kessel, George H.
227th FA Bde

LTC Wingo, Thomas O.
CSM Currier, Robert A.
1st Bn, 116th FA

C Btty, 2-.192d FA

LTC Conner, Thomas W.
CSM Carter, Harry T.
3d Bn, 116th FA

LTC(P) Hyneman, John M.
CSM Jones, Jerry A.
631st FA Bde

LTC Shields, Roger L.
CSM Cummings, Ancle W.
1st Bn, 114th FA

LTC Freeman, William L., Jr.
CSM Cooley, Donald L.
4th Bn, 114th FA

Round-Out Battalions

LTC Carter, Charles M.
MSG Marshall, Ben A.
2d Bn, 114th FA
(1st Cav Div Arty)

LTC Green, Dennis W.
CSM Murphy, Patrick W.
1st Bn, 148th FA
(4th IN Div (Mech) Arty)

LTC Appe, Glenn M.
CSM Laurent, Melvin A.
1st Bn, 141st FA
(5th IN Div (Mech) Arty)

LTC Read, Richard D.
CSM Leggett, Tommy D.
2d Bn, 146th FA
(9th IN Div (Mtz) Arty)

LTC Lamback, James H.
CSM Gleidman, Jeffrey A.
1st Bn, 156th FA
(10th Mtn Div (L) Arty)

LTC Rigdon, Robley S.
CSM Glisson, David A.
1st Bn, 230th FA
(24th IN Div (Mech) Arty)

Separate Battalions

LTC Wray, Cannon S.
CSM Perrson, Kenneth V., Sr.
3d Bn, 49th FA

LTC Young, John L., III
CSM Wood, Kenneth E.
1st Bn, 111th FA

LTC Taylor, Jerry S.
CSM Eddins, William H.
1st Bn, 113th FA
LTC Sweat, Richard H.
CSM Turner, William B.
3d Bn, 115th FA
LTC Hall, James E.
CSM Porterfield, Robert W.
2d Bn, 116th FA
LTC Arabian, Gordon L., Jr.
CSM Keeney, John D.
1st Bn, 117th FA
LTC Brossett, Wayne R.
CSM Youngblood, Enoch J.
2d Bn, 117th FA
LTC Crutchfield, Jerry
SGM Snyder, Pugh K.
3d Bn, 117th FA
LTC Kilcoyne, Robert J.
CSM Diedrich, Mathew G.
1st Bn, 120th FA
LTC Kelly, Gregory
CSM Frazier, Robert L.
2d Bn, 122d FA
LTC Higgins, John W.
CSM Woody, Joseph E.
1st Bn, 136th FA
LTC Bernard, Reginald T.
CSM Martin, Roland
1st Bn, 152d FA
LTC Bills, Christopher P.
CSM Ashcraft, Merritt E.
1st Bn, 160th FA
LTC Rosa-Agosto, Antonio
CSM Rodriguez, Raul
1st Bn, 162d FA
LTC Sanchez, Franly H.
CSM Reyes, Ruben
2d Bn, 162d FA
LTC Mabry, Buford S., Jr.
CSM Sexton, Jimmie R.
1st Bn, 178th FA
LTC Johnson, Sheldon D.
CSM Bradley, Joseph C.
1st Bn, 182d FA
LTC Christian, Dennis R.
CSM Harman, John E.
1st Bn, 201st FA
LTC Wofford, William D.
CSM Grisham, Walter E.
5th Bn, 206th FA
LTC Griggs, John C.
CSM Stephen, Garvin K.
2d Bn, 218th FA
MAJ Mau, David J.C.
SGM Gibo, Raymond M.
1st Bn, 487th FA

Army Reserve

Brigades

COL Noirot, George V.
CSM Edmonds, Ollard D.
428th FA Bde
MAJ Reyes, Rosendo C.
CSM Cleasby, Gerry L.
4th Bn, 20th FA
MAJ Lenihan, Robert J., II
CSM Kimble, David L.
4th Bn, 38th FA
LTC Bugg, Jimmie C.
CSM Dorman, Terry L.
4th Bn, 333d FA
COL Grunewald, Robert E.
CSM Rogers, William T.
434th FA Bde
LTC McDermott, William J.
CSM Harden, Frank L.
7th Bn, 1st FA
MAJ Woodley, Kent
CSM Suarez, Frank R.
4th Bn, 75th FA
COL Kuhar, Edward H.
CSM Mosier, James A.
479th FA Bde
LTC Serra, Philip M.
CSM Cavanaugh, Charles P., III
4th Bn, 8th FA
LTC Clark, Robin B.
CSM Holland, Gregory M.
4th Bn, 92d FA

Training Brigades

COL Thompson, Carleton K.
CSM Prucha, Edward C.
3d Bde (FA-OSUT)
84th Div (Tng)
LTC Walsh, James M.
CSM Nordstrom, Royal R.
1st Bn, 334th FA
LTC Graham, Alfonso J., Jr.
SGM Clark, Charles A.
2d Bn, 334th FA
MAJ Geib, Donnell H.
CSM Pelishek, Daniel L.
3d Bn, 334th FA
COL White, Larry G.
CSM Brown, Paul L.
402d Bde (Tng)(FA)
95th Div (Tng)
LTC Sloan, Steven K.
CSM Young, Kendall
1st Bn, 89th FA
LTC Bradford, Jerry J.
CSM Anders, William
2d Bn, 89th FA
LTC Burdett, Norman B.
CSM Duryea, James W.
3d Bn, 89th FA
LTC Stenger, Thomas M.
CSM Cleveland, Gerald
4th Bn, 89th FA
LTC Crain, Albert L.
CSM Bailey, Bill
5th Bn, 89th FA
LTC Forbrich, Terrence L.
CSM Bouffard, James M.
402d Tng Grp (FA)
LTC Gann, Bruce I.
CSM Griffin, Gayland V.
402d Rcptn Bn

Separate Battalions

LTC Edin, Joseph H.
CSM Mari, Daniel J.
5th Bn, 5th FA
LTC Read, George W.S.
CSM Walker, William L.
7th Bn, 9th FA

E Btty, 2-12th Marine Regiment

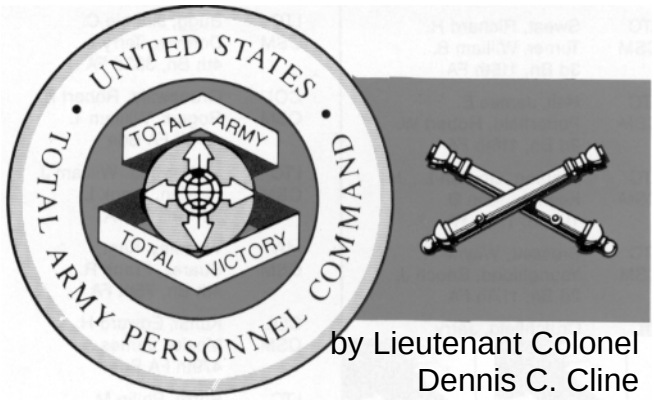
LTC Guenthner, Jack E.
CSM Pearson, Andrew L.
3d Bn, 14th FA
(Round-Out Bn, 6th
IN Div (L) Arty)
LTC Johnson, Donald D.
CSM Vacant
3d Bn, 15th FA
LTC Roney, Benjamin E., Jr.
CSM Braswell, Freddie E.
4th Bn, 17th FA
LTC Poling, Kenneth E., Jr.
CSM McKinney, John V.
5th Bn, 28th FA
LTC Gaffney, John J.
CSM Tobin, Joseph A.
3d Bn, 42d FA
LTC Strom, Charles P.
CSM Lenox, Chester A.
3d Bn, 75th FA
LTC Younger, Jack R., Jr.
CSM Kirk, William T.
3d Bn, 83d FA
LTC Robison, Bert T.
CSM Shipley, Robin D.
6th Bn, 83d FA
MAJ Shinn, Ronald W.
CSM Hanna, Richard M.
3d Bn, 92d FA

US Marines

Col Palm, Leslie M.
SgtMaj Felts, Dossy B.
10th Marines
LtCol Okland, Douglas A.
SgtMaj Holding, Phillip J.
1st Bn, 10th Mar
LtCol Stewart, Joe R.
SgtMaj Kamerick, Thomas J.
2d Bn, 10th Mar
LtCol Hughes, Philip E.
SgtMaj Ridgeway, Harvey W.
3d Bn, 10th Mar
LtCol Evans, Harold W., III
SgtMaj Rudolph, George M.
5th Bn, 10th Mar
Col Howard, Patrick G.
SgtMaj Bachta, Thomas E.
11th Marines
LtCol Sollis, John B.
SgtMaj Hunter, Dennis W.
1st Bn, 11th Mar
LtCol Gido, Paul A.
SgtMaj Coffee, Royce G.
2d Bn, 11th Mar
LtCol Adams, Mark W.
SgtMaj Bush, Stanley D.
3d Bn, 11th Mar
LtCol Sachtleben, James L.
SgtMaj Eff, Richard H.
5th Bn, 11th Mar
Col Snowden, John S.
SgtMaj Demory, Charlie L., Jr.
12th Marines
LtCol Rivers, Robert W.
SgtMaj Beckner, Duane L.
1st Bn, 12th Mar
LtCol Swords, Michael J.
SgtMaj Carrington, Roy L.
2d Bn, 12th Mar
LtCol Goza, Joe L.
SgtMaj Capper, Kenn J.
3d Bn, 12th Mar
LtCol Deslauriers, Richard E.
SgtMaj Barnes, Thomas R.
4th Bn, 12th Mar
Col Canario, James M.
SgtMaj Barker, Robert L.
14th Marines
(SMCR)
LtCol Studebaker, Roger J.
SgtMaj Lyvere, Douglas C.
1st Bn, 14th Mar
LtCol Copeland, Larry B.
1stSgt Tipton, Jimmy D.
2d Bn, 14th Mar
LtCol Gorian, John D.
1stSgt Beckermeyer, John R.
3d Bn, 14th Mar
LtCol Sawyer, Joseph E., Jr.
SgtMaj Smith, Cecil J.
4th Bn, 14th Mar
Col Andres, Russell A., Jr.
SgtMaj Holmes, Philip J.
5th Bn, 14th Mar

Officers:

How to Assess Your Record



by Lieutenant Colonel Dennis C. Cline

The world has been changing at such a remarkable rate that many have declared the Cold War won. The President, the Congress and the American people have been embroiled in a debate over what to do about our achieved successes and where to direct the monies of defense. Many officers have been uncertain about the future.

And with the advent of Operation Desert Shield, a question arises: Who would consider force reductions during a massive military operation? The reality is that Desert Shield is only an example of the type of threat our military may have to deal with in the future. It in no way reprieves us from the monumental decisions that have been made nor the inevitable reductions that must and will come. Our military history demonstrates time and again the cycle of military buildup followed by an opposite downsizing.

With all this said, many are still confused about what the future may bring. Rumor is still rampant and the calls to the Field Artillery (FA) Officer Branch, Total Army Personnel Command (PERSCOM), Alexandria, Virginia, clearly reflect officer anxiety. Specifically, the callers most often ask two questions: "What will be our Army's shape in the future?" and "Where do I stand in relationship to my contemporaries—do I have a future in a smaller, downsized structure?"

To the first question, the answer is simply, it depends. It depends on the results of the Conventional Forces in Europe (CFE) Treaty negotiations. It depends on what strength levels the Administration and the Congress finally agree upon. It also depends on what the national security objectives are and how the forces necessary to support our national strategy will be structured.

Ultimately, force structure dictates strength levels, which affect selection rates, which determine who is allowed to stay on active duty. Who is allowed to stay on active duty "plays out" in several milestones that each officer quietly negotiates during his Army career. These critical points are achieved by selection and advancement through our Army board selection system and include selection for—

- Conditional Voluntary Indefinite and Regular Army Probationary Continuation
- Captain
- Major
- Command and General Staff College
- Lieutenant Colonel
- Lieutenant Colonel Command
- Senior Service College
- Colonel
- Colonel Command

This article gives a method to analyze your file and judge where you stand. It's a process of generally reviewing your performance history and comparing it to the results of various boards for recent milestone selections.

Senior Rater's Profile

The senior rater's profile has more effect on the "true rating" on an officer efficiency report (OER) than any other single section of DA Form 67-8. The senior rater establishes a profile by determining the percentage of officers who fall in his above-center-of-mass (above the pack), center-of-mass (with the pack) or below-center-of-mass (below the pack), as indicated by box checks on the OER forms.

The following chart gives examples of senior rater profiles. These profiles fall into the three categories described above, plus one additional category—profiles that are inconclusive. In these inconclusive profiles, there's no "pack"—usually because there aren't enough ratings in the profile to identify where an officer stands with respect to his peers.

Each colored number in the chart represents the most recent rating in its profile and each colored number exemplifies its category. In the first profile, for example, the senior rater has rated 18 officers (8 + 9 + 1) of the same grade, choosing to rate the 18th officer in the top block. The rated officers joins seven peers in that block. Since 10 officers previously were rated below this block, the officer's rating is above-center-of-mass.

Depending on a senior rater's profile, the OER box you receive a check in may be deceiving. For example, in the center-of-mass profiles, three of the senior raters checked the top block for their officers,

Sample Profiles of Various Senior Raters

OER Boxes	Sample Profiles					
	Above-Center-of-Mass					
	8	20	0	0	29	8
	9	60	10	0	52	8
	1	10	12	12	0	1
	0	0	1	20	0	0
	Center-of-Mass					
	20	10	20	6	1	7
	9	17	19	1	6	6
	1	4	2	0	0	5
	1	0	0	1	0	5
	Below-Center-of-Mass					
	20	20	0	9	6	8
	19	30	6	6	2	20
	0	7	7	5	1	5
	0	2	1	5	1	1
	Inconclusive					
	1	1	0			
	0	1	0			
	1	1	1			
	0	0	1			

which is usually interpreted by the rated officers as above-center-of-mass. But because the senior raters checked the top blocks for the *majority* of their officers, these top-block ratings translate to center-of-mass ratings.

Don't let this discussion emphasizing the senior rater's blocking lead you to believe the rater's and senior rater's *words* aren't important. The rater's recommendations in the potential narrative are important. There should be no comments in the rater's section that could be construed as less than favorable. However, the senior rater's narrative is most important. He's ultimately the official who describes *potential.*

There are three degrees or levels to a top-block or above-center-of-mass rating in the senior rater's narrative. As you evaluate your file, look for these three distinct annotations in any order.

1. A statement or measurement comparing you to your peers: "One of the top battery commanders in the Brigade"; better yet—"The best Battery Commander in a brigade of 27 commanders"; even better—"The best Battery Commander I have ever seen in 24 years of service."

2. A statement of competence: "This officer does all things well all the time," or better—"A conceptual thinker who produces dramatic results."

3. A statement of potential and future recommendation: "Promote now and select for school immediately; this officer is more than ready," or "General officer material; this officer is the best there is."

CVI/RA Probationary

For all officers in Year Groups 88 through 90, the first milestone is the Conditional Voluntary Indefinite/Regular Army (CVI/RA) Probationary board. In general, your evaluation reports should be center-of-mass to above-center-of-mass. You should have no comments or indications of poor physical conditioning and meet the height and weight standards of *AR 600-9 Army Weight Control Program*. Of course, there should be no Article 15s in your file.

All reports with less than ls in Part IVa of the OER form should be considered as no better than center-of-mass-minus reports. In addition, Parts Vb and Vd of DA Form 67-8 should be blocked as "Always Exceeds Requirements" and "Promote Ahead of Contemporaries," respectively. If not, these reports are below-center-of-mass ratings. Honor and integrity cuts are killers, and if these are present, you won't make the milestone.

These general comments apply for all milestones.

The selection rate for the last CVI/RA Probationary board was 82 percent. Analyze your file and compare it to the data from the last board in the following chart. The numbers are the average percentage of above-center-of-mass, center-of-mass and below-center-of-mass OERs found in both the selected and non-selected officer population. For example—for all the selected officers (82 percent), 25 percent of their OERs could be characterized as above-center-of-mass and so on down the line.

CVI/RA Probationary Selection Board Results

% of OERS	82% Selected	18% Not Selected
Above-Center-of-Mass	25%	2%
Center-of-Mass	57%	46%
Below-Center-of-Mass	7%	40%
Inconclusive	11%	12%

Captain

The conditions discussed for the CVI/RA Probationary board also are valid for this board. This milestone affects officers in Year Group 87. The selection rate for the last captain board was 88.4 percent. Analyze your file and compare it to this data.

Captain Selection Board Results

% of OERS	88.4% Selected	11.6% Not Selected
Above-Center-of-Mass	28%	4%
Center-of-Mass	59%	39%
Below-Center-of-Mass	6%	46%
Inconclusive	7%	11%

Major

The conditions discussed for the CVI/RA Probationary board also are valid for this board. But one additional factor weighs heavily during this selection process—the manner in which the officer commanded.

Above-center-of-mass and center-of-mass command reports are the minimum required for judging commands successful. Any rating less reflects negatively on the officer's future potential. This milestone affects Year Group 82. The selection rate for the last major's board was 64.7 percent. Analyze your file and compare it to this data.

Major Selection Board Results

% of OERs	64.7% Selected	35.3% Not Selected
Above-Center-of-Mass	28%	9%
Center-of-Mass	49%	48%
Below-Center-of-Mass	7%	23%
Inconclusive	16%	20%

CGSC

Command and General Staff College (CGSC) selection is based on the number of seats available for each year group. Failure to attend the resident course in no way limits an officer's opportunity. However, not being picked for attendance allows one to gauge his standing at this point in a career in comparison with others who have been selected. It might be noted that many non-resident CGSC officers make lieutenant colonel, and some are selected for command. It all depends on the quality of the officer's field-grade duty performance and company/battery-level command.

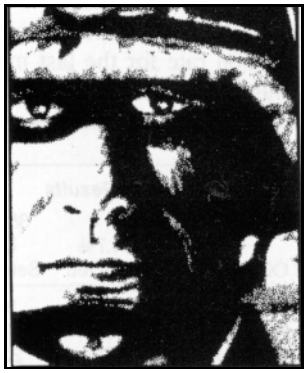
The next CGSC board will convene for Year Groups 81, 80, 79 and 78. Forty percent of the seats for this board will be allocated to Year Groups 81 and 80 while 15 percent will go to Year Group 79 and five percent to Year Group 78. The selection rate for attendance for a year group across its period of eligibility is 50 percent. Analyze your file and compare it to this data. Note: For an officer to be selected for CGSC, *all* his *command* ratings should be above-center-of-mass.

CGSC Selection Board Results

% of OERs	50% Selected
Above-Center-of-Mass	32%
Center-of-Mass	43%
Below-Center-of-Mass	4%
Inconclusive	21%

Lieutenant Colonel

The hallmark for success in the Army in the past has been to achieve the grade of lieutenant colonel. The future may dictate a change and, perhaps, lower the expectation for a successful career to achieving the grade of major.



OFFICER

In addition, several new considerations are important. To be selected for lieutenant colonel, an officer *must* be a CGSC graduate. While it makes no difference whether graduation is from the resident or non-resident course, he must be a graduate.

Also, the quality of an officer's field-grade branch time becomes important only to the point that he did well, if he had branch time. Field-grade branch qualification, although important for selection to command, isn't mandatory for advancement to lieutenant colonel.

The prime factor for selection is the quality of the file. The selection rate for the 1989 board was 61.4 percent. Analyze your file and compare it to this data.

Lieutenant Colonel Selection Board Results

% of OERs	61.4% Selected	38.6% Not Selected
Above-Center-of-Mass	25%	12%
Center-of-Mass	45%	44%
Below-Center-of-Mass	4%	17%
Inconclusive	26%	27%

Lieutenant Colonel Command

Selection for battalion command is tough—the selection rate on the 1989 board was 13.6 percent. This percentage is the average for all branches and includes all four eligible year groups. The percentage is actually much higher for the first-time considered year group. Because all four year groups are in the total numbers considered and the vast majority of selectees come from the first-time considered year group, the percentage of officers selected from the first-time considered group is higher.

In general, selection for lieutenant colonel command is based on top-quality battery-level command and the quality of an officer's performance (read above-center-of-mass) as a battalion executive officer, S3, commander or brigade fire support officer (FSO). Lower performance ratings (those other than above-center-of-mass) for these duties are difficult to overcome. Analyze and compare your file to this data.

Lieutenant Colonel Command Selection Board

% of OERs	Results 13.6% Selected
Above-Center-of-Mass	33%
Center-of-Mass	48%
Below-Center-of-Mass	2%
Inconclusive	17%

SSC

Of senior service college (SSC) selectees, most officers have commanded battalions. Therefore, this selection is the toughest of all—even tougher than selection for colonel. The most recent selection rate was 5.7 percent.

SSC Selection Board Results

% of OERs	5.7% Selected
Above-Center-of-Mass	29.7%
Center-of-Mass	49.54%
Below-Center-of-Mass	3.59%
Inconclusive	17.17%

Colonel

The selection rate to colonel for 1989 was 40.5 percent. Analyze your file and compare it to this data.

Colonel Selection Board Results

% of OERs	40.5% Selected
Above-Center-of-Mass	24%
Center-of-Mass	54%
Below-Center-of-Mass	4%
Inconclusive	18%

Conclusion

The bottom line is that while the Army is destined to get smaller, there always will be a need for quality soldiers. Three people weigh heavily in determining who the quality officers are and how far you can go along the career milestones: you, the rater and the senior rater.

You're responsible for performing your duties with professionalism and selflessness. You should master your trade, learn to be a people-oriented leader and contribute to solving problems—not be one. Your rater is responsible for training, guiding and supporting you to realize your full potential.

Your senior rater is responsible for giving you and other officers a fair chance to excel without recrimination. He's the key to developing caring and proficient future leaders. He must give his officers a chance and, where possible, let them learn by their mistakes—ones that don't end up advertised in their OERs.

Officers who have consistently performed well have nothing to fear but fear itself, so keep up the good work and good shooting. Others of you must appraise your situation. You may conclude you aren't competitive. If so, you have some serious decisions to make.

However you may find you're "on the fence" and have doubts. If so, go slowly and think over your situation carefully. Most importantly, consult your career manager and commander to validate your thoughts and watch the force structure take shape. (See Page 44 for the "Field Artillery Assignment Branches," listing your career manager's address and telephone numbers.)

Lieutenant Colonel (P) Dennis C. Cline is Chief, Field Artillery Officer Assignment Branch, Total Army Personnel Center (PERSCOM), Alexandria, Virginia. Among other assignments, he served as the Field Artillery Proponency Officer for the Commanding General, Fort Sill, Oklahoma, and as a Lieutenants and Captains Assignments Officer, Military Personnel Center, now PERSCOM. Lieutenant Colonel Cline commanded the Howitzer Battery, 3d Squadron, 2d Armored Cavalry Regiment, and the 1st Battalion, 36th Field Artillery, 17th Field Artillery Brigade, both in West Germany, and will take command of the 75th Field Artillery Brigade, III Corps Artillery, Fort Sill, in July 1991.

Warrant Officers:

The New WOs for the Total Force

by Chief Warrant Officer Three James A. Markestad

The warrant officer (WO) of 1990 and beyond will be better educated, trained and used than any of his predecessors. He'll be the technical expert in his MOS, and at the same time, he'll be developing the managerial skills to excel at high-level staff positions.

Warrant Officer Management

The Total Warrant Officer Study (TWOS), August 1985, provided the impetus for a new personnel management system—managed by warrant officers for warrant officers. It's more responsive to the needs of the Army and the individual WO.

Several Army agencies are responsible for WO professional development and career management. Primarily, you'll come in contact with two during your career: the Warrant Officer Division (WOD), Total Army Personnel Command (PERSCOM), Alexandria, Virginia; and the Field Artillery Proponency Office (FAPO), Field Artillery School, Fort Sill, Oklahoma. These organizations develop and implement programs that prepare you to meet the requirements of your MOS. They monitor and follow-up on current programs to ensure results match goals and the information needed to plan for the future is available. In short, they ensure you're trained, educated and assigned to function effectively in war or peace.

Warrant Officer Division

Before 1975, WO management at Department of the Army was accomplished by officer assignment branches (e.g., Ordnance, Transportation, etc.). Only aviators had their own Aviation WO Branch. A 1972 study recommended a WOD be formed in PERSCOM. WOD became the Army's centralized management agency for all WOs, except in the Medical, Judge Advocate General and Veterinary Corps.

WO career managers in WOD, in coordination with the Personnel Actions and Professional Development Branches, manage individual WOs. They're also responsible for implementing military personnel management policies and programs.

Field Artillery Proponency Office

FAPO is the personnel proponent for FA officers, WOs and enlisted soldiers worldwide. *AR 600-3 The Army Personnel Proponent System* is the regulatory guidance defining FAPO's responsibilities. These include providing recommendations to the Office of the Deputy Chief of Staff for Personnel (ODCSPER) on changes to the life-cycle management functions (personnel acquisition, structure, training and education, distribution, deployment, sustainment, professional development and separation).

FAPO represents the professional interests of all FA soldiers, enhancing their image and job satisfaction through proactive career management. For you, this started before your appointment as a WO with a technical review of your application packet. The support continues throughout your career by FAPO's reviewing military and civilian educational opportunities, analyzing and recommending changes to tables of organization and equipment (TOEs) and tables of distribution and allowances (TDAs), identifying opportunities for professional development through training and assignments. FAPO integrates all personnel life-cycle management functions toward the goal of developing professional FA WOs.

Yesterday

The FA got its first WOs in 1948. These were artillery tactics and gunnery instructors and maintenance officers. A few years later, Fire Control Assistants and Weather Officers were added. As rockets and missiles were integrated into the Artillery, WO technicians were appointed to support these systems.

The 50s to the early 60s was a time of rapid growth for FA WOs. Because of rapidly developing missile technology, systems quickly became obsolete. As a result, MOSs changed frequently, sometimes lasting as little as a year. A kind of "musical MOSs" took place as WOs shuffled between closing and opening career fields. Only the 131A, Target Acquisition (TA) and 132A Meteorology (Met) WOs survived this period. The 130A Pershing and 130B Lance evolved to become the FA missile system WO MOSs.

In 1985, a program to develop a remotely piloted (RPV) target detection and acquisition vehicle added WO MOS 131B to the FA. This brought the number of FA WO MOSs to five when the Total WO Study began in the mid-80s.

Today

By 1990, three of five active MOSs had been tagged for elimination. MOS 132A was closed and the duties assumed by senior NCOs in the Met field. Discontinuation of the RPV program caused MOS 131B to close. The US/USSR Intermediate-Range Nuclear Forces (INF) Treaty eliminated the Pershing II missile system and MOS 130A.

Figure 1 shows how many FA WOs are authorized by MOS and how many we actually have. We still have five 132A WOs on active duty. As some of the most senior WOs in the branch, they've

WARRANT OFFICER

PMOS	WO1 Auth	WO1 Actual	CW2 Auth	CW2 Actual	CW3 Auth	CW3 Actual	CW4 Auth	CW4 Actual	Total Auth	Total Actual
130A (Pershing)	0	2	29	14	0	35	9	4	38	55
130B (Lance)	0	1	10	5	0	8	8	1	18	15
131A (TA)	0	13	89	44	0	27	35	10	124	94
132A (Met)	0	0	5	1	0	1	2	3	7	5
Total	0	16	133	64	0	71	54	18	187	169

Figure 1: Current Field Artillery Warrant Officers, Authorized and Actual

CELC	Type	WO1	CW2	CW3	CW4	Total
2	Master's Degree	0	0	2	1	3
5	Baccalaureate Degree	2	5	14	4	25
6	2 or More Years College	3	26	35	9	73
7	Less than 2 Years College	0	5	7	2	14
8	HS-GED (HS Equivalency)	0	9	4	1	14
B	Attending for Master's Degree	0	0	0	1	1
N/A	Unknown	11	19	9	0	39
Total		16	64	71	18	169

Figure 2: All Field Artillery warrant officers are listed by their Civilian Education Level Code (CELC), showing that 60 percent of the warrant officers have two or more years of college or degrees.

chosen retirement rather than reclassification. There are 55 WOs still holding the 130A MOS, approximately half of our pre-INF strength. Of these, 15 are too close to retirement to reclassify. The remaining 40 will begin retraining during FY 91. Unfortunately, only a handful are expected to remain in the artillery.

With the high quality of officers produced by the artillery, other branches of the Army are quick to claim those WOs whose MOSs have been eliminated. A word to the wise—start early in your career to get a secondary MOS and remain flexible.

Only Lance and TA WOs seem to enjoy some degree of stability as we enter a new decade. Our authorized strengths through FY 91 for these two MOSs is 142: 18 in MOS 130B and 124 in MOS 131A. But it's unlikely we'll achieve those figures as we "build down" to a leaner, meaner Army. This brings up the question, "Will there be a place for me in this scaled-down force?"

Tomorrow

It's a safe bet that the Army of the near future will be smaller than the one we have now. World events and budgetary restrictions will maintain our Army's quality, but not quantity. Some very difficult personnel decisions will be made, and they'll impact all of us to varying degrees.

The Army chain of command is maintaining promotion and schooling opportunities and quality of life programs to the extent that Congressional funding will allow. One potential plus from having the proposed fewer forces outside the continental US (OCONUS) will be more stateside stability for those of us who have spent more than half our careers overseas.

We can expect our share of personnel reductions; however, we have enough retirement eligible or reclassifying WOs that our numbers can be brought in line with a minimum of involuntary separations. Those involuntary separations will likely be the result of promotion board actions. This is where you have the greatest input to your career.

If you have an "8" as your Civilian Education Level Code (CELC—see Figure 2), if your photograph on file is outdated or missing or if you're overweight, then you have good reason to be concerned. It may take several attempts to get your officer record brief (ORB) changed, a lot of effort and sweat to meet your height-weight standards or many late-night hours to get college classes squeezed in, but these are the kinds of discriminators competitive selection boards consider. They're also the ones *you* must do for yourself.

Figure 2 shows 39 of 169 WOs haven't reported their civilian education levels, and the levels aren't on the computer data base for FA WOs. Almost certainly, a selection board's question will be, "Does this officer's lack of initiative to update his file carry over into his job performance?" Twenty-three percent of the FA WOs are running the risk of getting their "walking papers."

There are other things you can do to help manage your career.

DA Form 483

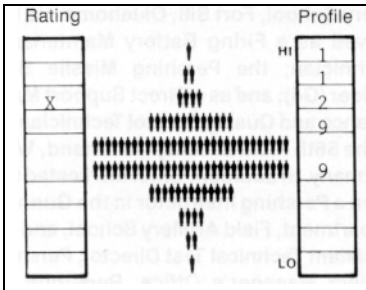
Ensure your DA Form 483 Assignment Preference Statement is up-to-date. Include your MOS, unit and home mailing address and duty and home telephone numbers.

You'll avoid a lot of the disappointment sometimes associated with DA Form 483 if you use common sense when you fill it out. Don't ask for Hawaii if you're a 130B. A newly appointed 131A shouldn't be asking for a job as a New Systems Manager at the FA School. At least "dream with your eyes open" when you are completing this form and give your career manager something realistic to work with. You may not get what you want, but at least you'll have had valid input to the decision-making process.

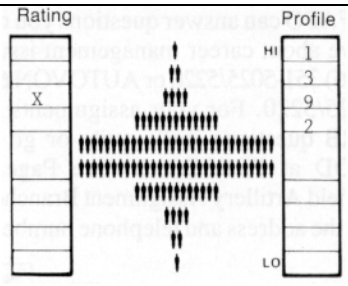
Senior Rater Profiles

A key element of the Officer Evaluation Report (OER) is the senior rater's evaluation in Part VIIa. Your senior rater has a profile of rating other WOs in your grade. His center-of-mass rating in his profile is the box checked for the majority of his WOs. For any of several reasons, your senior rater may not have rated enough WOs to have a clearly defined center-of-mass.

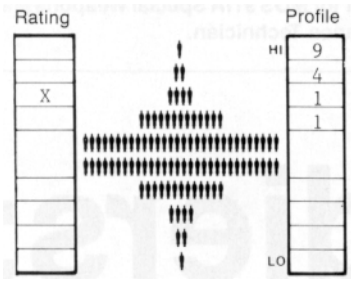
It's important you talk to your senior rater before your OER is sent forward. Ask about his rating profile and where he plans to place you. If there's no clear center-of-mass to show how you stack up,



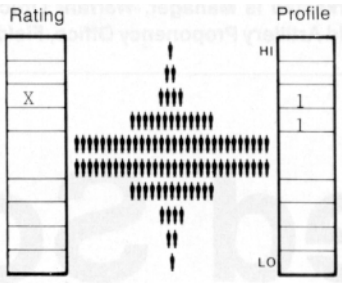
Above the Pack
Senior Rater 1 rated his CW3 above-center-of-mass, based on his profile of rating 22 CW3s.



With the Pack
Senior Rater 2 checked the same block as Senior Rater 1. But because of his profile putting the majority of his CW3s in that block, it translates to a center-of-mass rating.



Below the Pack
Senior Rater 3 checked the same rating box for his CW3. But his profile means the CW3 falls below-center-of-mass.



Inconclusive
Senior Rater 4 has only rated one other CW3, so his profile isn't established. It's unclear where his center-of-mass will be.

Figure 3: Impact of Senior Rater's Profile. As shown in these four examples of senior raters' profiles, a check in the same rating box can mean different ratings, depending on the senior rater's profile.

ask him to make a comment in Part VIIb as to which block he intends to establish as his center-of-mass for your rank. This one comment can make an otherwise ambiguous OER very clear.

In Figure 3, giving four senior raters' profiles, the WOs were all "three blocked"; however, each senior rater's profile determines the actual rating. The CW3 rated by Senior Rater 1 was above center-of-mass. A few OERs like this make him a candidate for promotion below the zone. The same rating by Senior Rater 2 is center-of-mass, the rating for the majority of us. The profile of Senior Rater 3 means the CW3 needs to be concerned about a reduction in force. A series of ratings below center-of-mass like this show a trend of poor performance that spells non-selection for promotion.

Senior Rater 4 shows what a profile might look like for a new battalion commander. He has been a senior rater for only one other CW3, putting him in the fourth block. Is he saying that both officers are about equal, one average and one above average? Or is one average and one below average?

There's no clear message without supporting statements in the narrative, and often the comments are so vague there's no distinction between the two officers. In this instance, it's important to both WOs that the senior rater comment as to which block he plans to develop as his center-of-mass.

On the Horizon

Two issues are being worked that could affect your career and professional development. These are the need for FA WOs to have the "big picture" for the Branch and Army and the need for increased functional training.

The Big Picture. A fact documented by the WO Study was that as WOs progress in their careers, their job performance becomes less dependent on the purely technical tasks in their MOSs. We spend more time pushing pencils and less time turning a wrench. The Study cited two areas in which the role of WOs could be expanded: broader branch knowledge in relation to other Army functions (to include the effects WO actions have on the branch and other Army organizations) and senior and master WOs' participation in combat training and force development organizations.

A non-resident course covering the Big Picture is being staffed and should be available in late FY 91 through the Army Correspondence Course Program (ACCP). It will be a two-phase course with the objective of providing FA WOs the background knowledge and additional training needed to more fully understand and integrate the WO's role in the Field Artillery. This course will help fill the gap in military education opportunities between entry-level training and the Senior Advanced WO Training Course (SWOTC), a period of eight to 10 years.

Functional Training. This is another area where there are few opportunities for FA warrant officers to get some "book learning." So far, 10 courses in military schools have been identified as relevant to one or more FA duty positions. An information paper outlining the courses and their relevant contents will be mailed to each FA WO by the second quarter of FY 91. These courses range from two days to four weeks with titles like Computer Literacy, New Equipment Training Management and Research and Development Orientation.

Unfortunately, these courses won't be mandatory upon assignment to certain duty positions because of unit mission requirements and limited TDY funds. You'll have to request these courses; however, few commanders will fail to appreciate the value of such functional training for their commands.

Summary

You have the greatest impact on the way your career develops. Be proactive with your professional development. Communicate realistic goals to your commander and career manager in a timely manner. Give the "bad" jobs the same 100 percent you would give the "good" jobs. Demonstrate you have the desire and the potential to excel at any position in your MOS, and chances are you'll be given the opportunity.

The track America's new Army will take is still in the planning stages. However, if you wait until the Army is reducing your MOS to do something positive for your career, it may be too late.

WARRANT OFFICER

FAPO can answer questions you may have about career management issues: (405) 351-5025/5220 or AUTOVON 639-5025/5220. For your assignments and ORB questions, call, write or go see WOD at PERSCOM. (See Page 44 "Field Artillery Assignment Branches" for the address and telephone numbers.)

Chief Warrant Officer Three James A. Markestad is Manager, Warrant Officers, Field Artillery Proponency Office, Field Artillery School, Fort Sill, Oklahoma. He has served as a Firing Battery Maintenance Technician; the Pershing Missile Staff Officer (G4); and as a Direct Support Maintenance and Quality Control Technician, all in the 56th Field Artillery Command, West Germany. In addition, Chief Markestad has been a Pershing Instructor in the Gunnery Department, Field Artillery School, and the Assistant Technical Test Director, Pershing Project Manager's Office, Redstone Arsenal, Alabama. He holds a bachelor's degree from the University of Wisconsin and is a graduate of the Warrant Officer Advanced Course, Redstone Arsenal. He's scheduled for reclassification training in 1991 for MOS 911A Special Weapons Maintenance Technician.

Enlisted Soldiers:

Assignments Now and in the Future

by Lieutenant Colonel Patrick M. McMillan and Sergeant Major Leroy A. Bussells

Field Artillery (FA) Corps enlisted soldiers can be found around the world, from the Army's tactical combat divisions and corps to installations and activities in both the continental United States (CONUS) and overseas. Assigning the right FA soldier to the right unit at the right time, according to the force readiness needs of the Army, is the mission of the FA Enlisted Branch, Total Army Personnel Command (PERSCOM), Alexandria, Virginia. This is a large mission and one that's getting more complex with the future of the Army and its structure changing rapidly.

Currently, we have about 45,000 Artillery soldiers assigned worldwide. With the "building down" of the Army, that inventory could be reduced to about 41,000 in the next two years.

As a member of the FA, you've probably wondered how you receive assignment orders and who decides where your next permanent change of station (PCS) move will be. Some soothsayers blame assignment managers for using the infamous dart board. Others say it's the big computer in the sky. We assure you we have no dart boards, and although computers greatly help us in the assignment process, 18 highly trained NCOs and civilians in our Branch give their personal touch to every soldier's assignment.

This article will give you insight into how the FA Branch is organized and determines assignments and what the outlook is for you in our rapidly changing Army. It also tells you how to ensure your records best reflect your performance and qualifications, which determines your career progression and assignments.

Branch Organization

The Enlisted Personnel Management Directorate (EPMD) of PERSCOM is divided into a number of divisions, three of which are the career management divisions for combat arms, combat support and combat service support soldiers. In the Combat Arms Support Division. there are five branches: Infantry, Armor, Air Defense Artillery, Special Forces and Field Artillery.

The FA Enlisted Branch is responsible for implementing Army directives and policies for worldwide assignments of Artillery enlisted soldiers. In addition to assignments, we also are involved in MOS strength management, force distribution, accessions, authorizations,

ENLISTED

professional development, promotions, reclassifications, retention and special actions.

The Artillery Branch is subdivided into assignment teams. Each team is responsible for filling CONUS and overseas requisitions, based on the needs of the Army. A career advisor helps each team and ensures proper career use of soldiers.

Assignments Process

Personnel requisitions from major field commands usually are approved and processed five to 11 months in advance. Included in these assignments are schools for eligible NCOs: Basic NCO Course (BNCOC), Advanced NCO Course (ANCOC) and other functional MOS training courses. Our Schools Section receives and processes training seats, usually in conjunction with soldiers' PCS orders.

Assignment managers use the career management individual file (CMIF), the enlisted master file (EMF) and other Department of the Army strength distribution tables as management tools in filling assignment requisitions. The CMIF is maintained on all soldiers with the rank of staff sergeant or higher. This file has a copy of the personnel qualification record (PQR), which is DA Form 2A Personnel Qualification Record—Part II; copies of evaluation reports (EERs and NCOERs); the official military performance fiche (OMPF); recent assignment instructions; approved deletions and deferments; and records of telephone calls, personal interviews and visits to PERSCOM.

The EMF is a computerized data file compiled of coded information from the PQR, CMIF and DA Form 201 (Military Personnel Records Jacket, US Army) field file. The EMF is the primary tool used to identify soldier qualifications, personal preferences and career needs during the assignment process.

These files, in addition to other internal strength reports, help the assignment managers find the right soldier for the right assignment.

Assignments in the Future

In the future, the process of assigning a soldier will be weighted heavily by force structure cuts. As notifications are received on what artillery units are being programmed for inactivation, assignment managers immediately stop all soldiers inbound into that area. We analyze the strength posture at the various locations to determine the total number of soldiers who will have to move out before new soldiers are placed on orders into the area.

Not only will the assignment business become more difficult, but also career development will be extremely critical in the coming years. As the "building down" process occurs, more soldiers will be selected for the Qualitative Management Program (QMP). Currently, plans are being developed for a Selective Early Retirement Board (SERB) and Reduction-In-Force (RIF) Board to help bring the force in line with the Congressionally dictated cuts. The Army will use these boards only if it has to.

Career Management

With these types of actions being proposed, every career-minded soldier should take a hard look at his or her record and performance. Beside working hard and following the pathway of the NCO Education System (NCOES), you must keep your records up-to-date. You *must* ensure your OMPF is up to date and correct. Review your PQR (DA Form 2-1 and 2A), when required, and get the data corrected, if necessary. Make sure you have a current photograph in your file.

Whenever you get an updated PQR and (or) photograph, send a copy to your assignments manager. We review these documents every time we assign a career soldier. Many times the CMIF doesn't have an up-to-date PQR or photograph, and this delays some assignments.

Be sure to submit a DA Form 4187 Personnel Action when you have a change in status or require a stabilization at your present duty assignment. See your personnel services NCO at your local Personnel Action Center (PAC) to find out exactly how to update your records.

The best manager of your career is you. We only assign soldiers to the installation or theater level. It's your responsibility, as well as your chain of command's, to ensure you're used properly once you get there.

Conclusion

The FA Enlisted Branch is here to serve you. If you're near Alexandria, come see your career advisor and (or) individual assignments manager. (Make sure you park in the Visitors Parking area; towing is strictly enforced.) To be the right soldier at the right unit, maintain excellent performance, keep your records up-to-date and stay in touch. (See Page 44 "Field Artillery Assignment Branches" for the address and telephone number of your assignments manager and career advisor.)

Lieutenant Colonel Patrick M. McMillan is Chief, Field Artillery Enlisted Branch, Total Army Personnel Command (PERSCOM), Alexandria, Virginia. He has held several personnel jobs in PERSCOM before assuming the Branch Chief's position in May 1990. He served as Executive Officer of the 1st Battalion, 8th Field Artillery, and Operations Duty Officer, 25th Infantry Division (Light) Artillery and Chief of Officer Management Branch, Western Command (WESTCOM), all in Hawaii. Lieutenant Colonel McMillan is a graduate of the Command and General Staff College, Fort Leavenworth, Kansas.

Sergeant Major Leroy A. Bussells is the Sergeant Major of the Field Artillery Enlisted Branch, PERSCOM. He has served as NCOIC Military Personnel Division, Headquarters, Intelligence Command (INSCOM), Arlington, Virginia; First Sergeant, 516th Personnel Services Company, Camp Humphreys, Korea; and Assignments NCO for Combat Support Sergeants Major in the Command Sergeants Major/Sergeants Major Office, PERSCOM. He's a graduate of the US Army Sergeants Major Academy and First Sergeants Course, both at Fort Bliss, Texas, and holds a bachelor's degree from Park College, Missouri.

Field Artillery Assignment Branches

As of 1 Oct 90

Active Army Branch Teams

Officers

LTC(P) Dennis C. Cline
Field Artillery
Branch Chief

LTC (P) John N. Paolucci
Colonel
Assignments

MAJ (P) Herbert W. Wells III
Lieutenant Colonel
Assignments

MAJ Donald W. Browne
CPT (P) Philip M. Evans
Major Assignments

CPT Stanley F. Austin
CPT (P) Donald McMillian
Captain Assignments:
Functional Area/Nominative

CPT(P) Brian T. Camperson
Captain Assignments:
Advanced Course/Follow-On
Assignments

CPT David C. Martino
Lieutenant
Assignments/Accessions

CPT David D. Haught
Functional Area
Designations/Lieutenant Colonel
PreCommand Course

CW4 George B. Chiassion
Warrant Officer Career Manager
Assignments

Addresses and Telephone Numbers

Lieutenant Colonels (P) and Colonels:

Commander, PERSCOM
ATTN: TAPC-OPC
200 Stovall Street
Alexandria, VA 22332-0412

Telephone: AUTOVON 221-7862
Commercial (703) 325-7862

Lieutenant Colonels and Below:

Commander, PERSCOM
ATTN: TAPC-OPE-F
200 Stovall Street
Alexandria, VA 22332-0414
Telephone: AUTOVON 221-XXXX
Commercial (703) 325-XXXX
Company Grade: 0187/0116
Field Grade: 7817/0118

Warrant Officers:

Commander, PERSCOM
ATTN: TAPC-OPW-FA
200 Stovall Street
Alexandria, VA 22332-0420
Telephone: AUTOVON 221-5245/5241
Commercial (703) 325-5245/5241

Officers' Microfiche Records:
Commander, PERSCOM
ATTN: TAPC-MSR-S
200 Stovall Street
Alexandria, VA 22332-0444

Enlisted

LTC Patrick M. McMillan
Field Artillery
Branch Chief

SGM Leroy A. Bussells
Branch Sergeant Major

SFC Melquiades DeLaConcepcion
13B (E1 thru E6)

MSG Donald R. Givins 13B
(E7), 13Z (E8), 82C, 93F/Drill
SGT Duty

SFC Richard L. Woods 13C,
13E, 13F/AFSO Program

SFC(P) Wallace L. Lookingland
13N, 13R/Recruiting Duty

MSG Wayne S. Hashimoto 13M,
13P, 15E, 21G

SFC Royce D. Huston
Reclassification

SSG(P) Miguel Quinones
Qualitative
Management/Retirement

Mrs. Sandra R. Haycraft
ANCOC/Schools

Address and Telephone Number

Commander, PERSCOM
ATTN: TAPC-EPK-F
2461 Eisenhower Avenue
Alexandria, VA 22331-0452
Telephone: AUTOVON 221-0304
Commercial (703) 325-0304

Army Reserve Branch Teams

Officers

LTC Richard M. Pitts
Field Artillery

Branch Chief
Lieutenant Colonels

MAJ Michael J. Bamber
Majors

CPT Thomas N.J. Schellingerhout
Captains
MAJ Allen Ruegemer
Lieutenants

Address and Telephone Numbers

Commander, ARPERCEN
ATTN: DARP-OPC-FA
9700 Page Boulevard
St. Louis, MO 63132-5200
Telephone: AUTOVON 693-7871/7351
Commercial (314)
263-7871/7873/7351
Toll Free 1-800-325-4950

Enlisted

MSG Charles A. Thompson
Field Artillery/Air Defense
Branch Chief

SFC George M. Little
Last SSN Digits of 00-18

SSG Laverne P. Simmons
Last SSN Digits of 19-45

SFC Johnny R. Fisher Last
SSN Digits of 46-72

SFC Johan H. Kohler
Last SSN Digits of 73-99

Address and Telephone Numbers

Commander, ARPERCEN
ATTN: DARP-EPA-FA/AD
9700 Page Boulevard
St. Louis, MO 63132-5200
Telephone: AUTOVON 693-7614
Commercial (314) 263-7614
Toll Free 1-800-325-4730

Field Artillery Center, Fort Sill, Oklahoma

by Command Sergeant Major David P. Taylor

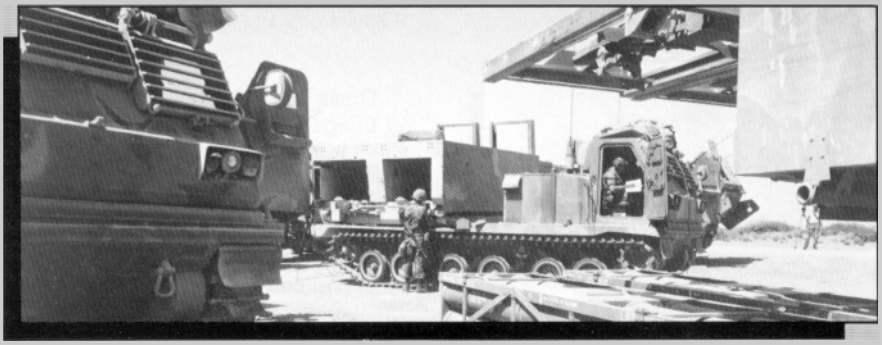
As we go through the painful process of drawing down our Army, we must keep in mind that the Field Artillery force we maintain must be one of quality. We, the NCOs, from first-line supervisors to CSMs, must encourage our outstanding soldiers to Be All They Can Be by leading and training them and keeping them informed.

Our soldiers must understand the importance of MOS proficiency at all levels for combat preparedness and the need for their continued personal development, including military and civilian education, to ensure professional competitiveness. They must know and understand the weight, performance and discipline standards and the consequences of their not meeting them.

But when a soldier fails to meet the standards and doesn't respond to counseling, we must look him in the eye and not mince words about his performance. When necessary, we must use the disciplinary tools available through the chain of command: letters in files, EERs, bars to re-enlistment, etc. And we must have the courage to extend our no-nonsense honesty to all soldiers—regardless of their rank. To do otherwise does our Army and Branch a disservice.

Also important is our care of the good soldiers who, for one reason or another, get out of the Army. We must recognize and reward these soldiers for their contributions and help make their transitions to civilian life as smooth as possible.

To maintain our quality Field Artillery force, it's critical that we're competent professionally, committed to the Army and concerned for our soldiers. We all must set our sights on the same azimuth and actively retain the good soldiers and eliminate the substandard ones. We do this by keeping our soldiers well led, trained and informed—by setting and enforcing the standards, the bottom line. As we do our jobs in these tough times, we continue to maintain our tradition of excellence as the Backbone of our Branch.



To maintain our quality Field Artillery force, it's critical we're competent professionally.

I Corps Artillery

by Command Sergeant Major John W. Nelson

The more than 10,000 soldiers of I Corps Arty, which includes units in Utah, Wisconsin, Wyoming, Missouri, Minnesota, Colorado, Arizona, South Dakota and Oklahoma, completed a rigorous and successful training year in 1990.

The enlisted soldiers of I Corps Arty faced many challenges this year in supporting the fire support requirements of America's Corps. They participated in training in 10 states and two foreign countries, and their performance was exceptional.

Soldiers of the HHB in Salt Lake City, Utah, had several opportunities to interact with Active Army and subordinate brigade counterparts during major exercises at Fort Lewis, Washington, and Sendai, Japan, and in South Korea. These intense training opportunities sharpened the professional skills of the various sections' soldiers and helped provide data for future section-level training plans.

The firing brigades and battalions of I Corps Artillery had annual training in Wyoming, Utah, Arkansas and Missouri. The success of all of these units was due in large measure to the performance of dedicated and enthusiastic enlisted soldiers well trained by our caring NCO corps.

Our Utah battalions emphasize using the NCO chain from Major Command (MACOM) CSMs to first-line leaders in implementing and monitoring the individual training and evaluation program (ITEP) during the past year. Status of the program is passed regularly through the NCO chain to the MACOM CSM who, in turn, briefs the I Corps Arty Commander.

In our size and diversity is our strength. The outstanding NCOs and soldiers in I Corps Artillery help ensure we remain America's Corps.

NCOs set up housekeeping in South Korea during Team Spirit 90.

III Corps Artillery

by Command Sergeant Major Timothy U. Eldridge

III Corps Arty was one of the first units alerted to support Operation Desert Shield. The NCOs of the Corps Arty were instrumental in preparing equipment and personnel for deployment. Their attention to detail was critical in performing the necessary coordination and planning to support the entire mobilization and deployment and is a vivid manifestation of the quality of our Army's NCO Corps.

Each quarter, these professionals have done a little something extra for their soldiers. Many of their programs are innovative either by design or execution—the mark of our NCOs.

For example, the 5-18 FA has conducted what we call the Roadrunner Academy. The Academy is an internally planned and executed education program for selected soldiers to improve their GT scores. The soldiers receive 40 hours of instruction on math, reading comprehension and vocabulary development. Instructors include battalion NCOs, officers and spouses of service members.

Another method our NCOs have used to meet their training challenges is Prime-Time Training. Four hours every Wednesday is reserved for section chiefs to train their soldiers on anything they feel the soldiers need to improve. They often use materials from learning centers and other resources such as sister units.

Our NCOs have taken full responsibility for major training exercises in III Corps Artillery. They have planned and run quarterly battalion FTXs where the first sergeants, sergeants major and other NCOs replace all officers.

Soldiers of 3-9 FA (MLRS) on the move.

Soldiers of 5-18 FA on the NCO FTX.

These are just some of the highlights of things NCOs do to take care of soldiers in III Corps Arty. We have a cadre of NCOs who are hard-working, innovative and caring. They ensure their Phantom Corps soldiers are prepared personally and professionally to face whatever comes—from whatever part of the world. Their mobilization for Desert Shield is proof the job has been done exceptionally well.

V Corps Artillery

by Command Sergeant Major William M. Covey

V Corps Arty soldiers qualify on the .50 caliber machinegun during a Howitzer Section Evaluation.

Our NCOs strive to make our quality soldiers the best they can be. And one such unique small-unit training program is our Best Howitzer Section Evaluation Program.

The 3-20 FA Diamondbacks in Hanau, Germany, designed this annual performance evaluation to extend and amplify howitzer section training objectives in a tactical live-fire environment. The results of this evaluation provide a snapshot of a section's proficiency and form the basis for future howitzer crew training.

Only enlisted Redlegs direct, conduct and execute this Best Howitzer Section Evaluation Program. The battalion CSM and the five battery first sergeants proctor the evaluation.

It has five phases that test common tasks, maintenance, NBC, supply, map reading and the safe firing of all weapons assigned to each section. There are 26 evaluated tasks with a "Go" or "No-Go" performance standard. Each section member receives a written 25-question examination, evaluating his general artillery knowledge. A section must score a minimum of 700 points to qualify.

This competitive evaluation determines the best section in the unit. The Distinguished Section receives an Army Achievement Medal, a trophy, a battalion coin and "bragging rights" for the year. The Outstanding and Excellent Sections also receive awards. The 3-20 FA has developed a challenging section proficiency evaluation program that provides positive feedback for section chiefs and crewman.

With such innovative training programs in V Corps Arty, our NCOs train their soldiers to fight and win in combat and return to fight another day—the ultimate caring for our soldiers.

Soldiers of C/3-32 FA undergo a SEE. Evaluators ensure they meet the standards.

VII Corps Artillery

by Command Sergeant Major Larry V. Pippin

VII Corps Arty is finding innovative ways to increase individual leadership skills to survive and win. Our Leader Development Program provides both hands-on and classroom instruction, concentrating on skill-level subjects and emphasizing safety. It's geared toward newly arrived or promoted soldiers in critical leadership positions.

The Program is offered quarterly until all leaders have successfully completed it and as needed thereafter. Attendance is tailored to the critical players in the gunnery solution: platoon and gunnery sergeants, howitzer section chiefs and gunners and FDC chiefs. The benefits from this Program have been greater accuracy during live firing at Grafenwoehr and a drastic reduction in accidents. The performance of crew drills on the guns also has been enhanced.

Another highly successful training technique is the howitzer section operational readiness test program and (ORTP/PCI) evaluation. This is a round-robin evaluation conducted at Grafenwoehr, consisting of eight stations that are two to five kilometers apart. The stations are Individual Crew Member Skills, Common Task Skills, Intelligence Tasks, NBC Tasks, Corps Ammunition Resupply Point (CARP) Tasks, .50 Caliber Machinegun Live Firing, Howitzer Direct-Fire Range and a Combat Lifesaver Situational Training Exercise.

A crew from B/2-77 FA prepares to fire in a CALFEX.

At an assembly area, the section chief is given a 3x5 card with the grid coordinates to the next station. The section chief must use his navigational skills to find all the stations. After completing all eight stations, he must lay his howitzer at the designated platoon location and participate in Table XII of the Field Artillery Training Strategy.

Our Jayhawk NCOs are innovative in training soldier leadership and technical skills to meet the firepower challenges of VII Corps with The Largest Corps Artillery in the Free World.

XVIII Airborne Corps Artillery

by Command Sergeant Major Shelton Johnson

This year, the 3-27 FA (MLRS) of the XVIII Airborne Corps Arty implemented a unique and highly effective Marksmanship Training Program to continuously improve marksmanship rather than sustain average performance. This fresh approach to marksmanship training, coupled with a strong command emphasis on improving soldiers' marksmanship skills, has resulted in a dramatic improvement in weapons qualification scores throughout the Battalion.

The key to the Program's success is our NCOs. In June 1989, the Battalion began sending groups of NCOs to the US Marine Corps Marksmanship Coaches School at Camp Lejeune, North Carolina. This School teaches students not only how to proficiently shoot rifles and pistols, but also how to teach others to shoot correctly. Our NCOs become our marksmanship instructors, teaching the other NCOs who, in turn, teach their respective sections.

Another unique aspect of the Program is the range week. Rather than train, zero and qualify in a single day as most Army units do, the 3-27 FA has five days of training. The first day is for preliminary marksmanship training (PMI) and dry-fire exercises. On the second, the Battalion has shot grouping, zeroing and 25-meter scaled target firing. The third day is for known-distance and down-range feedback firing. On the fourth, soldiers take a practice qualification course, and on the fifth, soldiers qualify. If a soldier has a problem during any of the five phases, he's sent back to a previous phase to work on his deficiencies.

The goal of our Marksmanship Training Program is simple: one shot, one kill. The bottom line is this program works. Not only have qualification scores improved, but also our soldiers have become more confident in their abilities to shoot their weapons in combat—anywhere. Our NCOs lead the way!

Soldiers of the 1-39 FA secure the DZ and prepare for a parachute assault.

56th Field Artillery Command

by Command Sergeant Major Ian R. Tompkins

Being in Pershing is always exciting, but 1990 has been even more exciting than usual and a very successful year.

Our training program is challenging. Using a dual focus, we train our soldiers to maintain combat readiness on the Pershing system and prepare the same soldiers to transition to other units and MOSs in the future.

The 56th FA Command has implemented the concepts of *FM 25-100 Training the Force* from the senior level down to the individual soldier. The program transitions the METL at the command level to identifying individual tasks at the soldier level. We've successfully linked our NCO development subjects to battle tasks and soldier skills. Each section has established a training book with the training goals and a record of the progress made.

The results of our training are NCOs and soldiers who can perform their jobs well and will transfer these skills, leadership abilities, enthusiasm and professionalism to their new units.

Pershing Transition Training has been another successful effort. Our first-term Pershing soldiers will reenlist for an alternate specialty and be trained in their new skill. Our mid-term and career soldiers will be retrained in new non-Pershing MOSs.

Each Pershing soldier has been individually counseled by the Command and DA PERSCOM. Each was offered MOS choices, based on his aptitude and preference, the needs of the Army and career field promotion potential. Schools and class dates have been locked in by the career managers of the new fields. As our units inactivate, the soldiers will move to their training centers and follow-on assignments.

As we enter the last year of Pershing, the training and care of our soldiers and their families remain a high priority. They have done a great job for America—we can do no less for them.

A 56 FA Cmd soldier pulls maintenance on a 2 1/2-ton truck.

US Army Field Artillery School

by Command Sergeant Major David P. Stewart

Most of us have come to the realization that our Army will be smaller in the next decade, and its future capabilities and success will depend largely on how well we train our soldiers and develop our officers and NCOs.

The Field Artillery School is prepared to meet that challenge. Many changes are currently taking place at the School to restructure and align the training programs to meet the needs of a smaller but ready force. In this preparation, we'll continue to provide the future force highly trained, motivated soldiers and competent leaders who will take charge and accomplish their tasks.

Today, the FA School sees a higher quality, more aggressive soldier in the classroom. Our future depends on how well we train and develop them as leaders.

Today, the School is seeing a higher quality, more aggressive soldier in the classroom—eagerly ready to accept the challenges of tough, realistic and meaningful training. He's ready to learn how to use new high-tech equipment and its associated doctrine brought on by force modernization. Equally important is that the soldier of today is eager to get to a unit to further his development, based on the training he has received here. So, we pass them on to you, our Field Artillerymen already in the field, to continue their training.

The School is fully committed to sending you the best trained soldiers possible. This commitment will ensure that the ranks of the Field Artillery will be filled with highly trained, technically proficient Redlegs to meet the challenges that lie ahead. We train the Redlegs of the Future.

Field Artillery Equipment and Munitions Update

Systems Being Fielded or Eliminated

Cannon

M109A6 Paladin

In February 1990, the Secretary of the Army type classified the 155-mm self-propelled howitzer as the M109A6 Paladin. The howitzer is more survivable and self-locating and can compute its own firing data, making it capable of semiautonomous operations. The program was approved for low-rate production of 104 howitzers. Total procurement of the Paladin is set at 824. First unit equipped (FUE) is scheduled for 3QFY93.

As currently projected, not all M109 howitzers will convert to M109A6s. However, those M109A2/A3s that don't will receive the nuclear, biological and chemical (NBC) reliability, availability and maintainability (RAM) improvements (making them M109A4 howitzers) and the Reserve Component modified armament system (RCMAS) improvements (making the M109A4 howitzers M109A5s). The RCMAS improvement is the same armament system upgrade as that of the M109A6. Fielding of the M109A5s will be completed in FY 93.

M198

A 1984 fielded system review (FSR) identified shortcomings in the M198 155-mm towed howitzer. In 1985, the Army began the system improvement plan (SIP) to increase the reliability and maintainability of the M198.

The SIP adds or changes 39 parts and improves the howitzer in eight general areas: brake system, equilibrator adjusting assembly, locking devices and attaching hardware, trail accessories, moisture accumulation reduction, bottom carriage, equilibrator recuperator valve and the transverse-angle drive unit. The Army expects to modify the first howitzers during 2QFY91, starting with the XVIII Abn Corps Arty, and will complete installation within about four years.

The M198 fires in general support of infantry, light infantry, airborne and air assault divisions and in direct support of motorized infantry and Marine divisions, making it a versatile divisional and nondivisional weapon. The M198 is replacing the M114A1/A2 howitzers as it comes off the production line.

The M198 has a greater range—up to 30 kilometers with rocket-assisted projectiles (RAP). Although 20 percent heavier than the M114A1, the M198 is still light enough for airmobility lifts by CH47D and CH53E helicopters.

The Army and Marine Corps have begun evaluating candidate lightweight howitzers to partially replace the M198s. The first prototype was tested at Camp Lejeune, North Carolina, in August and September 1990.

M119

The Army is currently buying the M119 105-mm lightweight towed howitzer (British Light Gun) in part from the Royal Ordnance Factory of Nottingham, England, and during FY 91, from the US Rock Island (Illinois) and Watervliet (New York) Arsenals. The M119 will replace the M101A1 and M102 howitzers in the light infantry, airborne and air assault divisions as well as selected separate brigades and round-out units of the Reserve Components. The initial fielding was to the 7 IN Div (L) in November 1989. The Army plans to buy 583 weapons and should complete fielding during FY 96.

The 4,000-pound howitzer fires all conventional 105-mm ammunition out to a range of 14 km and with the M548 HERA, out to 15.1 km. Its fire support capability will be enhanced by the fielding of two ammunition projectiles: the XM913 HERA, giving the M119 a range of 19.5 km, and the XM915 DPICM, giving it a range of 15 km.

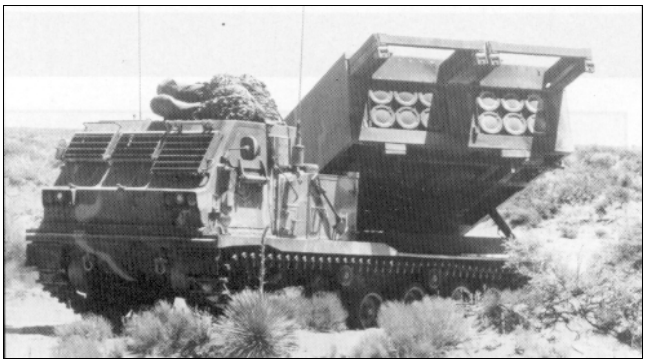
The M119's interim prime mover will be the modified M1037 high-mobility multipurpose wheeled vehicle (HMMWV). The objective prime mover will be a 10,000-pound (gross vehicle weight) vehicle under development with an anticipated fielding date of FY 93.

Rockets and Missiles

MLRS

Fielding of the multiple launch rocket system (MLRS) continues to be the cornerstone of FA force modernization.

Beginning in the summer of 1990 with the fielding of the first deep-attack Army TACMS-capable MLRS battalion, the Army began the second phase of its MLRS fielding strategy. As the FA modernization plan is implemented, Lance and 8-inch battalions will be re-equipped as MLRS battalions. By 2016, all active, National Guard and Reserve units will have the MLRS. All heavy divisions and all five corps now have MLRS.

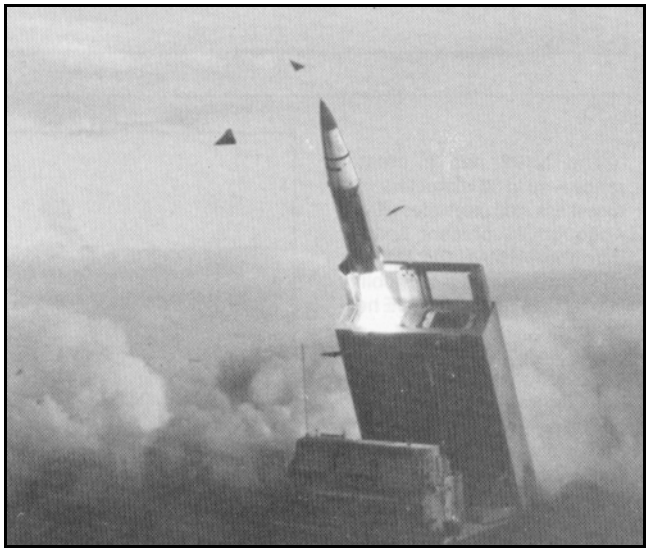


The MLRS is a highly mobile, free-flight rocket system. Each MLRS battery has nine M270 launchers and enough command, control and logistics assets for limited autonomous operations. Infantry, mechanized and armored divisions have organic MLRS batteries. Corps have one or more MLRS battalions, each with three firing batteries.

Each MLRS launcher can receive a fire mission, locate itself, compute firing data, orient itself and fire up to 12 rockets out to more than 30 kilometers.

The MLRS rockets carry M77 DPICM. The Army is developing other warheads for MLRS, such as the terminal guidance warhead (TGW) being developed multi-nationally, SADARM and the binary chemical warhead (BCW). NATO nations may adapt the MLRS to carry the German-made antitank (ATII) scatterable mine.

The Army TACMS, with a suite of conventional warheads, also is being developed. Collectively, the new rockets and Army TACMS missiles are called the MLRS family of munitions (MFOM).



Army TACMS

The Army tactical missile system (Army TACMS) has an inertially guided, semi-ballistic missiles fired from the M270 MLRS launcher with Version 6 software. The launcher can carry two missiles. Army TACMS will be compatible with MLRS operational and maintenance doctrine.

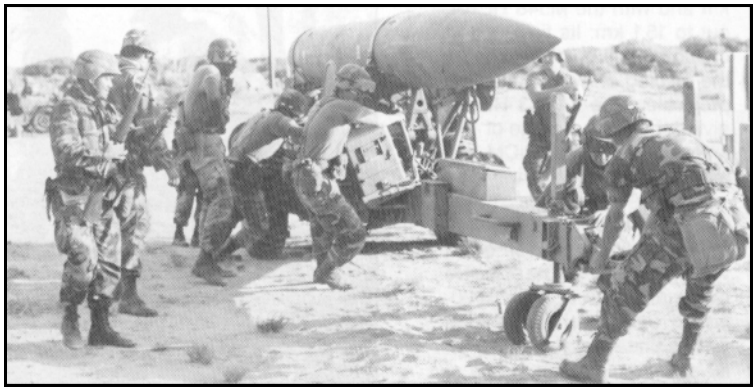
Army TACMS will replace conventional Lance beginning in FY 91. It improves on Lance by firing faster, farther and more accurately and by using less manpower. Army TACMS completed operational testing in June 1990 with 15 missiles successfully fired.

Planners envision a two-block family of warheads for the system. Block I is an anti-personnel anti-material (APAM) munition. Block II has smart warheads designed to kill "hard" moving targets.

Army TACMS allows the corps commander greater flexibility to attack critical, time-sensitive, long-range targets, both day and night, laterally and in depth and under all weather conditions. Beyond the range of fielded and programmed cannons and rockets, it will delay, disrupt, neutralize or destroy high-payoff targets such as second-echelon maneuver units; air defense units; command, control and communications sites; and helicopter arming and refueling points.

Lance

The Lance missile system was fielded in 1972 as the corps commander's missile system with both nuclear and conventional capabilities. An ongoing service life extension program (SLEP) ensures the reliability of the system through the mid-1990s. Lance has a maximum range of 133 km, targeting the enemy's second-echelon forces.

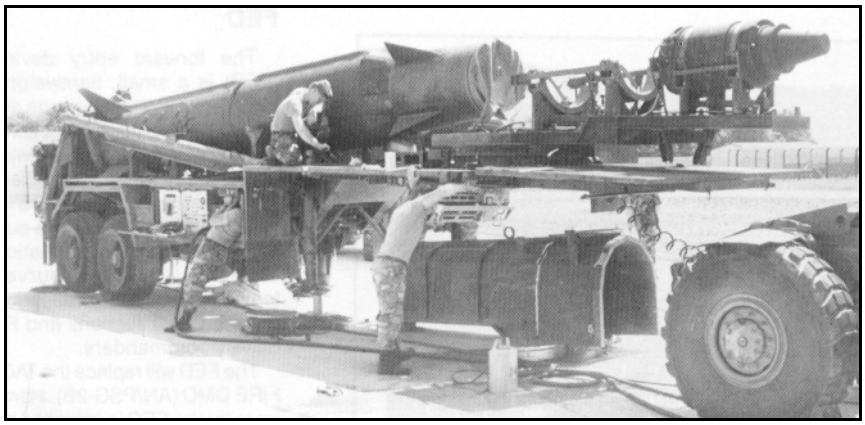


With the advent of the Intermediate-Range Nuclear Forces (INF) Treaty, Lance will soon be the Army's only nuclear-capable missile system. The fielding of Army TACMS will free Lance from its conventional, non-nuclear role. This will allow Lance to compress two six-launcher battalions into one 12-launcher battalion, saving FA overhead slots and improving manpower-to-launcher ratios. Each compressed Lance battalion will assume a nuclear-only role.

Pershing II

The INF Treaty signed by the US and USSR in 1987 eliminates the Pershing II (PII) and other intermediate-range nuclear missiles by June 1991. In turn, the Soviets are destroying their intermediate-range nuclear systems.

The first Pershing missile, a track-mounted system with a 400-mile range, was fielded in 1961. Pershing IA (PIA) improved the older system in 1968. The PII replaced the PIA in 1985. It has a 1,000-mile range and much greater accuracy.



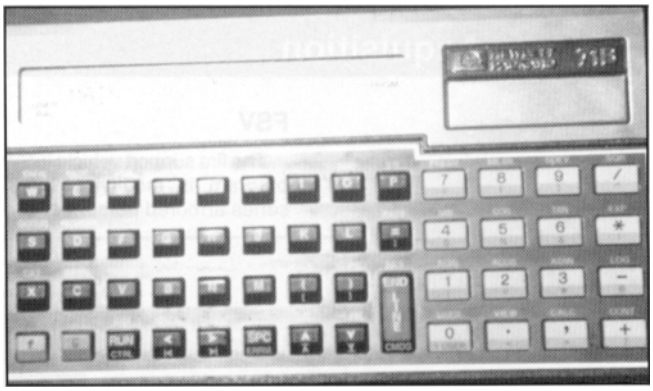
Command and Control

BUCS

Revision 1 of the backup computer system (BUCS) will update cannon, Lance and survey software. The updated gunnery chips speed up fire mission processing; add munitions, including Copperhead; and allow BUCS to compute gunnery solutions for all US howitzers, including the M119. The Lance chips were fielded in late FY 90, and survey chips will be fielded in early to mid FY91. In 2QFY91, each meteorological section will receive a chip to calculate a computer Met message with BUCS. The cannon chips will be available sometime in FY 91.

The Army is also introducing a new nuclear target planning (NTP) chip to be fielded in 2QFY91.

The BUCS, a handheld computer, calculates gunnery solutions for cannon and Lance units if their battery computer system (BCS) fails and is the primary system for survey computations. Units with no BCS use BUCS as their primary computer.



LTACFIRE

Lightweight tactical fire direction system (TACFIRE) or LTACFIRE, will be fielded to the light infantry, airborne and air assault divisions from September 1990 to September 1991. It'll provide automated tactical fire direction and fire planning capabilities at the battalion FDC and the brigade FSE. The same capabilities, plus a limited artillery target intelligence (ATI) function, will be available at the Div Arty fire control element (FCE), and its Main and Tac FSE nodes. The LTACFIRE Version 9 software will interoperate with TACFIRE Version 9 and do everything a TACFIRE Version 9 battalion tape will do.

The main component of LTACFIRE is the briefcase terminal (BCT). It's lightweight (35 pounds), portable and rugged. While it can be used as a standalone item, it will be mounted in a single or dual command station configuration (in a HMMWV) with a map digitizer (for the single station) and electronic printer. It also will have the capacity for an auxiliary keyboard as an additional authorized item. The BCT will use a state-of-the-art 32-bit processor to calculate, format and display data, and it will communicate over four digital modems per BCT.

Additional BCTs will be available as the 9 IN Div (Mtz) inactivates. These will be upgraded to the new, production model standards and redistributed to XVIII Abn Corps FA units, the JRTC and CMTC, each heavy corps (one per corps) and the USAFAS training base.

All BCTs will allow the use of the Smart trainer software, which will enhance the sustainment training capabilities of both the light divisions and "heavy" TACFIRE users.

The Marine Corps also will use the LTACFIRE/BCT (calling it the battlefield command terminal) as part of an automation test-bed involving four regiments. The Army will share in the test-bed results to develop follow-on LTACFIRE software with the Marines and as input for future AFATDS software revisions.

FED

The forward entry device (FED) is a small, lightweight, hand-held, digital message entry device that has a single communications port and a two-wire connection. The primary users of FED will be the FOs, FISTs, liaison officers (LNOs), FA survey planning and coordination elements (SPCEs), survey teams, moving target location radar (MTLR) sections and FA battery commanders.

The FED will replace the TACFIRE DMD (AN/PSG-2B). Hardware for the FED is provided by ATCCS and is a full military-specification device with a keyboard tailored for fire support.

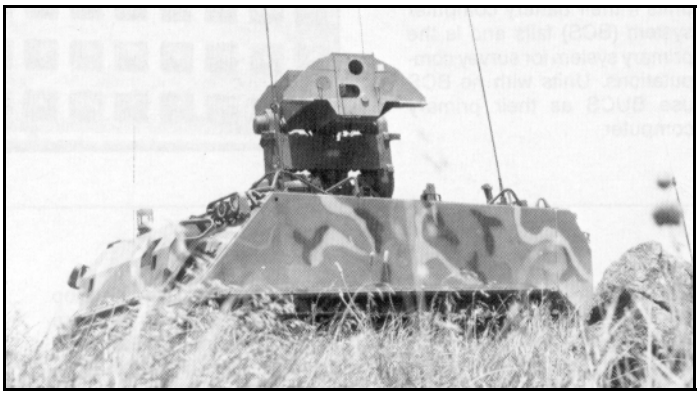
The FED software is being developed in a block approach, using the Ada programming language. The first software version provides FIST DMD functions. The software will provide graphics, survey and command and control functions. The third version provides BUCS functions for survey and Met.

Starting in FY 91, light infantry divisions will start receiving FED. The second and third software versions will go to all FA units, starting in FY93. The software version will be fielded in conjunction with AFATDS.

Target Acquisition

FSV

The fire support vehicle (FSV) program is modifying M113-series armored personnel carriers (APCs) to M981 configurations for artillery observers in mechanized and armored forces. The M981 FSV is already used in many locations worldwide. Each FIST and brigade COLT in heavy divisions will have the FSV. The fielding should be completed to the Reserve Components in FY 93.



A versatile target acquisition vehicle, the M981 FSV can "talk" to artillery command posts or firing units by voice or digital message. The operator can raise or lower the FSV's top-mounted "hammerhead," which houses a G/VLLD, the AN/TAS-4 night sight and a north-seeking gyrocompass. The 14-ton FSV can transport its four-man crew at speeds of up to 35 mph. It cruises up to 300 miles on a tank of fuel.

G/VLLD

Selected units in Europe, Korea and CONUS already have ground-vehicular laser locator designators (G/VLLDs). National Guard fielding will continue into 1991.

The G/VLLD finds the range, azimuth and elevation of targets and reports the information through the FIST DMD, saving time and ammunition. It also can project an invisible, coded laser spot to guide munitions such as Copperhead, Hellfire and Maverick on to targets. The laser spot tracker in close air support aircraft helps pilots find the target and attack it on the first pass with either conventional or precision-guided munitions (PGMs).

The G/VLLD can be mounted on the FSV or on a tripod for ground operations and transported in a HMMWV for light force COLT operations.

Firefinder (FF) Improvement Program

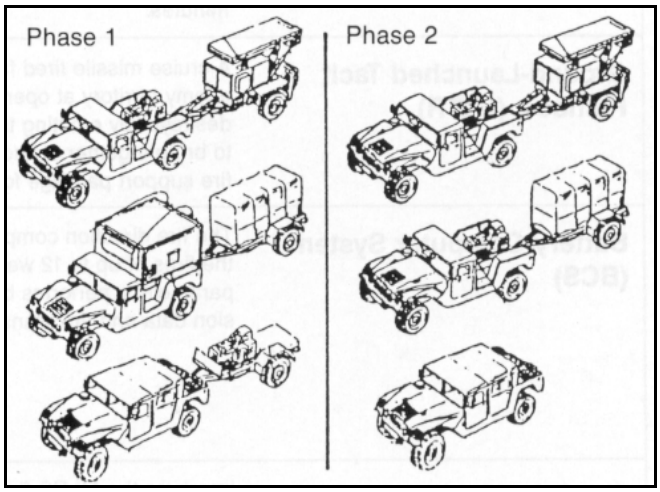
The Firefinder system includes two radars: the AN/TPQ-36 with planning ranges of 12 km for mortars and artillery and 24 km for rockets and the AN/TPQ-37 with planning ranges of 30 km for mortars and artillery and 50 km for rockets. The radars can detect hostile mortar and artillery beyond these ranges but with lower probabilities of detection.

The current Firefinder Improvement Program consists of a series of block materiel changes (MC). The Block I program is the ongoing mechanical retrofit of the Q36 and Q37 radars and includes an improved traveling wave tube (TWT), a solution to the water entry problem and other improvements that will bring these systems to full specification requirements.

The Block II program will be developed through two different phases. The first phase will place the Q36 on a modified 3/4-ton M116A2 trailer pulled by a M1037 HMMWV with a MEP112A generator mounted in the back. The S-250 shelter will be mounted on another M1037 HMMWV that will pull a M101A2 general cargo trailer. An additional MEP112A generator will be mounted on a M101A2 trailer pulled by a HMMWV M998 supply/reconnaissance vehicle. A modular azimuth positioning system (MAPS) will be mounted on the radar and computer memory keep-alive voltage will be integrated into the system. This configuration will improve the survivability of the system by increasing its mobility, allowing external lift by CH47 helicopters and drive on/off of C-130 aircraft and reducing the crew size (six members). Designed to support the light forces, it also will support the heavy divisions. In 1QFY92, the first unit will be equipped with the Block II, Phase 1 system.

The second phase will eliminate the S-250 shelter and provide a flat panel display/control unit mounted in the cab of the prime mover. Also, a hard disc or compact disc drive system will be added. This will increase computer memory and reduce computer initialization and radar emplacement time.

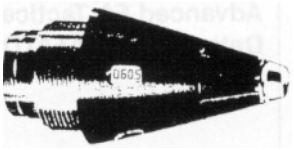
Plans are ongoing to extend the planning range of the Q36 to 18 km against artillery. Also, solutions to unwanted target problems and a method of measuring wind speed and direction to update current meteorological data will be included. FUE for Phase 2 will be 2QFY94.



Fuzes

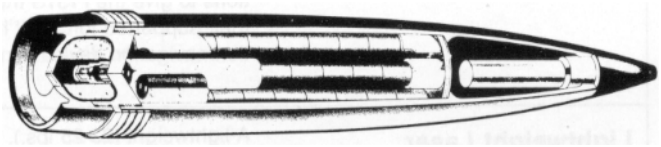
M762/M767 Electronic Time Fuzes

The M762/767 electronic time fuzes are easier to operate, can be inductively set and are more accurate and reliable than their predecessors. The M762 is designed for rounds that carry and dispense submunitions, such as mines and grenades. The M767 is designed for standard bursting projectiles and can be used with all existing 105-mm, 155-mm and 8-inch projectiles. The fuzes will be easier to operate because they can be hand set without tools, allowing Army gunners to set them by simply adjusting a liquid crystal display (LCD). Fielding for the M762/767 is scheduled to begin in FY 91.



M864 ERDPICM

The M864 extended-range dual-purpose improved conventional munitions (ERDPICM) projectile takes advantage of base-bleed technology to achieve a 20 to 30 percent increase in range over the M483A1 DPICM. The base-bleed element ignites upon firing and creates a positive pressure behind the base of the projectile, which reduces atmospheric drag. It reaches ranges of up to 22 and 28 km when fired with the M119 and M203 propelling charges, respectively. The M864 is scheduled for fielding in FY 91. Fielding may be accelerated to support Operation Desert Shield.



Systems Under Development

System	Description	Status
Advanced FA System-Cannon (AFAS-C)	A self-locating, auto-loading howitzer with an increased range (40 km, possibly 50 km) and rate of fire (12 rds. per min or 4 rds. per min. TOT) and capable of autonomous operation. It'll use either the liquid, unicharge or electra-thermal chemical propellant.	Decision on the propellant in FY 91; tentatively, fielding projected for FY 2004.
Future Armored Resupply Vehicle-Ammunition (FARV-A)	Ammunition resupply vehicle for AFAS-C. It'll automatically process, store and transfer ammunition to the AFAS-C at a rate of 12 rds per min.	Tentatively, fielding projected for 2003.

Systems Under Development Contd.

System	Description	Status
155-mm Lightweight Towed Howitzer	Will be capable of low- and high-angle fire in all directions, fire current and developmental ammunition at a maximum assisted range of 30 km and have a prime mover from the medium tactical vehicle family. It'll be air liftable by the CH47 and UH60 helicopters and be able to emplace or displace in 3 minutes.	Army and Marine Corps testing the first prototype; earliest expected fielding date is FY 97.
Ground-Launched Tacit Rainbow (GLTR)	A cruise missile fired from an MLRS launcher that loiters over enemy territory at operational depths and homes in on and destroys key emitting targets. The smart missiles are the first to bring together sensors, intelligence and fire support into a fire support package for the corps staff.	In full-scale development since February 90; fielding projected for 1995-1996.
Battery Computer System (BCS)	The fire direction computer for cannon batteries. It controls the fires of up to 12 weapons, applies non-standard ballistic parameters, performs basic survey routines and stores mission data and fire plans.	Version 9 software fielding completed. Follow-on software, providing fire data for new munitions, to be fielded in FY 93; Ada conversion of this software to ATCCS common hardware system to be fielded FY 94 to FY 97.
Fire Direction Data Manager (FDDM)	Improves the MLRS fire direction system by increasing the battery computer unit's storage, processing and communications capabilities, allowing it to talk to TACFIRE or ATCCS. With FDDM, FSEs will have tactical control over rockets and missiles not possible with TACFIRE. AFATDS will replace FDDM.	To be fielded in conjunction with MFOM; MLRS battery and battalion FDCs and division and corps FSEs in Korea and Europe will start receiving them in early FY 93.
Advanced FA Tactical Data System (AFATDS)	To replace TACFIRE as the Army and Marine Corps future fire support command and control system, which is part of ATCCS. It'll have five applications (fire support planning and execution and FA fire direction movement control and mission support) with 27 functions.	Version 1 software to be fielded in FY 93; Version 2 (incorporating additional functional weapons, munitions and interoperability capabilities) to be fielded in 1995; Version 3 (completing the automation of all 27 functions) to be fielded in 1997.
Bradley Fighting Vehicle	To replace the M981 in the heavy force company FIST sections to give the FISTS the same mobility and signature as their supported forces. It'll be equipped with optic and position/navigation devices and communications packages.	Awaiting funding and disposition of the remaining Bradley Fighting Vehicles. Once funded, it'll take 2 years to integrate the devices.
Lightweight Laser Designator/Rangefinder (LLDR)	A lightweight (23-25 lbs.), self-locating, day/night system for light force COLT, FIST scout and long-range surveillance (LRS) units, which is eye safe. It provides a first-round fire-for-effect capability.	In the document development stage; tentatively will be fielded in FY 93.
Miniature Eye-Safe Infrared Observation Set (MELIOS)	A laser rangefinder (AN/PVS-6) to replace the AN/GVS-5 but with enhanced capabilities. It's eye-safe (allowing force-on-force training), provides digital range readouts, azimuth to target and vertical angle to target and uses first/last pulse technology. The MELIOS weighs 6 lbs. (with battery) and has a range of 50 to 9,995 m.	Fielding projected for 2QFY93.
Survey North-Seeking Gyroscope (SNSG)	To replace the survey instrument azimuth gyro (SIAGL). A 16-lb. tripod-mounted instrument, SNSG provides grid azimuth to an accuracy of 0.2 mil (PE) in 3 minutes and can operate in -40 to +140 degrees Farenheit. It's to be fielded with the global positioning system (GPS), which determines locations worldwide accurately to within 10 m (CEP) horizontally and to within 10 m (PE) vertically.	Conventional survey parties/teams in Active and Reserve Component FA units and platoon headquarters of the light forces will receive one instrument in FY 93 and FY 94.

System	Description	Status
Advanced Target Acquisition Counterfire System (ATACS)	To replace the Firefinder radars. It'll have a counterfire program directed at other types of systems in addition to radars. ATACS will support the corps area of influence and use leap-ahead technology to be a passive system (or at least have a passive and active cueing capability). ATACS will have increased range and drive on/off C-130/C-141 and air insertion via CH-47D capabilities. In addition, it'll identify target types.	Fielding projected for 1999.
Meteorological Measuring Set (MMS)	A mobile, automated non-radiating upper-air system to collect, process and transmit meteorological data. It interfaces with TACFIRE, BCS and AFATDS. It provides Met data to FDCs.	First unit equipped to be 2QFY92.
Meteorological Hydrogen Generator (MHG)	To replace the AN/TMQ-3 hydrogen set in FA meteorological sections to fill Met balloons. It generates 150 cubic feet of hydrogen gas per hour and stores up to 300 cubic feet.	Required operational capability (ROC) approved; fielding set for FY 93 if funds are available.
XM913/XM927 105-mm High-Explosive Rocket-Assisted (HERA) Projectile	Used to neutralize deep targets and is 1.8 times as effective as the M1 HE projectile. The XM913 only will be fired with the XM229 propellant in the M119 howitzer with a maximum range of 19.5 km. The XM927 will use the M67 propellant in the M101A1, M102 and M119 howitzers with a maximum range of 15 km.	Fielding will begin in FY 93.
XM915/XM916 105-mm Dual-Purpose Improved Conventional Munition (DPICM)	Uses a new XM80 grenade and will be twice as effective as the M444 ICM projectile against personnel. They also have armor penetration equal to the 155-mm M483 DPICM's M42 46 grenades. The XM915 has a maximum range of 14 km when fired from an M119 howitzer with the M200 propellant. The XM916 reaches at least 11 km fired from the M101A1, M102 and M119 howitzers with the M67 propellant.	Type classification tentatively projected for FY 95.
MK399 MOUT Fuze	To replace the M78 series of concrete-piercing fuzes for use in military operations in urban terrain (MOUT) against hardened targets. It provides hard penetration (delay) and point detonating (super quick) capabilities.	To be fielded beginning FY 92.
XM898/XMXXX 155-mm/MLRS Sense and Destroy Armor (SADARM)	Has target-sensing submunitions delivered by 155-mm base-ejecting projectiles and MLRS rockets to detect and destroy armored vehicles (tanks, self-propelled artillery, personnel carriers and mobile air defense systems). The submunitions parachute from the projectile, sense the target in a large circular area and perforate it with slugs traveling at extremely high velocity. SADARM uses millimeter wave (MMR) and infrared (IR) sensing for target acquisition.	The first 155-mm unit equipped (FUE) to be in late FY 94 with MLRS FUE in early FY 96.
Automatic Primer Feeder (APF)	A materiel change (MC) to M185 and M284 cannons to improve the safety and operational profile of the M109 family of vehicles. It will save time in the primer insertion process and eliminate manual priming of the howitzer.	Fielding is tentatively set for FY 92.
Muzzle Velocity System (MVS)	An off-the-shelf item, to replace the M90 radar chronograph and measure the muzzle velocity of FA cannon projectile and propellent combinations. It has antenna, processing and display units and cabling to interface with on-board fire control computers and BCS.	Commercial items to be technically and operationally tested in competition in FY 91; pending results, fielding to be FY 93.

Spirit of Fort Sill

I just got back from a nostalgic trip
To the post they call Fort Sill.
Some things don't change, Like the Firing Range
And the Blockhouse on the hill.

In World War II I was stationed there,
Mount Scott still looks the same.
We were School troops then, for OCS
And RSOPS were our game.

I hear the sound of cannon fire And the impact as they land;
My thoughts go back to the Caisson Song
As played by our Regimental Band.

In the skies now flies the helicopter
Where once the L-4s flew,
And technology with laser beams,
Old soldiers never knew.

Now almost 49 years have passed;
Fort Sill has changed since then.
But not the pride and esprit de corps Of the Field Artillerymen.

John J. McMahon
Redleg, World War II
McLoud, Oklahoma

Combat Readiness Notes

by the Field Artillery School

The Field Artillery School has received inquiries about how units can get graphical firing tables (GFTs), graphical site tables (GSTs), tabular firing tables (TFTs), doctrinal publications and other materials. While the School doesn't supply the materials, the following information in this article will help you get them. In addition, this article includes information on the new tactical fire direction system (TACFIRE) officers courses and military qualification standards (MQS) manuals.

GFTs and GSTs

You requisition graphical firing scales (GFTs/GSTs) through your unit supply system. The requisition authority is CTA 50-970, and the items are requisitioned as expendables. Listed in the chart below is the information necessary to requisition GFT/GSTs.

GFTs, GSTs and Related Materials

Part No.	Description	NSN	Charges
105-mm M101A1			
11750589	GFT HEM1 (LA) w/ICM	1220-01-038-0761	1-3, 4-5, 6-7 (3 rules)
11727698	GFT HEM1 (HA)	1220-00-151-4155	All
11748385	GFT ILL M314	1220-01-021-7275	3-4, 5-7 (2 rules)
8270305	GST HEM1	1220-00-815-6190	All
10548693-1	Bal Scale HEM1 (LA)*	1220-01-037-7284	1-3, 4-5, 6-7 (3 rules)
105-mm M102/M119			
9355995	GFT HEM1 (LA) w/ICM	1220-01-315-7912	1 thru 7 (4 rules)
9355996	GFT HEM1 (HA)	1220-01-315-7913	1 thru 7
9356001	GFT ILL M314	1220-01-315-7917	1 thru 7 (4 rules)
9355998	GST HEM1	1220-01-315-7915	1 thru 7
10548693-2	Bal Scale HEM1(LA)*	1220-01-037-7285	1,3,4,5,6,7
9355997	GFT HEM760 (HA & LA)	1220-01-315-7914	8 only
9356000	GST HEM760	1220-01-315-7916	8 only
155-mm M114A1			
11750597	GFT HEM107 (LA) w/ICM	1220-01-038-7684	1-3, 4-5, 6-7 (3 rules)
11730963	GFT HEM107 (HA)	1220-00-168-5545	All
11728088	GFT ILL M485	1220-00-133-6219	1-3, 5-7 (2 rules)
8213841	GST HEM107 (Note 1)	1220-00-789-2986	All
10548693-3	Bal Scale HEM107 (LA)*	1220-01-037-7286	1 thru 7
155-mm 114A2			
11750601	GFT HEM107 (LA) w/ICM (Note 2)	1220-01-038-2413	1-3, 4-5, 6-7 (3 rules)
11739799	GFT HEM107 (HA)	1220-00-551-3042	All
10556463	GFT ILL M485	1220-01-038-7199	1-3, 5-7 (2 rules)
11739797	GST HEM107	1220-00-551-3041	All
10548693-4	Bal Scale HEM107 (LA)*	1220-01-037-7287	1-3, 4-5, 6-7
10556162	GFT HEM483A1 (LA) (Note 3)	1220-01-038-7204	1-3, 4-5, 6-7 (3 rules)
10556176	GFT HEM483A1 (HA)	1220-01-038-7203	All
10556178	GST HEM483A1	1220-01-038-7202	All
11829230	GFT HEM549A1 (LA) (Note 4)	1220-01-065-9844	7R (Rkt On)
11829237	GFT HEM549A1 (HA)	1220-01-065-9843	7R (Rkt On)
11829239	GST HEM549A1	1220-01-065-9842	7R (Rkt On)
155-mm M109A2/A3/A5/A6 & M198			
9360327	GFT HEM107 (LA)	1220-01-215-3929 w/ICM (Note 5)	2 thru 8 (4 rules)
9360328	GFT HEM107 (HA)	1220-01-215-3961	All
9360329	GFT ILL M485	1220-01-215-3962	2-3, 5-7 (2 rules)
9360330	GST HEM107	1220-01-215-3930	All
9355888	GFT HEM107/M825 (Note 6)	1220-01-224-2513	3 thru 8
10548693-5	Bal Scale HEM107*	1220-01-037-7288	3 thru 8
11748295	GFT HEM483A1 (LA) (Note 7 and 8)	1220-01-039-7272	3 thru 8 (3 rules)
11748299	GFT HEM483A1 (HA) (Note 8)	1220-01-038-7201	All
11748400	GST HEM483A1 (Note 8)	1220-01-038-7200	All
9360459	GFT HEM483A1/M825 (Notes 6 and 8)	1220-01-224-2513	3 thru 8 (3 rules)
9360460	GFT HEM483A1/M825	1220-01-224-2514	8R
9360461	GST HEM483A1/M825	1220-01-224-2515	8R
11829232	GFT HEM549A1 (LA) (Note 9)	1220-01-065-9845	7R, 8R (M119A1) & 8R (M203) (2 rules)
11829235	GFT HEM549A1 (HA)	1220-01-065-9847	7R, 8R (M119A) & 8R (M203) (2 rules)
11829228	GST HEM549A1	1220-01-065-9848	7R, 8R (M119A1) & 8R (M203)
11785306	GFT M712 CPHD (LA) (Note 10)	1220-01-102-7851	4-5G, 4-5W, 6-7W BAL (3 rules)
11785307	GFT M712 CPHD (LA) (Note 10)	1220-01-102-7850	8 BAL
11785308	GST M712 CPHD (Note 10)	1220-01-102-7849	All w/1 extra slide
11785363	GFT M712 CPHD (HA) (Note 10)	1220-01-116-3268	All
11785305	CLGP M712 CPHD Footprint Template (Note 10)	1220-01-102-7852	
203-mm M110A2			
11750613	GFT HEM106 (LA) w/ICM	1220-01-038-2410	1 thru 9 (5 rules)

Part No.	Description	NSN	Charges
11748381	GFT HEM106 (HA)	1220-01-021-7273	All
11748383	GST HEM106	1220-01-021-7274	All
11785265	Bal Scale HEM106 (LA)*	1220-01-102-4202	1-3, 4-5, 6-7
11834249	GFT HEM509 DPICM (LA)	1220-01-067-7169	1 thru 5G, 5 thru 9W (5 rules)
11834250	GFT HEM509 DPICM (HA)	1220-01-067-7170	All
11834251	GST HEM509	1220-01-067-7171	All
11843252	GFT HEM650 (LA) w/M753	1220-01-070-8970	1-5G 5-9W 7R, 8R & 9R (7 rules)
11834253	GFT HEM650 (HA)	1220-01-067-7172	All (2 rules)
11834254	GST HEM650	1220-01-067-7173	All w/1 extra slide
14.5-mm Trainer			
10557266	GFT	1220-00-442-2446	1
11729002	GST	1220-00-221-6328	1
10548693-6	Bal Scale*	1220-01-038-1226	1
Graphical Munitions Effect Tables (GMETS)			
11748391	Training (U)	1220-01-021-7277	
11785379	4.2 Training (U)	1220-01-116-4297	
Plastic Cursor			
10548694	Plastic Cursor for Ballistic Scale (All Weapons)	5355-01-076-3554	

**Denotes ballistic scales for use on modified RDPs. 14.5 Trainer ballistic scales are on the reverse side.*

Note 1: 155-Q-3 data for GST was not changed by Q-4 update and remains valid.

Note 2: M107 (HE) GFTs have scales for ICM M449 series.

Note 3: M483A1 (HE) GFTs have DPICM and FASCAM data.

Note 4: Only rocket on (Rkt On) firing data is available. Rocket off firing is not authorized.

Note 5: M107 (HE) GFTs contain scales for ICM M449 and DPICM M483A1.

Note 6: M825 Smoke has two GFTs. Part number 9355888 is based on TFT 155-AM-2 and is used when registering with HE M107. Part number 9360459 is based on TFT 155-AN-1 and is used when registering with DPICM M483A1. A new TFT for the DPICM M483A1 (TFT 155-AN-2) was published in August 90. New GFTs will be issued in about six months. Until the GFTs are issued, request both part numbers in NSN 1220-01-224-2513.

Note 7: M483A1 (HE) GFTs have DPICM and FASCAM data.

Note 8: These GFTs are based on FT 155-AN-1.

Note 9: Charges 7R (Rocket On) and 8R (M119A1) (Rocket On) pertain to both M109A2/A3 and M198 weapons. Charge 8R (M203) (Rocket On) pertains to the M198 only. Rocket off firing is not authorized.

Note 10: This graphical equipment is based on FT 155-AS-0.

Tabular Firing Tables

Table	Projectile	Remarks
105-mm M101A1		
FT 105-H-7 w/C1,3,4,5 & 6	Ctg, HE, M1	HE
FT 105-ADD-B-2 w/C1	Ctg, HE, M444	ICM
FT 105-AV-1 w/C1*	Ctg, HE, M548	RAP
FT 105-H-6 (PROV SUPP 1)*	Ctg, CS, M629	CS
105-mm M102		
FT 105-ADD-F-1 w/C1	Ctg, HE, M444	ICM
FT 105-AU-1 w/C1	Ctg, HE, M548	RAP
FT 105-AS-2 (PROV SUPP 1)*	Ctg, CS, M629	CS
105-mm M102/M119		
FT 105-AS-3	Ctg, HE, M1/M760	HE
155-mm M109A2/A3 & M198		
FT 155-AM-2 w/C1	HE, M107	HE
FT 155-ADD-T-0 (to AM-2)	SMK, M825	Smoke
FT 155-AR-0 (PROV)*	HE, M795	HE
FT 155-ADD-I-2*	HE, M449A1 (449E2)	ICM
	HE, M449E1	ICM
	HE, M449 (T379)	ICM
FT 155-AJ-2 w/C4&9	ATOMIC M454	Nuclear
FT 155-AN-2	HE, M483A1	DPICM
FT 155-ADD-J-2*	HE, M483A1	DPICM
FT 155-ADD-L-1 w/C1,2	HE, M692/M731	FASCAM ADAM
FT 155-ADD-N-1 w/C1	HE, M718A1/M741A1	FASCAM RAAM
	HE, M549A1/M549	
FT 155-AO-0 w/C1	RAP	HE
FT 155-ADD-K-1	CAS M687	Binary, GB2
FT 155-AS-1	HE, M712	CPHD
FT 155-ADD-R-1*	HE, M483A1	DPICM
FT 155-ADD-O-0	HE, M483A1	DPICM
FT 155-ADD-Q-0 (REV) w/C1*	SMK, M825	Smoke
FT 155-AU-PAD	HE, M864	DPICM, Base Burn
FT 155-ADD-U-PAD	HE, M864	DPICM Base Burn
203-mm M110A2		
FT 8-Q-1 w/C1,3,4,6,7	HE, M106	HE
FT 8-ADD-H-1	ATOMIC, M422A1	Nuclear
FT 8-ADD-F-1 w/C1	HE, M404	ICM
FT 8-T-1 w/C1	HE, M509A1	DPICM
FT 8-ADD-G-1	HE, M509A1	DPICM
FT 8-S-1 w/C1	HE, M650	RAP
FT 8-ADD-L-1	HE, M509A1	DPICM

**These Firing tables are PROV (provisional) or PAD (preliminary aiming data) and must be ordered from the following:*

Director
Ballistic Research Laboratory
ATTN: SLCBR-LF-F
Aberdeen Proving Ground, Maryland 21005-5066

Send a letter justifying your needs. Contact the Ballistic Research Laboratory at AUTOVON 298-4508/3880 or commercial (301) 278-4508/3880.

Publications

Units may request publications—FMs, TMs, TFTs (except Provisional TFTs) and other doctrinal literature—by establishing an account with:

US Army Publications Distribution Center
2800 Eastern Boulevard
Baltimore, Maryland 21220-2896

You establish accounts by completing the DA Form 12 series and forwarding them through your local AG Publications Office. (You submit subsequent requests on DA Form 4569 AUTODIN.) The following charts list the current TFTs, the most recent field manuals and training circulars and the special texts.

Field Manuals and Training Circulars

Manual	Title	Latest Date
FM 6-2	FA Survey	Nov 86
FM 6-15	FA Meteorology	Aug 78
FM 6-16	Tables for Artillery Meteorology Messages	May 79
FM 6-16-1	Tables for Artillery Meteorology (Sound Ranging Messages)	May 79
FM 6-16-2	Tables for Artillery Meteorology (Visual) Messages	Jan 82
FM 6-16-3	Tables for Artillery Meteorology (Electronic and Visual) Messages	Jun 82
FM 6-20	Fire Support in AirLand Battle	May 88
FM 6-20-10	Tactics, Techniques, and Procedures for the Targeting Process	Mar 90

Manual	Title	Latest Date
FM 6-20-30	Tactics, Techniques, and Procedures for Fire Support for Corps and Division	Oct 89
FM 6-20-40	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Heavy)	Jan 90
FM 6-20-50	Tactics, Techniques, and Procedures for Fire Support for Brigade Operations (Light)	Jan 90
TC 6-40	Manual Cannon Gunnery	Dec 88
TC 6-40A	FA Automated Cannon Gunnery	Apr 89
TC 6-40-4	FA Lance Gunnery	Jul 87
FM 6-42	FA Battalion Lance	Mar 85
FM 6-42-1(C)	FA Battalion Lance	Aug 78
FM 6-121	FA Target Acquisition	Sep 90
TC 6-141-1	FA Target Analysis and Weapons Employment	Feb 78
FM 6-141-2(C)	FA Target Analysis and Weapons Employment	Sep 80
FM 6-300	Army Ephemeris	May 87

Special Texts

Number	Title
6-1-1	LTACFIRE Operations
6-2-20	AirLand Battle Survey Operations
6-2-30	FA Survey (BUCS), Revision 1
6-30-30	Copperhead Firing Procedures
6-30-40	Employment of the Aerial Fire Support Team
6-50-60	M109A3/E2 Howitzer Improvement Program (HIP)

NOTE: Special Texts (STs) can be requested from the proponent department in the Field Artillery School. Points of contact and addresses are provided later in this article.

Course Handouts and Texts

Units may request a *limited* number of Field Artillery School-prepared training and reference materials through the Assembly and Distribution Branch of the Field Artillery School. The materials include handouts and student texts for the various courses taught at the School. Send a memorandum to:

Commander
US Army Field Artillery School
ATTN: ATSF-S (Assembly and Distribution, Ms. Morales)
Fort Sill, Oklahoma 73503-5600

Contact Pam Morales at the Assembly and Distribution Branch at AUTOVON 639-6514/3978 or commercial (405) 351-6514/3978.

JMEMS

Units needing joint munitions effectiveness manuals (JMEMs) may request them on a Technical Handbook Distribution Code (THDC) Requirements Form and a Request for THDC Action Form to:

Joint Technical Coordinating Group
for Munitions Effectiveness
OC-ALC/TISUD
Tinker AFB, Oklahoma 73145-5979

A complete listing of JMEMs as well as reproducible copies of forms are in *61JTCG/ME-1-2 Joint Service Index of Specialized Technical Handbooks.* The Publications Branch's telephone is AUTOVON 336-5468/2707 or commercial (405) 736-5468/2707.

Plotting Equipment

Plotting equipment expendables are requisitioned through unit supply channels. The authority for the request is CTA 50-970.

Expendable Plotting Equipment	
Description	NSN
Scale; Plotting, Aluminum (Coord. Scale)	6675-00-283-0018
Protractor, Range Deflection Fan (RDP)	
12,000 Meter Max. Range, 1:25,000	1290-00-266-6889
15,000 Meter Max. Range, 1:25,000	1290-00-266-6890
25,000 Meter Max. Range, 1:25,000	1290-00-266-6891
30,000 Meter Max. Range, 1:25,000	1290-01-071-0726
Plotting Sheet 1,000 M Grid (Plastic)	
Size: 41-1/2x30 inches. (12 per pkg)	7530-00-656-0813
Size: 47x35 inches. (12 per pkg)	7530-00-656-0812
Plotting Pin	
Black	6675-01-266-6627
Red	6675-01-266-6629
Green	6675-01-266-5631

Hotlines

The Field Artillery School has two hotlines to answer questions from the field. The Redleg Hotline answers most Field Artillery-related questions, and the Army Training and Evaluation Program/Mission Training Plan (ARTEP/MTP) Hotline answers questions about those Field Artillery School products. The numbers for the hotlines are—

Redleg Hotline: AUTOVON 639-4020 and commercial (405) 351-4020
ARTEP/MTP Hotline: AUTOVON 639-5004 or commercial (405) 351-5004

Points of Contact

The Field Artillery School will provide any help possible. The points of contact (POCs) in each department/directorate will expedite unit requests. The School's address is listed below; just add the correct attention letters for each POC's division.

Commander
US Army Field Artillery School
ATTN: XXXX-XX
Fort Sill, Oklahoma 73503-5600

Gunnery Department (GD)
ATTN: ATSF-GO (MSG Wright)

MSG Kenneth Wright of the Operations Division, GD, can be contacted by telephone at AUTOVON 639-5415 or commercial (405) 351-5415.

Fire Support and Combined Arms Operations Department (FSCAOD) ATTN: ATSF-T (Mr. Waters)

Mr. Tom Waters, Operations Division, FSCAOD, can be contacted at AUTOVON 639-6897 or commercial (405) 351-6897.

Target Acquisition Department (TAD)
ATTN: ATSF-F (CPT Coindreau)

Captain Alan Coindreau, Operations Division, TAD, can be contacted at AUTOVON 639-4202/3620 or commercial (405) 351-4202/3620.

Communications/Electronics Department (CED)
ATTN: ATSF-E (Mr. Keesee)

Mr. Dale Keesee, Operations Division, CED, can be contacted at AUTOVON 639-3925 or commercial (405) 351-3925.

General Problems
ATTN: ATSF-DTD (Mr. Fogg)

Problems that cannot be resolved through the other contacts should be directed to Mr. George Fogg, Individual and Unit Training Division, Directorate of Training and Doctrine (DOTD), at AUTOVON 639-5004 or commercial (405) 351-5004.

Two New TACFIRE Officer Courses

Prompted by feedback from the field, the School recently reviewed officer tactical fire direction system (TACFIRE) training to determine how we can better meet your needs. The focus of our analysis was to view the officer as a supervisor rather than an operator. Our analysis revealed 49 officer-level tasks that are critical to TACFIRE operations in the field.

In January, we'll offer two separate TACFIRE courses to train officers. The new seven-week Fire Direction Officer (FDO) Course will train FDOs at the battalion, brigade and division artillery levels. It will be a redesign of the current FDO course.

The new seven-week Fire Support Leaders Course will train fire support officers (FSOs) and command post officers at all levels of command to operate on the automated fire support battlefield. In addition to TACFIRE, it'll cover operations with the fire support team digital message device (FIST DMD) mortar ballistic computer (MBC) and Firefinder radars. The Course will replace the officer instruction in the Fire Support Element (FSE) and Fire Control Element (FCE) Courses.

When requesting course allocations, to prevent any confusion during this transition period, please refer to the courses by their Training and Doctrine Command (TRADOC) course numbers: FDO Course—2G-SI4F; Fire Support Leader's Course—2E-SI4D.

We've begun a new job and task analysis for MOS 13C. The analysis will review the TACFIRE operator's skills and determine where these tasks will be taught. We'd appreciate your input on how we can improve our training. Send your comments to the TACFIRE Branch (ATTN: ATSF-TS), Fire Support and Combined Arms Operations Department, US Army Field Artillery School, Fort Sill, Oklahoma 73503-5600 or call AUTOVON 639-3811 or 6385 or commercial (405) 351-3811 or 6385.

New MQS II Manuals Being Fielded

The Army's system to develop officers as leaders is called Military Qualification Standards (MQS). It provides officers, school commandants and commanders a framework for common and branch-specific training, education and professional development. MQS I covers precommissioning training and MQS II, battery-grade officer training. MQS III will apply to field-grade officers.

The new MQS II manuals currently are being distributed to all lieutenants and captains. The common manual is being distributed this month, and the branch manuals will be distributed from January to March 1991.

MQS and Leader Development

Leader development results from the progressive and sequential education, training and experience an officer receives throughout his career. The process depends on three pillars for its success—institutional training, operational assignments and self-development.

The MQS system links institutional training and operational assignments. It helps the commander construct his unit training plan and design his junior officer development program to complement training his mission essential task list (METL).

MQS also prescribes the officer self-development program, including professional reading and self study. The individual officer is ultimately responsible for his development as a leader.

MQS II

MQS II applies to battery-grade officers in the Total Army and prepares them to accomplish their wartime tasks. It also provides the basis for promotion to major and attendance at the Command and General Staff College (CGSC) and prepares officers for positions of greater responsibility. The MQS requirements that comprise the passage points (or career milestones) include completion of appropriate branch schools and developmental assignments, demonstrated proficiency on common and branch tasks and completion of specified portions of a reading program.

The military task and knowledge component for MQS II is organized into common and branch-specific task areas. The professional military education component of MQS II consists of a reading program and, for selected officers, advanced civil schooling. MQS gives commanders the flexibility they need to establish officer leader development programs that complement their METL-based unit training programs. MQS doesn't require commanders to train tasks that don't support their unit METLs.

The new MQS II manuals will be fielded through pinpoint distribution. Commanders should ensure their pinpoint accounts accurately reflect their lieutenant and captain authorizations by branch, as identified on DA Form 12-99. Once the manuals are fielded, distribution to newly commissioned officers will be through the officer basic course.

1990 Redleg Reference

The following is a list of articles and selected items from "On the Move" (OM), "View from the Blockhouse" (VB), "Incoming" (INC), "Redleg News" (RN), "Right by Piece" (RP), "Fragments" (FRAG), "Redleg Reviews" (RR) and "Fire for Effect" (FFE) appearing in Field Artillery *during the calendar year 1990. The entries are categorized by subject and listed by title and edition.*

Combat Support and Combat Service Support

The FA Commander and MLRS, Jun
"The Challenges of Our Changing Times," an interview with GEN John W. Foss, CG TRADOC, Aug
Artillery Ammunition Resupply and Storage, Aug

Doctrine

What Role for Artillery in LIC & MIC, Apr
FOs in Mechanized Infantry Companies (INC), Apr
FA Publications Down Range (VB), Apr
3x8 Platoon Leader (INC), Aug
"The Challenges of Our Changing Times," an interview with GEN John W. Foss, CG TRADOC, Aug
The Evolving AirLand Battle-Future Concept, Aug
The Achilles' Heel of AirLand Battle-Future (INC), Oct
Challenge and Change: The FA and the Army of the 1990s, Oct
Massed Fires—Room for Improvement, Oct
Target Acquisition Challenges to Enhance Massing Fires, Oct
Fire Support on the Non-Linear Battlefield: The Shape of Things to Come, Oct
Paladin, Oct
Combat Readiness Notes (Manuals and other Publications), Dec
FA State-of-the-Branch Address, Dec

Equipment and Technology

No Mortars in Heavy Forces (INC), Feb
SAFETY: Erecting Antennas (VB), Feb
Firefinder Foreign Military Sales (VB), Feb
Arctic Thunder at 60° Below, Feb
HIP—Visions and Reality, Feb
Obstacle Reporting Using TACFIRE (RP), Apr
Version 9 Software (VB), Apr
FA TOEs (BUCS), (VB) Apr
Heavy Forces Need Mortars (INC), Jun
Another Response: A Real Need For Mortars (INC), Jun
The FA Commander and MLRS, Jun
M113 Platoons to have Mixed Weapons (INC), Aug
The Achilles' Heel of AirLand Battle-Future (INC), Oct
Response to "The FA Commander and MLRS" (INC), Oct
In Defense of Mortars (INC), Oct
Target Acquisition Challenges to Enhance Massing Fires, Oct
Fire Support on the Non-Linear Battlefield: The Shape of Things to Come, Oct
#1 Cause of FA Injuries: Military Vehicle Accidents (RN), Oct
Paladin, Oct
155-mm DPICM Workarounds for BCS (Version 7) and BUCS, Oct
TOE Update (BCS and BUCS) (VB), Oct
Reshaping the Army:
A Versatile, Mobile Force to
Project Power Worldwide
An interview with LTG
Dennis J. Reimer, DCSOPS, Dec
FA State-of-the-Branch Address, Dec
FA Equipment and Munitions Update, Dec

Foreign

Allied Artillery (OM), Feb
Israeli Artillery Tactics and Weapons—Lessons Learned in Combat, Feb
ROK Artillery—Present and Future, Feb
The Evolution of the French Field Artillery, Feb
Fighting the Field Artillery in the British Corps Battle of the 1990s, Feb
The Royal Canadian Artillery, Feb
Quo Vadis Artillery? (German), Feb
Firefinder Foreign Military Sales (VB), Feb
The Honduran Field Artillery (INC), Apr
Artillery Ammunition Resupply and Storage (Canadian), Aug

Gunnery

Why Do TFT/GFT and BCS Disagree? (INC), Feb
Here's Why They Disagree (INC), Feb
MOS 13B Gunner's Test (VB), Feb
Standardized Gunnery Training (INC), Aug
Massed Fires—Room for Improvement, Oct
155-mm DPICM Workarounds for BCS (Version 7) and BUCS, Oct

History

General Clarke—Not Palmer ("Danger Close: A Historical Perspective on Today's Close Support," Oct 89) (INC), Feb
The Battle for Jaffna: Artillery Lessons Learned, Apr
Response to "Danger Close: A Historical Perspective on Today's Close Support" (INC), Jun
Historical Vignette: The FA Commander (VB), Jun
Setting the Stage for the Furture (OM), Aug
Historical Vignette: British Observed Fire, Aug
Der Durchbruchmueller, Aug
The Origins of Indirect Fire: Technology versus Tactics, Aug
Battle in the Streets—Manila 1945, Aug
The 1991 History Writing Contest Rules, Aug
Fire Support and the Maneuver Commander at Dien Bien Phu: Tragedy and Triumph, Aug
Historical Vignette: FA Tactics in the Spanish-American War, Aug
Molly Pitcher: Who Was She? Aug
Response to "The Battle of Jaffna: Artillery Lessons Learned" (INC), Oct
Massed Artillery—A Historical Perspective, Oct
Breakout From the Sandomierz Bridgehead, Oct
Starting Off on the Right Foot (FFE), Oct

Joint and Combined Operations

Arctic Thunder at 60° Below, Feb
Nimrod Dancer Artillery: Fire Support in Low-Intensity Conflict, Apr
The ANGLICO Edge, Apr
Tropic Thunder Light Fighters in Kangaroo 89 (RP), Apr
Bayonet Artillery in Operation Just Cause, Jun
How Soon We Forget (No Naval gunfire in Operation Just Cause) (INC), Oct
Red Devil Redlegs: Fire Support in Operation Just Cause, Oct
Fire Support in Computer-Simulated Joint Exercises in Europe, Oct

Leadership

The Art of Leadership (FFE), Feb
Meeting the Command Challenge (OM), Jun
The Artillery Commander, Jun
So, You Wanna' Be a Commander? Jun
How Do I Prepare for Battery Command? Jun
A Framework for Excellence, Jun
Developing a Senior-Rater Philosphy (FFE), Jun
A Captain's Guide to Training Lieutenants, Jun
Leadership—The Catalyst for High Performance, Jun

Historical Vignette: The FA Commander (VB), Jun
Hope as a Motivator (FFE), Aug
Challenge and Change: The FA and the Army of the 1990s, Oct
Starting Off on the Right Foot (FFE), Oct

Miscellaneous

FA for the Future (INC), Apr
Poem: "The Redleg," Apr
The 41st FA Brigade—Family Support in Action (RP), Jun
Poem: "Spirit of Fort Sill," Dec

"On the Move" Column

Allied Artillery, Feb
Facing the Winds of Change, Apr
Meeting the Command Challenge, Jun
Setting the Stage for the Future, Aug
Massing and Integrating Fires, Oct

Personnel

FOs in Mechanized Infantry Companies (INC), Apr
The Field Artillery Battalion S2: A Neglected Combat Multiplier, Apr
FA TOEs (FA S2; 13B Replace 77F/88M) (VB), Apr
Article 15s—New Criteria for Filing in R-Fiche (RN), Jun
USMC Battery Deployment Program, Jun
Artillerymen, Seize the Moment (WOs as FDOs) (INC), Aug
#1 Cause of FA Injuries: Military Vehicle Accidents (RN), Oct
TOE Update (PAC and Intelligence Analyst) (VB), Oct
Redlegs' Career Update (Officer, WO and Enlisted), Dec
FA Assignment Branches (PERSCOM and ARPERCEN), Dec
Artillery NCOs in Action—CSMs Report, Dec
FA State-of-the-Branch Address, Dec

Redleg Review

Hitler's Generals, Jun
The Running Wounded, Aug
Strategy: The Logic of War and Peace, Aug
Military Misfortunes: The Anatomy of Failure in War (RR), Oct
Paris Kanonen-The Paris Guns and Project Harp (RR), Oct

Tactics

No Mortars in Heavy Forces (INC), Feb
Israeli Artillery Tactics and Weapons—Lessons Learned in Combat, Feb
What Role for Artillery in LIC & MIC, Apr
Nimrod Dancer Artillery: Fire Support in Low-Intensity Conflict, Apr
The Battle for Jaffna: Artillery Lessons Learned, Apr
The Hasty Fire Plan, Apr
3x8 Platoon Leader (INC), Jun
Bayonet Artillery in Operation Just Cause, Jun
"The Challenges of Our Changing Times," an interview with GEN John W. Foss, CG TRADOC, Aug
The Evolving AirLand Battle-Future Concept, Aug
Der Durchbruchmueller, Aug
Battle in the Streets—Manila 1945, Aug
Fire Support and the Maneuver Commander at Dien Bien Phu: Tragedy and Triumph, Aug
Historical Vignette: FA Tactics in the Spanish-American War, Aug
Massing and Integrating Fires (OM), Oct
The Achilles' Heel of AirLand Battle-Future (INC), Oct
Response to "The Battle of Jaffna: Artillery Lessons Learned" (INC), Oct
In Defense of the Mortars (INC), Oct
Massed Fires—Room for Improvement, Oct
Breakout from the Sandomierz Bridgehead, Oct
Starting Off on the Right Foot (FFE), Oct
Fire Support on the Non-Linear Battlefield: The Shape of Things to Come, Oct
Red Devil Redlegs: Fire Support in Operation Just Cause, Oct
Paladin, Oct

Target Acquisition and Survey

Firefinder Foreign Military Sales (VB), Feb
Target Acquisition Challenges to Enhance Massing Fires, Oct

Threat

Author's Response to Article Critique, ("Soviet Artillery: Myth versus Reality," Apr 89) (INC), Feb
The North Korean Threat: Countering Brawn with Brains, Apr
The Achilles' Heel of AirLand Battle-Future (INC), Oct
Challenge and Change: The Field Artillery and the Army of the 1990s, Oct
Reshaping the Army:
A Versatile, Mobile Force to
Project Power Worldwide
An interview with LTG Dennis J. Reimer, DCSOPs, Dec

Training

Arctic Thunder at 60° Below, Feb
FOST: Innovative Training for Tomorrow's Battlefield, Feb
HIP Howitzer Training (INC), Apr
Baseball Battle Drill (INC), Apr
BCTP Lessons Learned: Battlefield Air Interdiction, Apr
Response to "Danger Close: A Historical Perspective on Today's Close Support" (INC), Jun
MTPs (Mission Training Plans) Coming (VB), Jun
M109 Crew Trainer (RN), Jun
CAS^3 Completion Requirements and Enrollment Changes (RN), Jun
BCTP Warfighter and the Heavy Division, Jun
Standardized Gunnery Training (INC), Aug
Challenge and Change: The FA and the Army of the 1990s, Oct
Massed Fires—Room for Improvement, Oct
Fire Support in Computer-Simulated Joint Exercises in Europe, Oct
Reshaping the Army:
A Versatile, Mobile Force to
Project Power Worldwide
An interview with LTG Dennis J. Reimer, DCSOPs, Dec
FA State-of-the-Branch Address, Dec
Artillery NCOs in Action—CSMs Reports, Dec

Unit Reports

Arctic Thunder at 60° Below (6 IN Div (L) Arty), Feb
Nimrod Dancer Artillery: Fire Support in Low-Intensity Conflict (7 IN Div (L) Arty), Apr
Tropic Thunder Light Fighters in Kangaroo 89 (VB) (25 IN Div (L) Arty), Apr
Obstacle Reporting Using TACFIRE (RP) (2 IN Div Arty), Apr
BCTP Lessons Learned—Battlefield Air Interdiction (101 Abn Div (AA) Arty), Apr
Bayonet Artillery in Operation Just Cause (7 IN Div (L) Arty), Jun
The 41st FA Brigade—Family Support in Action (RP), Jun
BCTP Warfighter and the Heavy Division (5 IN Div (Mech) Arty), Jun
Red Devil Redlegs: Fire Support in Operation Just Cause (5 IN Div (Mech) Arty), Oct
"Silhouettes of Steel," Reports by Army Corps and Division Artilleries and the Marines, Dec
"Field Artillery Units Worldwide," Centerfold Map, Dec
Artillery NCOs in Action—CSMs Report (Corps-Level), Dec

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION

1A. Title of Publication: Field Artillery
1B. PUBLICATION NO: 3 0 9 - 0 1 0
2. Date of Filing: 1 Oct 90
3. Frequency of Issue: Bi-monthly
3A. No. of Issues Published Annually
3B. Annual Subscription Price
4. Complete Mailing Address of Known Office of Publication: Editor, Field Artillery, P.O. Box 33311, Fort Sill, OK 73503-0311
5. Complete Mailing Address of the Headquarters of General Business Offices of the Publisher: Commandant, US Army Field Artillery School, USAFAS, Fort Sill, OK 73503-5600
6. Full Names and Complete Mailing Address of Publisher, Editor, and Managing Editor: Publisher: Commandant, US Army Field Artillery School, USAFAS, Fort Sill, OK 73503-5600
Editor: MAJ Colin K. Dunn, Editor, Field Artillery, P.O. Box 33311, Fort Sill, OK 73503-0311
Managing Editor: Patrecia S. Hollis, Managing Editor, Field Artillery, P.O. Box 33311, Fort Sill, OK 73503
7. Owner: Department of the Army, Department of Defense
8. Known Bondholders, Mortgagees, and Other Security Holders Owning or Holding 1 Percent or More of Total Amount of Bonds, Mortgages or Other Securities: NONE
9. For Completion by Nonprofit Organizations Authorized To Mail at Special Rates: Has Not Changed During Preceding 12 Months; Has Changed During Preceding 12 Months

10. Extent and Nature of Circulation	Average No. Copies Each Issue During Preceding 12 Months	Actual No. Copies of Single Issue Published Nearest to Filing Date
A. Total No. Copies	14,560	15,135
B. Paid and/or Requested Circulation: 1. Sales through dealers and carriers, street vendors and counter sales	6,635	6,980
2. Mail Subscription		
C. Total Paid and/or Requested Circulation	6,635	6,980
D. Free Distribution by Mail, Carrier or Other Means	6,772	6,899
E. Total Distribution	13,407	13,879
F. Copies Not Distributed: 1. Office use, left over, unaccounted, spoiled after printing	1,254	1,236
2. Return from News Agents		
G. TOTAL	14,661	15,115

11. I certify that the statements made by me above are correct and complete. Signature and Title of Editor, Publisher, Business Manager, or Owner: COLIN K. DUNN, MAJ, FA, Field Artillery, Editor

PS Form 3526, Feb. 1988 (See instructions on reverse)