Field Artillery

Professional Bulletin

2023, Issue 1

Contents

Field Artillery Professional Bulletin
Editor: Chris Wilson
Assistant Editor: Chris Gardner
Art Director: David Johnson
FA School PAO: Judith Oman

For more information, contact the U.S. Army Field Artillery School at (580) 558-0836.

Disclaimer

The *Field Artillery Professional Bulletin* is published by Headquarters, Department of the Army under the auspices of the U.S. Army Field Artillery School, 730 Schimmelpfennig Road, Fort Sill, OK 73503. The views expressed within are those of the authors and not the Department of Defense or its elements. The content contained within the *Field Artillery Professional Bulletin* does not necessarily reflect the U.S. Army's position or supersede information in other official publications. Use of new items constitutes neither affirmation of their accuracy nor product endorsements. The *Field Artillery Professional Bulletin* assumes no responsibility for any unsolicited material.

By Order of the Secretary of the Army:

JAMES C. MCCONVILLE
General, United States Army
Chief of Staff

Official

MARK F. AVERILL
Administrative Assistant
to the Secretary of the Army
2301810

SHANE P. MORGAN
Brigadier General, United States Army
56th Field Artillery School Commandant, Fort Sill, Oklahoma

Purpose

Originally founded as the *Field Artillery Journal*, the *Field Artillery Professional Bulletin* serves as a forum for the discussions of all U.S. Army and U.S. Marine Corps Field Artillery professionals, Active, Reserves and National Guard; disseminates professional knowledge about progress, development and best use in campaigns; cultivates a common understanding of the power, limitations and application of Fires, both lethal and nonlethal; fosters Fires interdependency among the armed services, all of which contribute to the good of the Army, joint and combined forces and our nation. The *Field Artillery Professional Bulletin* is pleased to grant permission to reprint; please credit *Field Artillery Professional Bulletin*, the author(s) and photographers.

Cover

The shell is clearly visible in this firing of an M777 155mm howitzer by Charlie Battery, 1st Battalion, 37th Field Artillery Regiment at the Yakima Training Center, Joint Base Lewis-McChord. *(U.S. Army photo by Sidney Lee, Enterprise Multimedia Center, JBLM)*

BG Shane P. Morgan
Field Artillery School Commandant

Do What Only We Can Do, First!

By BG Shane P. Morgan

TEAM: Greetings from Block House Signal Mountain and the United States Army Field Artillery School, Fort Sill, Oklahoma.

The future of the Field Artillery is an exciting one. Our relevance as the King of Battle continues to grow while our role remains the same. But we must remember to do what only we can do, first! Exciting things are on the horizon, but we must not forget where we come from—and the people we will need going forward. We must always account for the five requirements for accurate predicted fires and continue to maintain our knowledge and proficiency on our current systems. Always asking ourselves, "What does mastering the fundamentals mean to me, my Soldiers, FO teams and sections?" Answer that question first…and then relentlessly pursue!

We want to take this time to thank CSM Michael McMurdy for his dedication and hard work to the greatest branch of the United States Army. He has always put our Redlegs first, celebrating and preserving our "Redlegacy." Congratulations CSM Mac on your nominative selection as the next Command Sergeant Major of the U.S. Army Center for Initial Military Training.

Welcome to Fort Sill CSM Paul Fluharty. We are extremely fortunate to have gained your leadership to carry our Redleg torch forward! Your experience and broad range of service is precisely what our Redleg Soldiers require! We are excited to have you on the team.

I am amazed and pleased with our people's incredible teamwork, professionalism, and commitment. I know that every one of us is incredibly proud to be a Redleg! We're proud but we are never satisfied and we recognize position improvement never ends! We've proven time and again that Teamplay wins! When it comes to retaining our title as the King of Battle, we fight for ever mil of accuracy and every second for timely fires.

There has never been a more exciting nor more relevant time to be a Redleg!

ZERO MILS! KING OF BATTLE!

CSM Michael J. McMurdy
Command Sergeant Major
of the Field Artillery

Redlegs,

It has been the absolute honor of my career serving you as the Branch Command Sergeant Major for the last two and a half years. Beth and I have cherished our time at Fort Sill and among your formations. Know that as we transition to serve as the CSM at the Center for Initial Military Training, the Field Artillery Community and those who serve within it are forever in our hearts. We look forward to CSM Paul Fluharty's continued leadership and care as he assumes these duties in March — we are in good hands.

CW5 Rolando G. Rios
Chief Warrant Officer
of the Field Artillery

Happy New Year Fellow Redlegs.

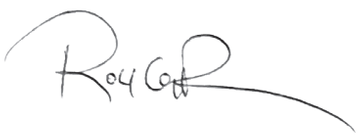
The Field Artillery branch, and to no lesser degree the U.S. Army, is at a flex point, and so too is the Field Artillery Warrant Officer cohort and the U.S. Army Warrant Officer Tech Fields. Departing from a counter-insurgency strategy toward Army 2030 that is designed to secure strategic objectives in multiple domains, such as land, air, sea, cyber, and space, against global competitors with increasing capabilities, the need to address the technical requirements and role of the Field Artillery Targeting Technician is a topic that we must pursue now.

The Army of 2030 will be multi-domain capable, which also implies being more technical than previous force structures. The development of long-range Artillery capabilities, Theater Fires Command, Theater Fires Element, and Multi-Domain Task Forces suggests a required change in divisions, corps, and theater commands that will depend on the Field Artillery Warrant Officer's skills to plan and conduct targeting across echelons in a multi-domain environment. This also necessitates the Field Artillery Warrant Officer to possess comprehensive knowledge, skills, and behaviors to meet the Field Artillery's requirements in an emerging operational environment. This optimized approach begins with a series of articles aimed at examining the Field Artillery Warrant Officer baseline. I encourage everyone to read the first article in this issue.

Moving from things external to things internal, I want to personally thank CSM McMurdy and his wife, Ms. Beth, for their enduring commitment to the best branch of the Army. CSM McMurdy is one of the loudest advocates for the 131A cohort, and for that, the Redleg community is the greatest benefactor. Thank you, CSM McMurdy. Your leadership and counsel will be missed, and I remain confident that your advocacy for the 131A cohort will persist. Congratulations on your next assignment as the Command Sergeant Major of the U.S. Army Center for Initial Military Training.

King of Battle!

Becoming scholars of our profession!



The Battle of Fort Ridgely:
Artillery Saves the Fort, and Minnesota, for the Union in August 1862

Part 1: Background and Little Crow

By Dr. John Grenier, Field Artillery Branch Historian

Little Crow (1810 – July 3, 1863) was a Mdewakanton Dakota chief who led a faction of the Dakota in a five-week war against the United States in 1862.

Army history is replete with tales of Soldiers at isolated outposts, repelling waves of determined enemies attempting to overrun and annihilate them. Both the book and the 2020 film *The Outpost*—which tell the story of the Battle of Kamdesh in 2009 at Combat Outpost Keating in Nurestan Province, Afghanistan—are the most recent offerings in the genre of U.S. Soldiers defending their position and beating insurmountable odds to live another day. Almost universally—and rightly, we should add—the narratives of the determined defense of a fort in the 19th century, or a fire-support base, FSB, in Korea or Vietnam, or a COP in Afghanistan become deeply imbued with valor and self-sacrifice. Indeed, nearly every Redleg who received the Congressional Medal of Honor for service in Vietnam did so as a direct result of his heroics "above the call of duty" in defense of an FSB.

We explain in this edition of the FAPB the background and seminal role of Little Crow in the drama at Fort Ridgely, and we will follow with short chapters in the next three editions of the FAPB.

Most often, it has been artillerists who have kept the enemy at bay so relief could come "over the hill" and then rescue an outpost's defenders. This narrative has become so commonplace in Army history that few know the 5 W's -- the who, what, when, where, and why -- of its first instance. The answers probably will surprise many: three mixed Soldier-veteran gun crews in defense of Fort Ridgely, Minnesota, during the Dakota Uprising of 1862.[1]

We want today's Redlegs to be cognizant of and understand the details of this small but important piece of Branch history. We have chosen to present the storyline of the Battle of Fort Ridgely in a four-part series to make it more easily digestible for readers of the *Field Artillery Professional Bulletin* (*FAPB*). We explain in this edition of the *FAPB* the background and seminal role of Little Crow in the drama at Fort Ridgely, and we will follow with short chapters in the next three editions of the *FAPB*. We hope that you will follow this storyline over the next year and, in the end, find both education and inspiration in the irony-laced narrative of the Battle of Fort Ridgely, as well as a better understanding of the Field Artillery Branch's—your Branch's—distinctive heritage.

The background to and timing of the Dakota Uprising explains why the Army left only a single Ordnance Branch sergeant and fewer than a half dozen cannons at Fort Ridgely for Southwest Minnesota during the American Civil War. In 1851, the Dakotas, in the Traverse des Sioux Treaty, surrendered most of their lands in Minnesota to the United States; a further cession seven years later pushed the 7,000 Dakotas who chose to remain in the state onto two small reservations (or agencies as they were called at the time). The Upper Agency was centered near Granite Falls, and the Lower Agency was headquartered at Redwood Falls, both in the Minnesota River Valley. In the treaties, the U.S. government promised the Dakotas a one-time $495,000 payment, cash annuities, food, and training and education to ease its men's transition from hunters and warriors to farmers and craftsmen. Many Dakotas took the government up on its offer; just as many, if not more, clung instead to their traditional ways of life. The Bureau of Indian Affairs, BIA, established a commissary and annuity-distribution office at each agency, and it permitted Protestant missionaries to proselytize among the Dakotas. In 1853, the Army, in support of the BIA, constructed Fort Ridgely on a bluff 150 feet above the Minnesota River, about 15 miles downriver from the Lower Agency. The fort was one in name only, however. It consisted of a two-story stone barracks and a one-story stone commissary building. The fort's

1 The Dakotas comprise a main subculture of the Sioux people, and they are traditionally divided between the Eastern Dakotas of central Minnesota, Northern Iowa, and eastern North Dakota and South Dakota and the Western Dakotas of the Upper Missouri River region. The Dakota Uprising is sometimes called the Sioux War, but that confuses it with the Great Sioux War of 1876-1877, of which the Battle of the Little Bighorn was the most significant action.

other structures—the granary, stables, laundry, kitchens, etc.—were wood-frame buildings that surrounded a 90-yard-square parade field. The Army made no effort to palisade the fort: it expected Fort Ridgely to function as a supply depot, and the under-strength infantry companies that rotated through it on garrison duty were to serve mostly as a constabulary force to keep white settlers (primarily German-speaking immigrants from Central Europe) from encroaching on the agencies. The Army's Ordnance Branch devoted a 6-pound field gun, three 12-pound mountain howitzers, and one 24-pound howitzer to Fort Ridgely; built two small powder magazines 200 yards northwest of the fort proper; and assigned a single noncommissioned officer to maintain and manage the cannons and small arms, plus the ammunition supplies in the unlikely event they ever needed to be fired in anger.[2] No one gave serious thought to Fort Ridgely as much more than a trading center and police station.

By the late summer of 1862, a perfect storm formed over Southwest Minnesota.

By the late summer of 1862, a perfect storm formed over Southwest Minnesota. The civil war between the Union and the seditious and treasonous Confederacy racked the nation, and some Dakota leaders thought that with the "Blue Coats" occupied with their "family" problems, an opportunity to win concessions from the American government had presented itself. Little Crow (Ta-o-ya-te-du-ta), once the most respected and influential Dakota among the Mdewakanton band at the Lower Agency, instead counseled caution. He had joined a Dakota delegation to Washington D.C. in 1858 to campaign for well-defined boundary lines for the agencies. Back at Redwood, he warned his neighbors that the Union Army, if the Dakotas raised trouble, could march onto the agencies from nearby Fort Ridgely and annihilate them. Few of his fellow Dakotas listened to him in the late summer of 1862—Little Crow had just lost an election as tribal spokesman—when the BIA proved late in providing them with their annuities and food disbursements, and starvation stalked the agencies. On Aug. 17, four young Dakotas murdered five settlers outside Acton over an argument about some chicken eggs, and they rushed to Little Crow's wood-frame house to seek his protection from the "white man's law." Little Crow concluded the murderers could expect to pay for their crime with their lives. The Dakotas' "soldiers' lodge," however, seized upon the inevitable retribution for the killings as an excuse to start an uprising to "take back their lands." When Little Crow again called for calm, and a measured response, the soldiers' lodge accused him of cowardice. "Ta-o-ya-te-du-ta is not a coward, and he is not a fool," he answered. He presciently warned those who clamored for war:

> ***Braves, you are like little children; you know not what you are doing. Count your fingers all day long, and white men with guns in their hands will come faster than you can count … Yes; they fight among themselves—away off. Do you hear the thunder of their big guns? No … You will die like the rabbits when the hungry wolves hunt them in the Hard Moon (January).***

Little Crow nevertheless reluctantly agreed to lead the Dakotas to war, but on the condition that they capture Fort Ridgely as their most immediate task.

To be continued…

Dr. John Grenier is the FA Branch/USAFAS historian at Fort Sill, Oklahoma.

2 The M1841 6-pound field gun was standard-issue light cannon during the Mexican-American War. The Army recognized that the M1857 12-pound Napoleon (the U.S. version of the 1853 French canon obusier de 12) was a superior weapon to the M1841 6-pound field gun because it could function as both a field gun and a howitzer, and after 1862, production of the latter ceased. The M1841 12-pound mountain howitzer could be broken down into three loads for pack animal transport, and it thereby offered (for the time) a highly mobile artillery piece to support light forces on the frontier. The M1857 12-pound Napoleon superseded the M1841 24-pound howitzer, originally designed as a ship-cannon, as the Army's heavy cannon in the late 1850s, but 24-pounders remained in the inventory throughout the Civil War (1861-1865). The Union Army ceased production of the M1841 24-pound howitzer in 1863.


"TODAY'S ARMY IS MUCH LESS ABOUT THE KNOWLEDGE YOU HAVE, SO MUCH AS THE KNOWLEDGE YOU CAN SHARE."
FKN
FIRES
KNOWLEDGE
NETWORK
https://armyeitaas.sharepoint-mil.us/sites/TR-FCoE-FKN

Chapter 2 of *Army Techniques Publication*, ATP, 3-09.30 Observed Fires "describes the responsibilities of members of the fire support team, forward observer team and options for employing observers and guidance for selecting and occupying an observation post". While the chapter treats these subjects in detail, it remains agnostic towards the type of formation and the equipment utilized to conduct fire support. There is a general bias in the publication towards fire support in a light infantry formation. The sections covering fire support vehicle, employment options and observation posts are insufficient. Explanations for the three FSV employment options neglect the crucial step of parallel planning on the part of FISTs to integrate movement to and establishment of OPs into the scheme of maneuver to ensure observers are in position to support their commanders. The section covering occupation of an observation post in accordance with the memory aid SLOCTOP — selection, location, communication, targeting, observation, position improvement — fails to describe the major considerations for employing FSVs in mounted observation posts.

While the principles behind fire support at battalion and below remain the same across formations, two out of three brigade combat team types possess mounted observation equipment for the fire supporters organic to their formations. The equipment and task organization inside these formations presents capabilities and place limitations on fire supporters that are not addressed in the light infantry-centric doctrine of ATP 3-09.30. This paper will begin to remedy these shortcomings of ATP 3-09.30, focusing on the fire support organization inside the combined arms battalion, CAB, of an armored brigade combat team, ABCT.

The absence of clear procedures for mounted OPs has led to underemployment for one of the most valuable assets in our armored formations. The fire support community inside ABCTs needs to reconcile current doctrine by articulating tactics, techniques, and procedures, TTPs, which account for characteristics, capabilities, and vulnerabilities of the M7 Bradley Fire Support Team, BFIST, in fire support employment and OP operations at the company level. Using the familiar memory aid SLCTOP, a comprehensive treatment of observation post operations in a CAB is outlined below. Each of the principle considerations of SLCTOP is laid out with respect to the platforms and equipment available to the CAB fire support platoon. The goal is an increased understanding of mounted fire support resulting in optimal employment of BFISTs inside armored formations.

Gainfully Employed

Effective Company Fire Support Employment in the Combined Arms Battalion

By CPT Austin Glang and CPT John Stabler

Observation Post Occupation & Operations within the Company FIST

In a CAB, the modified table of organization and equipment, MTOE, of the fire support platoon mirrors the composition of the battalion. Every company has a corresponding FIST headquarters with a BFIST. The primary difference between CAB fire support platoons is in the number of forward observer teams. Only infantry companies in the ABCT receive two-man FO teams for their platoons. Therefore, infantry CABs have six FO teams, whereas armor CABs have three. The fire support platoon possesses MTOE equipment for every FO team to establish a dismounted OP with laser designation, range finding, and digital fire support capabilities. In addition, the MTOE provides the same dismounted equipment as secondary means for the BFIST crew to establish observation. In both armor and infantry companies, the BFIST is the primary platform around which fire support must be planned.

S – Security

Security considerations for mounted operations with a BFIST must consider the unique capabilities and vulnerabilities of the vehicle as an observation platform. When selecting a location to employ a BFIST in an OP, observers should dismount to perform reconnaissance whenever possible. Occupy the BFIST during periods of darkness to mitigate noise and light signatures.

Capabilities

- FLIR/CCTV – real-time observation in multiple parts of the electromagnetic spectrum allow concealed threats to be observed.
- Smoke launchers – when compromised or receiving contact, can briefly delay target acquisition to facilitate egress.
- Weapons platforms – 25mm and coaxial machine gun provide overmatch to dismounted security threats with small arms.
- Armor – rated to withstand small arms up to rocket-propelled grenades, depending on armor upgrade.
- 360 Degree electric turret – allows the Bradley commander and gunner to quickly scan and observe in 360 degrees, even with the engine off.

Vulnerabilities

- Visible signature – BFIST dimensions and shape require significant camouflage and position improvement to achieve effective concealment.
- Audible signature – depending on terrain, sounds of mechanized vehicles can carry several kilometers.
- Thermal signature – the BFIST's engine and exhaust will create a thermal signature allowing the enemy to positively identify friendly OPs.
- Deadspace – position of the observers in the turret and limitations of the weapons systems to depress below 10 degrees restricts fields of fire. The only MTOE weapons system for handling dead space is the driver's M320.
- Battery life – all onboard observation, targeting, and communication systems require vehicle batteries, which must be charged by regular idling of the engine while stationary.
- Situational awareness – CVC wear for internal communication, sound of turret fan or engine, and position inside the turret all reduce the ability of the observers to detect threats visually or audibly in the immediate vicinity.

Recommendations

In the offense, detection is the greatest threat to the security of the mounted FIST when occupying an OP. The FSO must conduct detailed planning of movements to and from OPs and insist on integrating this information into the company's scheme of maneuver. Additionally, when the mounted FIST establishes an OP in a location offset from the rest of the company, the crew must plan more deliberately for security than when it is integrated into a support-by-fire or attack-by-fire position. In the defense, the same guidelines generally apply, but more time may allow for greater security through position improvement. The following are TTPs that increase security:

BFIST moves from reverse slope hide site to utilize FS3 on forward slope. (Photo by CPT Glang)

Dismounted FO team augments a mounted OP by establishing a long-range antenna. (Photo by CPT Glang)

Observing from BFIST: incorporate BFIST into the company defense plan such that the BFIST crew can prioritize observation over security. When possible, occupy prepared fighting positions that place the BFIST at hull defilade and utilize camouflage netting, vegetation, and dirt to reduce visual signature.

Split OP: mounted and dismounted observation: leave the BFIST with a skeleton crew in overwatch one terrain feature away. Mounted FISTs risk the flexibility to deliver effects for their commanders to the degree they become dependent upon the BFIST alone for fire support employment. The BFIST can provide additional security, serve as an alternate OP, and retransmit information on behalf of the dismounted OP. In this situation, the dismounted OP focuses on observation while the BFIST focuses on communication. While the BFIST offers a suite of highly capable observation systems, mission variables may dictate the occupation of a dismounted OP in order to gain undetected observation of a target. For example, the forward slope of a ridge may offer the greatest observation but lack significant foliage for concealing vehicles. The dismounted team – gunner, FO, and fire support non-commissioned officer with lightweight laser designator and rangefinder – push to the forward slope, maintaining communication with the BFIST remaining concealed on the reverse slope. The BFIST remains ready to unmask to cover a hasty withdrawal should the dismounts receive contact.

Request additional support: while a four-man BFIST crew is limited, the FIST can request additional personnel from the commander to assist in security operations, particularly during split OP operations. This course of action depends on the rapport established between the commander and FSO. The BFIST can carry additional personnel. If the mission dictates a split observation post, dismounted fire support personnel may use the additional personnel to secure a dismounted OP and prioritize observation. The battalion FSO may also dictate an FO team remains with the FIST HQ to execute a dismounted OP. This technique remains in line with Fire Support Team option one, as described in ATP 3-09.30.

L – Location

The BFIST internal navigation unit and defense advanced GPS receiver ensures accurate vehicle position location down to 1m. The FIST should still conduct secondary map checks to verify the accuracy of BFIST location systems. The priority of the FIST in selecting an OP location should be observation. Balancing security and communication are necessary as well. Forward slope positions will require significant position improvement to conceal a BFIST. The reverse slope will require less improvement, but movement from the reverse slope into a suitable position for observation will mean producing a significant audible signature. To minimize the vulnerability presented by the BFISTs audible and visual signature, occupation should occur during periods of darkness whenever possible.

C – Communication

The BFIST is the most capable communications platform available to an armor or infantry company commander. Able to employ up to three very-high frequency radios on various power amplification settings, it is equipped with two tactical communication interface module cables for transmitting data over VHF, as well as a Joint Battle Command Platform. The Forward Observer System provides digital fire support capability to the company FIST.

Recommendations

Offense: Frequent communications checks on all nets will ensure fire support remains responsive while maintaining tempo after the company crosses the line of departure. While the BFIST is equipped with four whip antennas, company FISTs must prioritize communications when selecting location, and should develop TTPs for quickly employing a long-range antenna, such as an OE-254, to improve line of sight, LOS, range when the mission dictates.

Defense: Erecting a long-range antenna in the most optimal position for LOS communications should be a priority of the FIST when integrating an OP into the company defense. The FIST must consider the distance and direction between the OP and the commander, the battalion fire support element, and the battalion mortars when selecting a long-range antenna location. The long-range antenna should be erected in conjunction with the BFIST to utilize the power amplifier on board. Just as the infantry and armor platoons develop primary, supplementary, and subsequent

battle positions, the FIST develops multiple OPs. Reconnaissance of egress routes and alternate OP locations will be necessary.

T – Targeting

The Fire Support Sensor System, FS3, provides the FIST with the ability to observe, measure distance, direction, vertical angle, and determine 10-digit grid locations. Targeting data from the FS3 can be sent to the FOS to be immediately processed as a digital fire mission. Employment of the FS3 must be considered during location selection. Unlike a dismounted target locator, the effectiveness of the FS3 is completely limited by the location of the BFIST. In armor companies, the absence of FO teams may lead the FIST to rely on the tank commanders utilizing the far target locator on the M1 Abrams to relay targeting data. This technique requires significant rehearsal and training to build trust between the FIST and company leaders. The FIST must maintain accurate and up-to-date fire support coordination measures for arrangement in order to safely clear ground for the commander before transmitting a call for fire.

O – Observation

The FS3 is the most effective sensor available to the mounted FIST and should be employed whenever possible before resorting to dismounted sensors. While surveilling a target area with the FS3, at least one member of the BFIST crew should be observing by looking outside the hatch or dismounting completely, utilizing their eyes, aided by binoculars, and ears. This TTP minimizes the effects of reduced situational awareness inside the turret. Crosstalk between the observer outside the hatch and the observer operating the FS3 yields more effective observation overall. The gunner, FO, and Bradley commander should practice this crosstalk and establish internal pro-words and TTPs. The FS3 is only capable of laser designation out to 3km when mobile. The FIST should always be stationary when observing planned targets.

P – Position improvement

Position improvement in the offense primarily consists of refining OP location on the ground to maximize communications. When emplacing the BFIST in an OP associated with a deliberate defense in which blade time from an engineering asset is allocated to the company, the FSO must advocate for the improvement of the BFIST's survivability. The most effective way to improve a BFIST OP is to achieve at least hull defilade. Concealment from camouflage netting and vegetation is also important. Long-range antennas should also be concealed while retaining operational effectiveness. The addition of personnel to assist in security is the next most valuable investment for the FIST during position improvement.

Conclusion

Although ATP 3-09.30 contains an abundance of information regarding the selection and occupation of OPs, this information is skewed toward light infantry formations. Fire support platoons seeking to optimize the employment of their BFISTs must arrive at TTPs outside the scope of established doctrine. Fire support at the company level of a CAB must maximize the BFIST as a communications platform, economize OP security, conceal the large signature of a mounted OP, and guarantee surveillance of the target area even when the FS3 cannot be effectively employed. The TTPs outlined above provide a way to execute company-level fire support in the CAB. Company fire supporters and maneuver leaders should take these TTPs and an understanding of the capabilities and limitations of the mounted FIST into greater account when integrating fire support into the scheme of maneuver.

References

ATP 3-09.30 Observed Fires. September 2017.

Army Techniques Publication (ATP) 3-09.30 sets forth the doctrine pertaining to the organization, equipment, mission command, operations, and provides techniques for employing fire support assets as an observer which can be applied within the framework of decisive action or unified land operations. It is applicable to any Army personnel observing for artillery or mortar fires, close air support, army attack aviation, or naval surface fire support.

CPT Austin Glang is currently a student at the Field Artillery Captain's Career Course and previously served as a Fire Support Officer in the 3rd Infantry Division.

CPT John Stabler is currently a student at the Field Artillery Captain's Career Course and previously served as a Fire Support Officer and Intelligence Officer in the 10th Mountain Division.

"We Go Together"

Katchi Kapshida

Notes on a Combined Joint Fire Coordination Exercise

By MAJ Wiley Grant

An M3A3 from Atlas FiST and a ROKA forward observer team call for fire in support of the simulated brigade defense during the CJFCX.

On a cloudy day in the Korean countryside, elements from two brigades stood prepared to defend the Rodriguez Live Fire Complex from invading Democratic People's Republic of Korea troops to the north. However, long periods of quiet on the otherwise peaceful day were suddenly interrupted by the sound of artillery, mortar, and tank rounds impacting the simulated invading force. This event, a Combined Joint Fire Coordination Exercise, CJFCX, six months in the making, highlighted the progress made with our partner forces from the Republic of Korea Army, ROKA, and identified the work that still needs to be done to improve our forces' interoperability.

The Rodriguez Live Fire Complex during the August 2022 CJFCX. Elements from across 1st ABCT, 1AD and 16th Mechanized BDE (ROK) conducted live fires focused on interoperability and readiness.

Introduction

The CJFCX executed in late August 2022, showcased the interoperability and readiness of the Combined 2nd Infantry Division with its assigned counterparts in the ROKA 16 Mechanized Brigade as well as elements from the ROKA 977 Field Artillery and 1st Aviation Brigade. The final event saw the execution of live fires across the Korean Peninsula with both U.S and ROKA Multiple Launch Rocket Systems, AH-64 Apache helicopters, 155mm Self-propelled howitzers, multiple calibers of mortars, and M1 and K1 tanks. Throughout all this, ROKA and U.S command posts exercised their ability to identify and track hostile forces and pass targeting information across the combined force. The Ready First Combat Team and 2nd Infantry Division fires enterprise enabled the exercise by establishing systems in the human, procedural, and technical domains of interoperability.

Human

The first step is taken to ensure interoperability across the Combined Republic of Korea, ROK, and U.S. forces was the creation of several LNO teams within the participating ROKA units. Established at each level of command, the personnel in these teams enabled effective communication between U.S and ROK commanders and allowed for the synchronization of Joint fires and effects across the Division. Especially important to these teams was the inclusion of subject matter experts as the team leads. As a fire coordination exercise, most of these leaders were field artillery officers at the Brigade and Battalion levels. This enabled them to assist with knowledge of the Division's overall fires plan, U.S capabilities, and the digital fires infrastructure. Rank, additionally, was a key consideration when assigning proper personnel to the LNO teams. Ready First chose to provide leaders of a rank proportionate to the echelon they would support. While the upfront cost of losing the Brigade FSO or Battalion FDO appeared to be steep, the increased interoperability provided by having personnel synchronizing with adjacent units provided great rewards.

Another important point identified during initial planning for the LNO teams was the identification of bi-lingual personnel to serve as interpreters. The number of American service members that speak Korean is very small compared to the number of ROKA that speak English. This created a need within the LNO teams to rely on attached ROKA staff officers as well as any English-speaking ROKA members from the supported units. Of note, the 16th Mechanized Division did an excellent job at increasing the number of English-speaking service members in their Brigade Command Post, which allowed for excellent communication throughout the exercise. Going forward, the ROK-US reliance on a small number of bi-lingual speakers could pose a major issue should hostilities commence, and casualties rise. To address this, the multi-national force must develop a system to mitigate the risk posed by the loss of bi-lingual personnel during combat operations.

SPC Ethan Wingard, 13F, discusses fire support procedures with a ROKA forward observer.

Procedural

As the LNO teams worked with their supported ROKA units, they identified several differences in the processes and procedures that U.S and ROKA forces used in their doctrinal fights. One example of this was using a Coordinated Fire Line, CFL. The definition of the CFL in U.S. doctrine states, "A line beyond which conventional surface-to-surface direct fire and indirect fire support means may fire at any time within the boundaries of the establishing headquarters without additional coordination" (JP 3-09). The CFL is a permissive coordination measure to allow for more responsive fires and effects against an enemy force. However, while working with ROKA forces during the CJFCX, LNO teams identified that while the CFL in the ROKA is doctrinally the same, ROKA forces generally view it as a restrictive fire support measure. There are many possible reasons for this differing viewpoint, including the different organizational structures within the ROK Army and the generally restrictive measures employed by Combined Component Commands throughout the Korean peninsula to coordinate the sheer volume of air and ground forces expected to be positioned there during a conflict.

These same reasons likely also contribute to the different views that the ROK Army units have on the clearance of ground prior to the execution of indirect fires and close air support. The ROK Army forces have an exceptional adherence to safety both in tactical scenarios and real-world training. Where U.S forces generally abide by Risk Estimate Distances when determining the echelonment of fires, ROK Army forces increase that distance where possible to ensure that no fratricide occurs. When the 2ID Joint Air Ground Integration Center attempted to establish a kill box for CAS during the CJFCX, 16 Mechanized Brigade maneuvered its forces an additional 200 meters beyond the 800 meters established by the JTACs. Different procedures such as this could potentially desynchronize fires if not identified beforehand. Identification of Tactics, Techniques and Procedures such as this allowed Ready First LNO teams to help 2ID adjust plans going forward to ensure that enemy forces were rapidly engaged. Understanding how our partners fight and how we can adjust our processes and procedures to better synchronize our forces is an essential task of LNO teams to enable greater interoperability and Combined readiness.

M109A7s from 2-3 Field Artillery fire in support of the CJFCX.

Technical

The CJFCX demonstrated the great ability of U.S and ROKA forces to work together in combat. Despite this success, LNOs identified that a lack of compatible communications and mission command systems prevented greater

interoperability. The Brigade LNO team placed with the 16th Mechanized Brigade brought with them a CPN with supporting communications operators, a COVIN-K dish for upper-TI redundancy, an AFATDS, a CPOF, VOIP phones, and FM radios with a variety of ground mount antennas. These systems enabled the LNO team to communicate with the Ready First Combat Team and 2ID over upper-TI and FM comms. Given an overall lack of compatible equipment, the LNO teams, were in most cases, the quickest and sometimes the only method of receiving information from the Division during the exercise. Throughout the exercise, the 16 Mech LNO team was responsible for sharing critical enemy intelligence and fire mission data using vocal transmission and handwritten notes. In a real combat scenario, with the fog and confusion of war, these methods could quickly devolve into a large game of telephone where the incoming data might not be correct if it arrived at all.

The problem with systems interoperability stems from several sources. The largest of these is that the shared network infrastructure for U.S and ROK forces on the Korean Peninsula, Centrix-K or CX-K, is not widely used by many ROK forces. They use a similar upper-TI network, TICN, to communicate intelligence and targeting data across their command posts using the Army Tactical Command Information System, ATCIS. Neither the TICN network nor the ATCIS system is currently compatible with CX-K, though the connection is possible given the appropriate approval from senior government officials and the removal of existing policies and firewalls. Unless those actions should occur, solving the interoperability problems between a US AFATDS and a ROK ATCIS is not possible. Furthermore, while a system does exist that allows for U.S and ROKA firing data to be transferred across our two networks, Joint Fires Operating System-Korea or JFOS-K, that capability is retained at the ROKA Corps and Ground Component Command level. Thus, the first step to solving the interoperability problem is ensuring that our networks are interoperable.

If a solution is found for the interoperable network problem, there will still be further barriers to the sharing of firing data between ROK and U.S forces. These barriers will shift to the systems connected to the network rather than the network itself. Lower-echelon units that rely on AFATDS and ATCIS will still not be interoperable due to the design of these systems. What is required, in this case, is a shared software or hardware solution that allows for targeting data to be shared across Combined forces in a rapid and accurate manner. The solution to this problem already exists in the Artillery Systems Cooperation Activities, ASCA, software currently in use by NATO forces in Europe. ASCA would allow ROK and U.S forces to quickly mass Joint fires and effects to better achieve targeting goals in support of combat operations. Until a product like ASCA is introduced onto the Korean Peninsula, ROK and U.S forces will continue to rely heavily on LNO teams and slower, alternative methods of information transfer that drastically reduce our combat effectiveness.

The first step to solving the interoperability problem is ensuring that our networks are interoperable

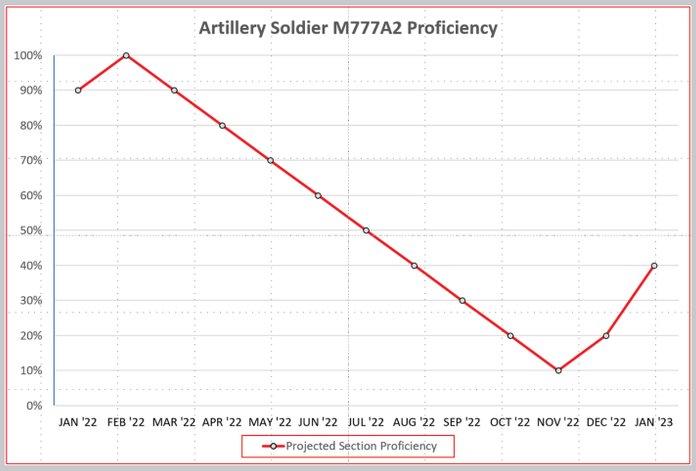
Conclusion

In summary, the Ready First Combat Team and the 2nd Infantry Division made huge strides in ensuring the readiness and interoperability of the Combined Division during the Combined Joint Fire Coordination Exercise in August 2022. The effective use of LNO teams and key equipment helped to overcome existing barriers to interoperability and allowed for an effective demonstration of the capabilities of a Combined force. Looking to the future, the challenge remains how to ensure the rapid and efficient transfer of firing data between U.S and ROKA units at the division level and below. Having identified this challenge and the many others facing interoperability between ROK and U.S forces, the mission now is to find efficient and cost-effective ways of overcoming these challenges to ensure that the Republic of Korea and its U.S partners are always ready to "Fight Tonight".

Maintaining Proficiency *through* Interoperability

By CPT Joshua Keenan

Army Directive and EUCOM. Spring 2022. Enter Presidential Directive for action, authorizing and ordering M777A2's to be shipped to Ukraine in support of their defense against Russian aggression. In the late hours of a grueling weekend, Soldiers from C Battery, 5th Battalion, 25th Field Artillery Regiment, 3rd Infantry Brigade Combat Team, 10th Mountain Division, work tirelessly to prepare, stage and bid farewell to their M777A2 Medium Towed Howitzers. These cannons will be soon shipped to the European Theatre to eventually be part of a strategic package that NATO will provide for the Ukrainian defense against Russian aggression in this protracted Russo-Ukrainian War. Soon these Soldiers and their leadership will face months without their cannons and still be expected to maintain training and proficiency and prepare Soldiers for the upcoming deployment readiness exercises and, eventually, deployment. The most experienced M777A2 Soldiers on today's modern battlefield are Ukrainian. Cannon, rocket and missile fires are being conducted on both sides of the conflict with numerous pieces of equipment and methods of execution. The Ukrainian conflict is indicative of the effective use of the M777A2 in a Large-Scale Combat Operation. Given the necessity of our country's support to the conflict, how does an M777A2 battery maintain proficiency without howitzers? The following graph details C/5-25th FAR's experience.

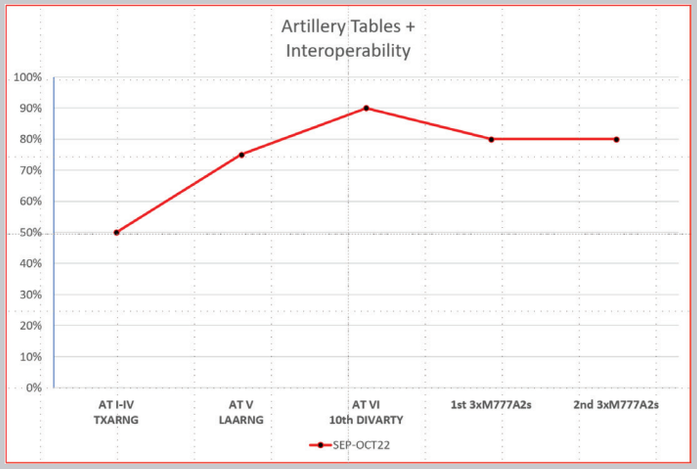


Pay in mind that the last time the Soldiers of Carnage Battery shot live rounds was February 2022 during an Artillery Table XV during support for the 75th Ranger Regiment at JRTC, 60 days prior to their Easter present to the Ukrainian front. Within 30, 60 and 90 days proficiency, begins slowly declining as routine repetitions, and crew drills can no longer take place. Carnage supported Cadet Summer Training and saw a majority of Soldiers depart for Fort Knox, Kentucky. A battalion change of command and, eventually, a battery change of command will be added in the transition from Summer to Fall. All the while, the Soldier's ability to send artillery rounds through a cannon atrophies. The "how" became a little more complicated.

Interoperability: Active Duty and the Army National Guard. So, no joke, there I was sitting as the AS3, and my new boss looked at me and said, "Find some M777A2s and figure out how to have Soldiers train on them." As a former New York Army National Guardsman, I looked at him, "Yes sir.", and went back to my office to pick up my phone. My understanding and knowledge of Multiple Unit Training Assembly, MUTA, immediately helped frame questions and began planning concurrent with the units called. The first phone call was to a friend who is still currently in the Louisiana Army National Guard. Not of the same MOS but willing to help, he pointed me in the direction of one of the State unit's switchboards, and through a series of calls, I got in touch with the Active Guard Reservist, AGR, present for the day and began the conversation. While I coordinated with our resident state, our Battalion Master Gunner called the Texas Army National Guard. At the time, the Texas Army National Guard BCT Commander was the BDE Rear-D Commander, and familiarity had already existed. A call was even placed back to my home state as I reached out to my old Fire Support Non-Commissioned Officer to ask where the NYARNG M777A2s were training. Many handshake conversations later, the S3s for our respective units began the coordination. 1st Battalion, 133rd Field Artillery of the TXARNG, and the 1st Battalion, 141st Field Artillery of the LAARNG, were on board and more than supportive. DIVARTY, 10th Mountain Division also saw an opportunity with 2/10th

MTN DIV collective training event "Mountain Peak" and offered their assistance in utilizing C Battery, 2nd Battalion 15th Field Artillery's newly acquired M777A2s post-exercise. On August 2022, our Battalion conducted a change of command, and I was the new Charlie "Carnage" Battery Commander, primed to see through what had started at my desk weeks ago in the S3 shop.

Doctrine: Artillery Tables and Property Handover. The field artillery branch has certification and qualification tables that we conduct as a *progressive gated training* cycle to start with small unit-level operations and finish with larger-scale unit training events. Artillery Tables I-IV would be executed with the TXARNG's howitzers and training land. Table V would be conducted with the LAARNG's howitzers and their training area. Finally, with DIVARTY providing support and oversight, C/5-25 FAR would fly to Fort Drum, New York, to conduct AT VI, a live fire howitzer section qualification on C/2-15 FAs systems. From September to October, we would conduct a 40-day training cycle and conduct training on three separate unit's M777A2s in three different states.



Plan in place but now to the *property*. Rather than 3161, we conducted thorough, dress-right-dress layouts of equipment and 2062 from end-user to end-user, section chief to section chief. By bill of materials and technical manuals from Texas, Louisiana, to New York, the amount of attention to detail we had in equipment was there. A change of command style layout was conducted and was key to identifying anything and everything the section chiefs and crew members needed to understand the equipment they received prior to their PMCS.

It helped that the facilitators of our equipment were more than willing to assist and always had representatives there to assist. From the ARNG, we had no less than an AGR representative and a 91F Artillery Repairer and were only a phone call away from coordination with Maneuver Area Training Equipment Site for contractor support. In New York, from our active-duty component, supporting us was 10th DIVARTY staff, including the S4, PBO, HHB, and FSC components, who assisted in the layouts and equipment procurement. Everything from fuel cans live artillery rounds, and hot chow came from lateral planning while we conducted our training in the weeks prior. This is exactly what a DIVARTY should be supporting with their artillery battalions. We were very deliberate at every turn on the property. A positive by-product of this path was the equipment, and proficiency gained because of this path. In a very short window, we signed for two howitzers at the TXARNG, two howitzers with the LAARNG, and three howitzers from C/2-15 FA. Now how do we use this support and not waste months of planning and coordination?

Efficiency: Time and Effort. Prioritizing and maximizing *time* and Soldiers hours to accomplish tasks efficiently. Planning the artillery tables at a location is simple, but planning an hour-to-

hour schedule in a limited time window has more to it than a broad stroke. Leaders and Soldiers were instructed to push for competency and the will to train until understanding took place. Section chiefs then took the onus to account for each Soldier and man hours required they had and train in areas they knew needed extra attention and prepare for their upcoming tests. These man-hours were managed down to the minute to ensure optimal timeline planning. If a Soldier required extra attention and learning, the other sections were willing to absorb them and help them address gaps in knowledge of actions. Platoon leadership developed hour-to-hour schedules based on Task Training and Evaluation Outlines within the subtasks of the Artillery Tables and built rotating schedules necessary for the limited amount of equipment we were using. Downtime from a howitzer meant class time. Class time meant there was doctrine, slides, and testing. Once with the howitzer, rarely was there a time when Soldiers weren't rotating from position to position to laterally understand their crew. Soldiers were learning their level and one level up if a failure occurred and they needed to step up or move position.

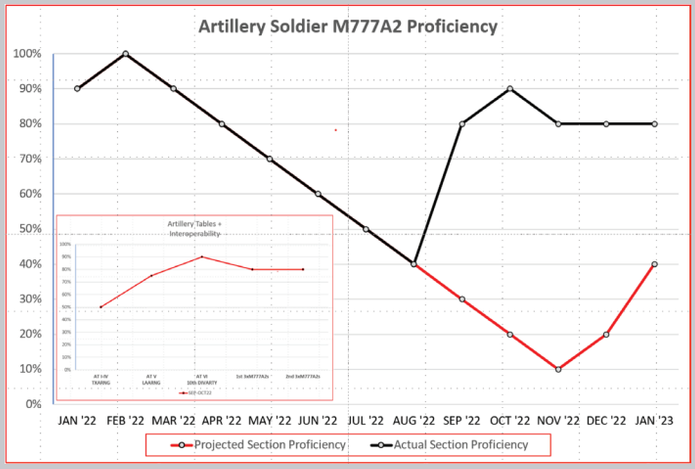
Fleeting Up: A result of our training was that two PFCs were able to become Gunners for their respective howitzer sections, held for SGTs, which we didn't have enough of. Enabling success, although personal shortages were the theme for our battery. It's promoted and encouraged for Soldiers to train levels up to eventually fill in and accomplish learning at a higher level. I can't stress the need for retraining and the planning for retraining enough, especially retraining windows when planning with a small window of opportunity. Soldiers and leaders took time through their planning to account for extra hours of both study and execution. Even when we anticipate that we will have quick success for a task from a TE&O, we still allot time in case things don't pan out as planned, forcing us to adhere to the 8-Step Training Model.

Motivating Soldiers to put forth an *effort* and accomplish tasks efficiently rather than mailing them in was the catalyst for this success. At every level, leadership engagement was present, and leaders found a way to make it happen. Lieutenants were present and learning each task the Soldier had to perform, leading from the front. Non-commissioned officers were instilling discipline through multiple methods of engagement and leadership. They provided the backbone objectives for our planning priorities but execution by enforcing standards. The section chief's level of involvement in planning enabled our unit to finish our training cycle by flying up to Fort Drum, New York, and firing live rounds

to complete our Table VI qualification. This was also a motivating factor as about 80% of Soldiers hadn't fired a live round for half a year or since their AIT upon arrival to the unit. The culmination of weeks of preparation and training bore fruit and success for these Soldiers, and it wasn't lost on them that they accomplished something unique to 2022. We adapted and overcame. Our success was not only from our own efforts but the other participating entities we engaged with who were all different states and organizations. First and foremost, what was on my mind before executing this training cycle was professionalism, as professionalism and proficiency require time and effort.

Professionalism and Respect. One thing NCOs taught me a long time ago while I was serving in the New York National Guard was respect. *Respect* for Soldiers and people regardless of their story you may not know or think you know. Take care of Soldiers, do the right thing, and be a good person. Whether it's a handshake or a casual conversation about life, I've learned to take the time to treat everyone with the same level of dignity and respect that Soldiers deserve. Needless to say, I felt immediately at home when coordinating with the Soldiers and leaders from the ARNG. The response to assist and provide was nothing short of astounding, and the tone was set for my battery to not only maximize the amount of training time and efficiency available on another unit's system but to be *professional* and grateful for their help. Active-duty units can also use their subject matter experts to enable COMPO 2 unit's success as well. We assisted them by providing Master Gunner and Digital Master Gunner assistance during the TXARNG's annual training and helped troubleshoot digital systems that we would soon be using. Our MG also helped provide training mentorship to the LAARNG MG during our TBL V certification. At the end of the day, we are all still just Soldiers. The level of respect I have for these two units is immense, and the notion of 'weekend warriors' is still a fallacy I combat to ensure we take our peer Soldiers seriously. My experience with the ARNG, as a guardsman and active-duty Soldier, continues to be cemented as a professional organization that utilizes minimal allotted time to accomplish a wide breadth of tasks and drills as Soldiers and citizen warriors. An organization that absolutely requires efficiency to achieve proficiency.

Conclusion: The Way Ahead for Interoperability. The Army continues to provide support for the ongoing conflict in Europe. More directives might come, but it is *Interoperability* that will enable us to account and accommodate for the gaps in our training swings as military organizations. Our established doctrine sets our training objectives, but it is the relentless pursuit of efficiency that will enable us to train and achieve results that will enable us to win decisively on the battlefield.



Our organization received our first three new M777A2s in late November 2022 and anticipated our next three in early December; however, our Soldiers are already training on their equipment, discovering the ins and outs of their gear, and retesting their crews in preparation for the next doctrinal Artillery Tables. We are also already in coordination with these respective Army National Guard units to accommodate training for their future MUTA schedules and are working with 10th DIVARTY to provide oversight on our upcoming tables. This path we've wound up on quite simply started from a few simple phone calls and the trust and ability of the units being called. When did you last coordinate with the local Army National Guard unit or Active-Duty unit near you for training assistance? From a former ARNG and current RA Soldier, it might be worth picking up the phone.

CPT Joshua Keenan currently serves as Commander of "Carnage Battery", 5th Battalion, 25th Field Artillery Regiment, 3rd Brigade Combat Team, 10th Mountain Division at Fort Polk, Louisiana. He is a graduate of ROTC at SUNY Brockport, New York, Air Assault, Joint Fires Observer, Joint Firepower Course, Master Resiliency Course, among others. He is a former New York Army National Guard 13A with 2nd Squadron, 101st Cavalry Regiment, and Call-to-Active-Duty transfer to 1st Battalion, 37th Field Artillery Regiment, 1st Stryker Brigade Combat Team, 2nd Infantry Division.

FIRE FOR EFFECT:

Notes on the Forward Observer

By SPC Charles Leitner

From under cover of a camouflaged observation post, U.S. Army SPC Chelsea Phillips, a joint fire support specialist assigned to the 6th Squadron, 9th Cavalry Regiment (6-9th CAV), 3rd Armored Brigade Combat Team, 1st Cavalry Division, a unit operationally assigned to the 1st Infantry Division in Europe, watches artillery rounds impact in the distance. Peering through her binoculars, Philips observes from about a kilometer away as the shells go screaming into the dirt, sending plumes of debris into the air.

Together, Phillips and U.S. Army 2nd Lt. Hannah Slomkowski, a fire support officer with the 6-9th CAV, orchestrate moves on a chessboard. Instead of moving pieces on a tabletop, play is conducted on a much larger scale with explosive metal ordnance. For this reason, their calculations must be exact. Incorrect coordinates mean missed targets, or worse, the wrong ones.

Soldiers in joint fire support roles, also known as forward observers, play an essential role in coordinating indirect and air support fire from a vantage.

"A big part of my job as a fire support officer is understanding how maneuvers work," said Slomkowksi. "How we plan out missions so that I can give them the best support with indirect fire."

A typical sequence of events might go as follows; Phillips locates a target using a AN/PED-1 Lightweight Laser Designator Rangefinder, a portable target locator that gathers coordinates like a viewfinder used by golfers only far more advanced.

"Dismounting from an [M2 Bradley Fighting Vehicle], setting up observation points, and calling up artillery, mortars, and attack aviation is my primary job," said Phillips.

Previous page: *U.S. Army 2LT Hannah Slomkowski, a troop fire support officer, calls for fire.* ***This page, top left:*** *U.S. Army CPT Joseph Browne, a squadron fire support officer, peers through binoculars.* ***Top right:*** *U.S. Army SPC Chelsea Phillips, left, and SSG Mathew Peat, right, both forward observers, calibrate an AN/PED-1 Lightweight Laser Designator Rangefinder.* ***Bottom left:*** *Artillery shells directed by a U.S. Army fire support team land down range.* ***Bottom right:*** *A Finnish soldier stands by with U.S. forward observers.*

From there, Phillips will check her coordinates and relay them back to Slomkowski, who is connected by radio to a nearby artillery battery. At this point, Slomkowski takes over, re-confirming the coordinates with the battery before calling for fire. There are a few pops as the shells are fired, a whistle as they fly overhead, then a splash of dirt as they burst upon the earth.

Phillips checks to ensure the rounds hit their intended targets, communicates this information through the chain, and the team repeats the process as needed.

"I absolutely love this job; you get a lot of leeway with how you want to paint the battlefield," said Phillips. "If you're somebody that goes into the military and has this expectation of being in the firefight, operating different weapons systems and having some sort of power behind your job, then being a [forward observer] is the way to go."

Forward observers with the 6-9th CAV corresponded with Finnish artillery batteries and mortar crews during exercise Hammer 22, a two-week training operation conducted in Niinisalo, Finland, during the month of November. Their effort developed communication between the two forces allowing Finnish soldiers to familiarize themselves with the protocol used by the United States and its NATO Allies and partners.

Above left: *U.S. Army SPC Noah Hughes, a fire support specialist, searches for targets using an AN/PED-1 Lightweight Laser Designator Rangefinder, a portable target locator.* ***Above right:*** *U.S. Army SPC Chelsea Phillips, a fire support specialist, locates targets.*

"It was a really great opportunity because we got to call up Finnish artillery and mortars," said Phillips. "They've learned how we transcribe our fire missions, so it was very cool to be able to teach them on the observation post the ways that we operate."

U.S. Soldiers participated in the exercise alongside soldiers of Finland's Armored Brigade, Pori Brigade, Karelia Brigade, Uti Jaeger Regiment, and its Army Headquarters and Logistics Department of the Defense Forces.

"These past two weeks, I have learned more about my job than in the past eight months," said Slomkowksi. "Without working with the Finnish, I would have never had this opportunity to get these reps; this is extremely crucial for us to be better at what we do."

All photos of 6th Squadron, 9th Cavalry Regiment, 3rd Armored Brigade Combat Team, 1st Cavalry Division (3-1 ABCT), operationally assigned to the 1st Infantry Division (1 ID), taken during ***Hammer 22****, a two-week training operation alongside Finland's Army Headquarters, Armored Brigade, Pori Brigade, Karelia Brigade, Uti Jaeger Regiment and Logistics Department of the Defense Forces, in Niinisalo, Finland, Nov. 5, 2022. The 3-1 ABCT is among other units under the 1 ID working alongside allies and regional security partners to provide combat-credible forces to V Corps, America's forward-deployed corps in Europe. (U.S. Army photos by SPC Charles Leitner)*

Above left: *U.S. Army SSG Mathew Peat, a troop fire support sergeant, confirms coordinates.* ***Above right:*** *U.S. Army 1SG William Boyle, a squadron fire support sergeant, applies face camouflage.*

Section chief SGT Johnathan Hill and gunner SPC Marvin Taylor, both with Alpha Battery, 3rd Battalion, 13th Field Artillery, perform a few last minute checks on their M270A1 MLRS (Multiple Launch Rocket System) during Operation Daring Warrior Sep. 17, 2022. *(Photo by Chris Wilson, Fort Sill Public Affairs)*


14 JUL 22
PFC CHARLES N DEGLOPPER

The Joint Fire Support Team

By CW3 Jacob Land,
CW2 Andrew Goebel,
CPT David Brister,
MAJ Benjamin Risher,
LTC Joe Nirenberg

The Devil Brigade faces a heavy fight on a densely forested battlefield in the mountains of Germany. The air is frigid, and there is no sign of relief from the weather as it bears down with sleet and snow. The brigade finds themselves blind to the enemy's presence as unmanned arial vehicles, UAV, are grounded due to the soup in the air. The cavalry squadron screens to the brigade's flank to prevent the encirclement of the unit. Unable to see in the brigade deep area due to the inclement weather limiting visibility and grounding aircraft, the enemy encroaches, building combat power to commence their assault. The enemy begins their attack with the full might of a BTG into the frontline, catching the Devils off guard by breaching the line with two coys of T-90s supported by a battalion of 2S19s bombarding our defending battle positions, causing mass casualties forcing the brigade to withdraw.

The Dilemma

The dilemma of maintaining observation of the brigade deep area is often times degraded due to inclement weather and anti-access / area-denial capabilities of our adversaries aimed at limiting our forces' ability to effectively deploy aerial assets in support of target acquisition. The lack of aerial assets increases the importance of Army tactical formations to have ground-based observers capable of observing high-payoff targets in depth.

Current Brigade Target Acquisition Assets

Brigade Combat Teams have become reliant on echelon above brigade assets such as satellites, UAVs like Grey Eagle, and other higher level detection assets as primary means for detection and assessment within their targeting process. This reliance is due to a lack of organic assets at the BCT level. The typical organic assets used to provide target acquisition and observation

include RQ-7B, Shadow unmanned aerial vehicle, AN/TPQ-53, weapon locating radar, Prophet, the cavalry squadron, and combined electronic warfare intelligence teams. First, the RQ-7B, Prophet, and CEWI are assets shared between information collection and targeting purposes, which causes issues with having the right asset at the right time for the right target. Second, the cavalry squadron is typically performing either reconnaissance or security operations, which at times inhibits the depth needed to observe target areas of interest or targets for the brigade. Last, the AN/TPQ-53 radar system provides acquisitions of enemy fires but is more of a reactionary target acquisition asset rather than a proactive observation platform. The BCT having an organic deep-ground target acquisition asset will increase the unit's ability to layer assets in depth to optimize BCT level targeting for detection and assessment of brigade-level high-payoff targets.

Insufficient Acquisition Assets at Brigade

Some would argue the RQ-7B, Prophet, and cavalry squadron within BCTs are suitable assets to support BCT targeting in the brigade-deep area. First, RQ-7B is limited to line of sight, LOS, communications with ground control station, GCS, humidity, icing, and cloud ceilings. In the European theater, the RQ-7B is not an optimal or reliant asset for most of the year due to dense overcast in the cooler months. The Prophet system has limited range and can be deployed dismounted, but it requires movement of heavy equipment and is not optimal for a deep reconnaissance role. Another consideration for Prophet is the requirement of processing, exploitation, and dissemination for signal intelligence that will extend validation of targets. The cavalry squadron is optimal for target acquisition of brigade deep targets but is typically conducting operations in the vicinity of the brigade close area. The squadron is also manpower dependent based on their task for reconnaissance or security operations, limiting their ability to position elements deep. In large-scale combat operations, it is likely BCTs will have less access to EAB assets due to the number of land component forces bidding for the same limited resources. BCTs need to learn and adapt to fight with minimal external support but may still require increasing the organic capabilities within BCTs.

Acquisition Assets needed at Brigade

The BCT having a dedicated organic deep-ground target acquisition asset will increase the unit's ability to layer assets in depth to optimize BCT level targeting for detection and assessment of high-payoff targets. Brigades historically had a dedicated Scout Platoon consisting of Scouts and Forward Observers to facilitate deep area target acquisition directly with the BCT HQ before modular formations were organized. This formation evolved into Combat Optical Lasing Teams consisting of Forward Observers in specialized vehicles with target acquisition lasing equipment and long-range communication equipment. These dedicated BCT assets enabled BCT level targeting with a direct line from sensor to BCT HQ to shooter to facilitate timely and accurate fires on brigade HPTs, provide essential information to answer the Commander's priority intelligence requirements, PIRs, and enable the cavalry squadron to focus on screen or guard operations tasks if necessary.

Joint Fire Support Team Concept

The 1st Armor Brigade Combat Team, 1st Infantry Division tested a concept to fill this capability gap of a deep-ground target acquisition asset with the Joint Fire Support Team during exercise Combined Resolve XVI, CBR XVI, at the Joint Multinational Readiness Center in Hohenfels, Germany December 2021. The JFST concept replaces the legacy Combat Observation and Lasing Team with a similar approach of a platoon with four small four-member teams of fire supporters that work in direct support to the brigade fire support element. During this particular rotation, the brigade did assume risk by reallocating forward observers from the maneuver units to form these JFSTs. A JFST consisted of a 13F20, Fire Support Sergeant, two 13F10, Fire Support Specialists, and one 1Z3X1, US Air Force Joint Terminal Attack Controller, JTAC. The equipment and personnel of the JFSTs for 1/1ID came from the organic fire support teams within the brigades' subordinate battalions. The sole purpose of these JFSTs is to be a dedicated BCT asset to provide early warning and observation for brigade-level targets beyond the forward line of troops, FLOT.

What Worked

The utilization of JFSTs at CBR XVI proved

having a dedicated brigade-level target acquisition asset enables the unit to fight in the brigade deep area despite conditions in operations. JFSTs increased the ground-based target acquisition capability beyond the FLOT, streamlined the sensor-to-shooter process, lessened the reliance on EAB and organic UAV assets for targeting, and enabled flexibility for the BCT to utilize the cavalry squadron to focus on screening or guard operations.

A critical task for the JFST is to avoid detection from enemy reconnaissance efforts to maintain observation for the brigade. To do so, these small teams conducted these observation efforts through mounted and dismounted means far beyond the FLOT concealing their observation posts. Teams were equipped with HMMWVs (or JLTVs) for transportation, lightweight laser designator rangefinders, high frequency and satellite communication equipment, and supplies for self-sustainment for extended periods. The proper equipping of the JFSTs enabled them to observe named areas of interest and target areas of interest for extended periods and provide timely reports and accurate targeting data for engagement while maintaining a small undetected footprint as much as possible.

The JFSTs enhanced the sensor-to-shooter link by directly communicating with the brigade intelligence support element, BISE, and the field artillery intelligence officer, FAIO, within brigade main command post, MCP. JFST teams provided this ability by reducing the middlemen in the sensor-to-shooter chain by reporting directly to the decision-makers for target development, attack guidance, and fire mission processing. The JFSTs were also directly integrated into the JTAC support element of the 10th ASOS. The teams' positions in the brigade deep area facilitated the coordination to utilize air assets efficiently and effectively to engage HPTs. Trained fire supporters in Joint Forward Observation, JFO and JTACs integrated into the JFSTs maximized the ability to use Joint Air Attack Teams to engage and destroy enemy formations. The situational awareness of these specially trained soldiers and airmen also provided the ability to redirect or refine the collection area of ISR assets supporting the brigade by providing reports of possible enemy presence or answering PIRs directly to the BISE ahead of time to permit reallocating those assets to another sector. The Joint Fire Support Teams consisting of these specialized soldiers and airmen would directly enhance multiple efforts of intelligence collection and coordinate complex attacks on behalf of the brigade.

The JFST Teams provided much-needed flexibility in operations for the brigade during CBR XVI. As the situation developed with the enemy, the brigade found a need to have the cavalry squadron conduct screening operations. This evolved into a recon-counter recon fight, limiting their ability to observe the deep area. The brigade sent in the JFST teams to establish observation posts to maintain acquisition capability in the deep area despite inclement weather conditions. As the battle developed, the cavalry squadron was able to focus on screening efforts, and the brigade still received needed information to answer PIRs and develop HPTs for engagement.

What Didn't Work

The Joint Fire Support Teams presented unique challenges during CBR XVI with special support relationships, communication issues, and proper situational awareness. These issues stemmed mainly from the unfamiliarity of the purpose of the JFSTs, their role in the brigade, and ensuring feedback from the BDE MCP to the teams. The need for the JFST was identified during CBR Academics, so the teams were pulled out of hiding without any special training or considerations.

JFSTs being utilized by the brigade headquarters for observation of the BCT deep area presented a unique support relationship with the cavalry squadron. JFSTs maintained the brigade's ability to provide observation to the brigade deep area while the cavalry squadron conducted other operations, though the JFSTs still required sustainment support by providing rations, fuel, ammunition, and other supplies as necessary, and at times communication relay support to pass along information when communication lines were not operating optimally. In future operations, solidifying the support relationship between the teams and the cavalry squadron will be paramount in order to sustain the JFSTs operations to feed the BDE MCP and maintain flexibility for the squadron.

The JFSTs operated in the BDE deep area, making long-range communications essential to provide reports and engage targets.

Communication issues arose due to intense inclement weather conditions, possible jamming by enemy assets, or inability to secure satellite links. These issues created gaps in the capability of the teams to report pertinent information or call for support in critical times of battle. JFSTs will need to be masters of HF, SATCOM, and short-range radio equipment to exercise full PACE plan in order to mitigate these issues and maintain communication with BDE MCP or the cavalry squadron.

Situational Awareness of the area of operations for the JFSTs is essential to the teams to fulfill their role for the brigade in acquiring targets and reporting PIRs. The JFSTs acquired targets and provided reports, though information from the BDE MCP was not being reciprocated back to the JFSTs as HPT and PIR guidance changed as the battle commenced. This led to an eventual lack of situational awareness by the JFSTs, which led to conflicts with targeting efforts and intelligence collection. The brigade MCP must push updated guidance to these teams as the situation develops to ensure targeting and intelligence efforts accurately feed operations.

Recommendations

Joint Fire Support Teams can provide a much-needed capability to the BCT to acquire HPTs, answer PIRs, and provide flexibility in reconnaissance efforts. The Soldiers and Airmen will need specialized equipment and training in order to facilitate these teams providing this capability. JFSTs will need a full complement of communications equipment from FM, HF, and SATCOM to ensure a connection with the MCP. These teams will also need vehicles capable of transporting the team, though still minimizing their signature to remain undetected by enemy forces. Teams will also need to carry enough supplies to sustain the team for prolonged periods as it is a risk of being separated from the main force as the battle develops. Soldiers in JFSTs need to be experts in observation and reconnaissance by attending JFO School and Army Reconnaissance Course (ARC). The equipment and specialized training will enable these teams to fulfill their role as the BCT deep area acquisition asset. BCT Staffs and Cavalry Squadrons will need to also train JFST operations to facilitate proper utilization and support for these teams. Incorporating JFST as assets in future command post exercises will enable staffs to practice utilizing these teams and understand the support relationships needed to maintain their capability.

The Joint Fire Support Teams could serve as a reliable asset that units across the Army could implement to provide brigades the ability to directly control fires in their deep area. 1st Brigade, 1st Infantry Division's experience in utilizing this concept during the rotation at Combined Resolve XVI directly enhanced the brigade's ability to conduct deep observation despite harsh conditions in inclement weather. The efforts of these teams in identifying HPTs and answering PIRs in a timely and accurate manner directly enabled the brigade to engage targets using air assets and indirect fire assets before contact on the ground with maneuver forces. The Army generating dedicated Joint Fire Support Teams for brigades would increase the capability of these formations to direct fires effectively and efficiently between the brigade close area and the division deep area.

The Battle now with Joint Fire Support Teams

The Devil Brigade faces an enemy force on the densely forested battlefield in the mountains of Germany. The Brigade's Joint Fire Support Teams are positioned to observe critical TAIs on avenues of approach and identify a company of enemy armor approaching, preparing for their assault. The JFSTs report to the BISE and FAIO the enemy size, activity, location, unit, time and equipment. The FAIO generates the target and notifies the JFST the target's expected arrival time to the trigger is ten minutes. Simultaneously, the brigade FSE generates the fire mission and sends it to the field artillery battalion, fire direction center, FDC. The FDC notifies the batteries to lay guns on the planned area targets at my command. The enemy armor company approaches the trigger and calls for fire for effect to the brigade FSE, the FDC, and the batteries to commence firing. Shot over, shot out, splash over and splash out reports are given as the enemy armor enters the target area just as they clear the tree line into the brigade engagement area. The JFST reports the desired effect achieved by destroying nine T-90s, forcing the enemy to abandon its assault and withdraw. The JFST's ability to maintain observation in the cold winter snow now enables the brigade to prepare for their own assault and pursue the enemy over the ridge.

D3A in Recruiting Operations

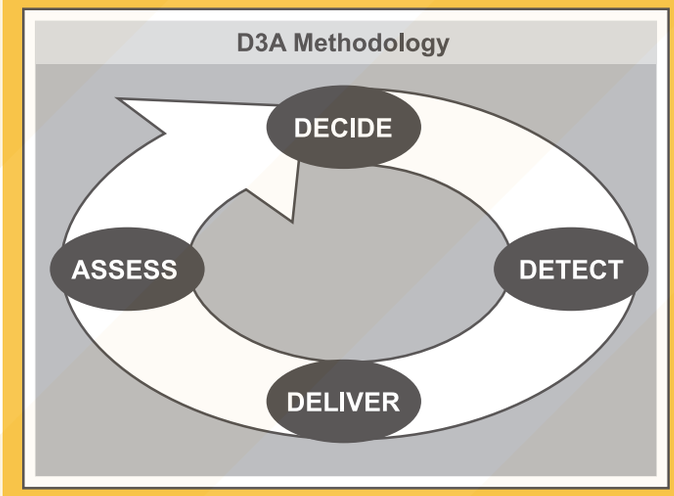
MAJ Jacob Loftice

Recent support to recruiting operations and prior experience as a recruiting company commander have emphasized the need to improve cooperation between United States Army Recruiting Command and outside units. With increasing challenges to recruiting and retaining the manpower necessary to support the Army's mission, USAREC will continue to need resources from across the Army to engage the public and secure the Army's future Soldiers. In supporting recent recruiting efforts, much of the friction I have observed stems from a sense that RO differs substantially from other Army operations. In reality, RO is targeting operations focused on specific events and geographic areas. USAREC has adopted the "decide, deliver, detect, assess" targeting methodology to help drive RO. What follows is a presentation of a hypothetical company-level recruiting event supported by outside enablers. It demonstrates how D3A might work as a common framework to plan and execute USAREC events.

To aid the discussion, a quick overview of how USAREC derives its annual mission helps. The Army determines the need for the total force for a given fiscal year. Planners distill this number into various categories of enlistment and refine missions for USAREC brigades. Brigades are aligned geographically, and each USAREC brigade is responsible for a defined area. Information such as total population, historical propensity for enlistment, and age demographics are included in the calculations that determine a particular brigade's mission. Leaders break down this mission for the battalion, company and recruiting center levels. The assignment of the annual mission defines the end state at echelon for the fiscal year.

Beyond breaking down the annual mission at echelon, the mission has monthly benchmarks an organization must meet to stay on the glidepath for the year. This mission breakdown acts similarly to a deploying unit's training progression. It defines requirements a unit must meet to accomplish its mission and establishes standards at set times. In terms of targeting, a clear statement of the annual mission and monthly benchmarks define the effects a USAREC unit must achieve to accomplish its mission. To achieve the mission, USAREC planners and leaders identify geographic areas to engage, which they define by ZIP code. ZIP codes with "successful past performance [that] are historically critical to mission success "are designated as "must win/keep." These areas get rolled into a commander's high payoff target list, HPTL, and help drive resource requests. With the groundwork laid, we can now introduce our scenario and walk through the functions of D3A in RO.

DECIDE– The "Decide" function produces the HPTL, measures of performance, MOP, and measures of effectiveness, MOE. Since USAREC's goal is enlistments, USAREC commanders frequently request outside support for specific events they believe aid success in each area.



Operations Process		Joint Targeting Cycle	D3A	MDMP	Targeting Task
Continuous Assessment	Plan	1. The End State and Commander's Objectives 2. Target Development and Prioritization 3. Capabilities Analysis 4. Commander's Decision and Force Assignment 5. Mission Planning and Force Execution 6. Assessment D3A – decide, detect, deliver and assess MDMP – military decision making process	Decide	Mission Analysis	• Perform target value analysis to develop fire support (including cyber electromagnetic and information related capabilities) high-value targets • Provide fire support, information related capabilities, and cyber electromagnetic activities input to the commander's targeting guidance and desired effects.
				Course of Action Development	• Designate potential high-payoff targets. • Deconflict and coordinate potential high-payoff targets. • Develop high-payoff target list. • Establish target selection standards. • Develop attack guidance matrix. • Develop fire support and cyber electromagnetic activities tasks. • Develop associated measures of performance and measures of effectiveness.
				Course of Action Analysis	• Refine the high-payoff target list. • Refine target selection standards. • Refine the attack guidance matrix. • Refine fire support tasks. • Refine associated measures of performance and measures of effectiveness. • Develop the target synchronization matrix. • Draft airspace control means requests.
				Orders Production	• Finalize the high-payoff target list. • Finalize target selection standards. • Finalize the attack guidance matrix. • Finalize the targeting synchronization matrix. • Finalize fire support tasks. • Finalize associated measures of performance and measures of effectiveness. • Submit information requirements to battalion or brigade intelligence staff officer - S-2.
	Prepare		Detect		• Execute Information Collection Plan. • Update information requirements as they are answered. • Update the high-payoff target list, attack guidance matrix, and targeting synchronization matrix. • Update fire support and cyber electromagnetic activities tasks. • Update associated measures of performance and measures of effectiveness.
	Execute		Deliver		• Execute fire support and electronic attacks in accordance with the attack guidance matrix and the targeting synchronization matrix.
	Assess		Assess		• Assess task accomplishment (as determined by measures of performance). • Assess effects (as determined by measures of effectiveness).

For our scenario, the commander considers the Joe Snuffy High School, JSHS, Homecoming Fair. JSHS has a historical propensity to produce 15 enlistments annually, the highest of any single school in the area, and it lies within a "must-win" zip code. The Army has historically gained only three of those enlistments. This demonstrates a propensity for enlistment but an area where the Army has underperformed. Major homecoming events are attended by the entire student population and staff. This affords USAREC access to seniors, decision-makers and doorkeepers on JSHS staff. Effective engagement of this event supports the accomplishment of the company's current mission and can shape future success in JSHS and the area. The commander determines this event "must be successfully engaged for the success of [his annual] mission" and places it on his HPTL.

The commander knows the high school has JROTC, a veterinary sciences program, and a robotics club. At the beginning of the school year, he reached out to the faculty sponsors of these clubs and asked what opportunities or resources he might request to benefit their clubs and present Army opportunities in those fields. Faculty advised that EOD robots and military working animals with subject matter experts would be welcome. If recruiters could arrange for these assets, faculty sponsors of the robotics club and veterinary sciences program would allow recruiters to discuss opportunities within their respective footprints at the JSHS Homecoming Fair.

After consulting higher headquarters and contacting nearby Army installations and units, the commander discovers that a military working dog demonstration and an EOD detachment could provide support for the homecoming fair. Getting these assets to the fair at the correct time, with the correct equipment, and prepared to engage with high school students and faculty are now the initial MOP.

Based on the Army's manpower needs, the commander determines the Army should achieve seven of the 15 contracts anticipated for this fiscal year. This number represents the correct proportion of total military enlistments from JSHS based on the Army's size relative to the other branches. After reviewing current conversion data for the recruiting center working the event, the commander establishes 12 appointments with JSHS seniors as a necessary effect for the homecoming fair. Conversion data shows this center gains one enlistment for every three appointments it makes with a prospect. A prospect is "a person who agreed to meet with a recruiter or a person who has met with a recruiter but has not committed to the process." Processing entails any or all steps required to enlist, such as taking the Armed Services Vocational Battery, service physical, and background investigation. If USAREC achieves this effect, the center has positioned itself to achieve its annual goal for JSHS. The commander has now established the initial MOE for the event.

DETECT

The "Detect" function includes information collection and refining MOP and MOE.[1] For the JSHS Homecoming Fair, the information to collect leads. "A lead is a name, an address, telephone number, or e-mail address of a person with whom an Army Interview has yet to be scheduled."[2] The sensors to collect this information are recruiters and Soldiers supporting the event. To ensure proper collection of this information, recruiters provide hard copy lead cards and pens to the Soldiers from the military working dog team and the EOD detachment. Recruiters at each location have tablets that link to USAREC systems of record to capture leads digitally. The commander has also assigned recruiters to remain with each supporting element to facilitate questions about enlistment and collection of leads. The commander now has refined MOP and established the data collection plan for the event.

JSHS staff has refined the footprint for the homecoming fair and the time slots for USAREC's participation. With the location and time firmly established, the commander communicates these requirements to the supporting elements as a refined MOP. As planning and engagement

1 ATP 3-60

2 Dawson, Dr. David C., SFC Jeremy Barbaresi, and Rick Welling. 2015. "Pro Talk: Simply a Lead." *The Recruiter Journal*. United States Army Recruiting Command Public Affairs Office. August 12, 2015. http://www.therecruiterjournal.com/protalk-simply-a-lead.html

with JSHS have progressed, a recruiter learns the school has monthly education/career fairs. An organization requires a faculty sponsor to participate. The commander adds to the MOE by gaining a commitment from a faculty member to sponsor USAREC to attend at least one of the monthly career fairs in the spring semester. The commander has now refined and communicated MOE for the event.

DELIVER

The "Deliver" function is the execution of the plan. For our event, the supporting Soldiers both showed up at the correct time and place and provided the demonstrations and engagements at the homecoming fair. Recruiters supported both locations and facilitated the collection of leads, and each engaged the faculty regarding monthly career fairs.

ASSESS

The "Assess" function determines task accomplishment in terms of MOP and effects in terms of MOE and determines if a re-engagement is appropriate. Supporting elements and recruiters arriving when and where they were tasked and engaging attendees of the fair meets MOP. Recruiters at each site conduct a hot wash with supporting Soldiers to gain feedback on improving collaboration in the future. The supporting Soldiers advised that the communication related to the event helped them understand expectations for their actions at the event but did not convey specific effects intended by USAREC. Further, they ask for feedback regarding the return on investment for the time, effort, and logistical costs of their participation. Feedback from the operation, as in any other exercise or combat operation, educates supporting unit leadership and equips them to tailor and expand support to RO.

In terms of MOE, USAREC receives a commitment from the robotics club faculty advisor to sponsor the recruiting center at the February career fair. Due to the need to sift through collected leads, the center determined several days later it had only made nine appointments. However, from those nine, they identify four personnel who agree to process. While this fails to meet MOE for the fair, the event achieves its downstream effects by gaining four applicants for enlistment. In planning future events and requesting outside support, this feedback informs future communication with supporting elements, refines MOP and MOE, and helps determine if re-engaging this event in the future is worthwhile.

Supporting the future of the Army is our responsibility.

Supporting the future of the Army is our responsibility. D3A methodology is a beneficial tool to improve communication between USAREC and the rest of the Army using a common framework. Improving communication and promoting shared understanding between USAREC and supporting units produces actionable feedback to commanders. This allows USAREC to adjust RO and give supporting commanders the information they need to develop and share tactics, techniques and procedures and capture return on investment. As understanding between USAREC and the rest of the Army improves, units will understand where and how to integrate USAREC into existing events and how they might support USAREC events.

MAJ Jacob Loftice currently serves as the Operations Officer for the 428th Field Artillery Brigade on Fort Sill, Oklahoma, where the Cornerstone Brigade has recently supported multiple USAREC events in Southwest Oklahoma. He previously commanded the Baybrook Recruiting Company in the Houston Recruiting Battalion from 2015–2017.

An MLRS overview and how logistics fuels the deep fight

By 1LT James Marshall

We are all familiar with the Gulf War picture of multiple launch rocket system units sending massive volleys of fire downrange and crippling a well-equipped enemy. As impactful as that was on the battlefield, what we saw during that conflict was a sprint. As the Army transitions to large scale combat operations, the deep fight must be sustainable for the long haul. For this to happen, Artillery leaders in these formations must understand what it takes to maintain constant pressure in the deep fight and prioritize training to support that. Equally as important is our fire supporters at the Division and Corps level understanding these requirements so that expectations can be set with maneuver commanders and planning can be shaped accordingly. The devastating effects MLRS units deliver are contingent on doctrine-centric leadership in their formations and clearly defined planning and logistical requirements from fire supporters to maneuver commanders.

First, a short overview of an MLRS platform and battery is necessary to show the nuts and bolts of what assets are available to this delivery system. There are three main components to an M270A1: the cab, the carrier and the loader launcher module but 13M's call it "the LM." The LM is the rectangular portion of the launcher in which pods are stored. It is capable of self-loading and fires from the same position the pods are stored when

Previous page: top left: Soldiers of Alpha Battery 2-20th,of the 75th Field Artillery Brigade came together to take a group photo after the culminating live fire event. Top right: M270A1 MLRS launchers shooting a Time on Target mission IVO FSOK. Bottom right: 13M Soldiers conduct upload and download training, a regular occurrence of motor pool operations. This page: If it ain't raining or snowing, we ain't training. Soldiers prepare to conduct early morning PCS before training gets kicked off for the day. (Photos by 1LT James Marshall)

the LM is laid on. The cab serves as the troop carrier and has three seats, the driver who is a specialist, a gunner who is a sergeant, and the chief who is a staff sergeant, each with a specific job. The driver operates the carrier and is responsible for the preventative maintenance check and services, PMC, under the supervision of the chief. The gunner receives and executes fire missions using a touch screen panel, troubleshoots communication platforms and is responsible for the PMC of the LM and panel. The chief provides oversight of all launcher operations, interprets safety T's, and operates the M240b mounted in their hatch. During a fire mission, the driver takes the launcher from the hide sight to the firing point while the gunner receives the fire mission on the panel, lays the LM on target and fires. While this happens, the chief communicates with the Platoon Operations Center, where the fire direction center, is located, oversees their crew's execution, and delivers the final fire command.

A key takeaway from this crew breakdown is that it is highly responsive but poorly defended on its own. Counterfire threat aside, crews are susceptible to ambushes, and each battery requires a mechanized platoon to secure them during combat. Any peer or near-peer enemy will target our long-range platforms as high-payoff targets and should be defended as such.

The fire direction architecture that supports these launchers comes with three FDCs in support of two firing platoons in each MLRS Battery. This is to ensure there is always fire direction capability when moving position area for artillery or troubleshooting communication issues. One is in the battery operations center and provides oversight of all battery fire direction, led by the senior fire direction non-commissioned officer, operations officer and operations NCO. The other two are assigned to a platoon and are run by the platoon leader, PL, and a fire control sergeant. This highlights a key difference in MLRS operations, and the PL also serves as the fire direction officer for their launchers. A large amount of personnel and equipment invested in a battery's fire direction system provides several fail-safes and can be very reliable if trained and equipped correctly.

Rocket and missile fire direction is significantly more straightforward compared to cannons. There is no need to calculate muzzle velocity variations or propellant temperature, which significantly lowers the risk of technical skill atrophy for 13Js in a rocket unit. The challenge for FDC's in these formations comes from maintaining the systems used to shoot. There is no analog backup for rocket and missile fire direction, so if the systems go down, Soldiers have no recourse but to troubleshoot. To avoid this, commanders should cut out time in their weekly battle rhythm for digital sustainment training, allowing time to test and stress the systems at their disposal. This will quickly identify issues created by software updates, worn-out cables and knowledge gaps within the formation. Simply put, the more these systems talk to each other, the better they function.

The final tactical element of each battery is the support platoon. This is similar to an ammo platoon for a cannon battery; however, due to the high rate of fire, it is significantly more active. Like the Battery FDC, the battery logistical operations center is run by the platoon leader and platoon sergeant to provide control of the support platoon and the battle tracking for the commander. This consists of eight heavy expanded mobility tactical trucks/heavy expanded mobility ammunition trailers, HEMTT/HEMAT, combinations that can carry eight launcher pods at a time, four on the truck and four on the trailer. Each pod can carry either six rockets or one missile. There are many creative ways to employ the support platoon. Still the general principle is to have an element directly attached to the firing platoons and another bringing ammo from the rear to the batter ammunition holding area, AHA. This allows for singleness of purpose for the ammunition specialists and gives the platoon leader and platoon sergeant the ability to flex assets where needed.

Logistical support for MLRS and high mobility artillery rocket system, or employment is key to sustaining the platform's high rate of fire. An M270A1 is capable of shooting one round every four seconds, meaning both

pods can be completely emptied in 48 seconds with guided multiple launch rocket systems and eight seconds with army tactical missile systems, making the M270A1 capable of delivering devastating effects in the deep fight. A single launcher will take roughly 20-30 minutes to get back in the fight after spending all its onboard munitions. This timing is imperative to plan for when integrating long-range precision fires into any operation. The effects delivered can make it tempting to over-saturate the battlefield with targets and, as a result, outpace the sustainment requirements of a battery, in which case depleting all eight launchers at once will happen and simply put, the shooting will stop.

A support platoon must constantly run its attached HEMMTs from the battery AHA to the platoon position area of artillery, pull security on the established reload point, and coordinate reloads based on the current target list worksheet. The battery will run HEMMTs nonstop from the forward support companies to the battery AHA. The AHA is secured by its support Soldiers and typically an attachment of a mechanized scout or infantry platoon. Any disruption in this process will be felt on the gun line much faster than a cannon unit and should be a significant point of emphasis for commanders training glidepaths.

For long-range precision fires, organizations to deliver the effects needed in the deep fight, these logistical requirements must be considered at the division and corps levels. A staff that plans a target list worksheet that is not sustainable logistically will outpace reloads and end up with shaping fires dead in the water. Conversely, a well-trained LRPF formation paired with a knowledgeable division or corps staff can have an enormous effect on the offense. As the Army transitions to LSCO, this platform will rapidly become more relevant, and it is critical we accurately train, plan and test it for tomorrow's battlefield.

1LT James Marshall served in 2-20th FA, 75th FAB, where he was a firing platoon leader, fire direction officer, support platoon leader and maintenance officer. While in 2-20th FA, he experienced six live fires, two TBL XVs, TBL XVIII and an Operational Deployment to Korea to take the Ready Battery mission under 210th FAB. He is currently serving as Aide-de-Camp to the FA commandant.

The missiles from Multiple Launch Rocket Systems of 210th Field Artillery Brigade, 2nd Infantry Division/ROK Combined Division, and 5000th Battalion, 5th Field Artillery Brigade, 5th Corps, ROK Army, fly across the range into the designated target during demonstration of the combined live fire exercise Aug. 17 at Seungjin Range, near Pocheon, South Korea. (Photo by PFC Jaewoo Oh, 210th Field Artillery Brigade)

Targeting *and* Army Air Support Requests

By Nick Niewadomski

Army echelons identify joint air support requirements to leverage joint assets during the planning steps of the operations process and the deciding phase of the Army targeting process: D3A, decide, detect, deliver, assess. Joint airpower can create effects that achieve objectives in support of the ground commander's concept of operations. When tactical Army echelons identify targets that require effects exceeding their organic capabilities or when other requirements for joint airpower are identified during the planning process, Fire Support Elements at echelon create Air Support Requests for submission to the supporting joint force air component.

Army units utilize the Army Air Ground System to submit AIRSUPREQs. FSEs at each echelon send AIRSUPREQs to their next higher headquarters for approval. Every Army echelon that receives AIRSUPREQs is responsible for approving or denying the request, verifying prioritization of each request and re-prioritizing when necessary, merging the requests into a single Air Support List, and forwarding the ASL to their next higher headquarters. The senior Army headquarters or Joint Force Land Component Commander adjudicates AIRSUPREQs received and may generate additional AIRSUPREQs in sufficient time to be included in the Joint Force Commander's joint targeting cycle and the Joint Force Air Component Commander's joint air tasking cycle.

AIRSUPREQs that support the JFC's objectives and are submitted in sufficient time to meet the suspense set by the JFC's battle rhythm may result in scheduled and on-call air missions on the air tasking order. These air missions are dedicated to supporting the ground force that requested them.

PLANNED TARGETS AND AIR MISSIONS

Both scheduled and on-call targets are outputs of deliberate targeting. Scheduled air missions are planned to execute scheduled targets, while on-call air missions are planned for the execution of on-call targets. Both scheduled and on-call air missions are requested via the AIRSUPREQ process.

Scheduled targets are derived from the JFC-approved Joint Target List and Restricted Target List. When scheduled targets are approved for execution by the JFC, they will be **included on**

the Joint Integrated Prioritized Target List and sourced on the ATO for execution at a specific time. Joint airpower tasked to execute scheduled air missions in support of the ground force require detailed target data. Aircraft weapon load outs are tailored to achieve specific effects on the target. Scheduled air missions provide the greatest effects on targets but have the least flexibility for re-tasking and relatively short on-station times.

On-call targets can be prosecuted with on-call air missions. On-call air missions have greater flexibility in execution and will be **listed on the ATO for a specific block of time as either an airborne alert or ground alert**. The block of time is determined based on the anticipated target type, disposition, composition, target location or target area, and friendly/enemy actions in or near the target area. Aircraft tasked to execute on-call air missions require planned airspace within which they can safely operate and communicate with the supported ground force. On-call air missions provide a high level of flexibility in execution, longer planned on-station times, and weapon loadouts designed to be effective against multiple target types.

Unscheduled and Unanticipated targets often referred to as **Targets of Opportunity, are prosecuted via Dynamic Targeting.** Scheduled air missions listed on the ATO can support dynamic targeting efforts only when those sorties have been made available for re-tasking. Every available on-call air mission should be utilized prior to re-tasking scheduled air missions. When re-tasking scheduled air missions, the originally scheduled target will not get executed as intended. A scheduled target has been planned, approved by the JFC, and given priority over other targets. Re-tasking scheduled air missions may negatively affect the success of future operations.

See Figure 1. Planned Targets and Air Missions.

TARGET NOMINATIONS VIA AIRSUPREQ

Tactical Army echelons can nominate targets for execution via preplanned AIRSUPREQs. AIRSUPREQs should be populated with target data from the JFC-approved JTL and/or RTL. Army tactical echelons submit AIRSUPREQs to their next higher headquarters via the United States Message Text Format D670 message. The preferred method of transmitting the USMTF

	Deliberate Targeting	
	Planned Targets Targets known to exist in the operational environment with engagement actions planned against them.	
JTL / RTL	**Scheduled Targets** Targets prosecuted at a specific time and location.	**On-Call Targets** Targets with actions planned, but not for a specific delivery time or coordinate, which are most likely located in time to execute planned actions.
PLANNING	✓	✓
EXECUTION	Deliberate	Deliberate
	Deliberate	Dynamic
	Deliberate Targeting	
	Scheduled Air Missions	**On-Call Air Missions**
	AI, CAS, and EW.	Airborne Alert or Ground Alert AI, CAS, and EW.
	AIRSUPREQ (USMTF D670) A means of digitally submitting requests for joint air support when tactical Army echelons identify targets that require effects exceeding their organic capabilities or when other requirements for joint airpower are identified during the planning process. Scheduled air missions are tasked to prosecute JFC approved JIPTL targets. On-call air missions are tasked to prosecute non-JIPTL targets within the Army AO.	

Figure 1. *Planned Targets and Air Missions*

D670 is digital, utilizing the Army's Fire Support Digital C2 System of Record. The senior Army HQs approve or deny AIRSUPREQs and submit the final ASL to the battlefield coordination detachment for processing. The BCD is the Army liaison co-located at the supporting joint force air component HQ, normally the Joint Air Operations Center. BCD responsibilities include submitting Army AIRSUPREQs during the planning stages of the Joint Air Tasking Cycle. Target data in Army AIRSUPREQs must correlate to records in the modernized integrated database. The MIDB contains targeting data used to develop the JTL, RTL, and component target nomination lists. Army target nominations submitted via AIRSUPREQ are added to the Army TNL. Component TNLs are merged to create the draft JIPTL. (See JP 3-09 for more information on Joint Fire Support Digital C2 Systems and ATP 3-52.2 for information on the Theater Air-Ground system.)

NOTE: The senior Army HQs must comply with published joint targeting guidance and directives to process the Army TNL and incorporate it into the JIPTL.

The JFLCC and subordinate Army commanders clearly identify target nomination priorities in accordance with the JFC's targeting guidance to compete at the Joint Targeting Working Group and Joint Targeting Coordination Board with other joint force target nominations. The rationale and desired effects sections of each AIRSUPREQ should clearly identify how the AIRSUPREQ

conforms to the JFC's targeting guidance by referencing the specific operational and tactical objectives or tactical tasks it supports. Each AIRSUPREQ resourced by joint force assets or joint air missions must meet validation criteria. Identifying the appropriate objectives or tasks enables the JFC's designated targeting oversight authority to validate and prioritize each target for inclusion in the JFC-approved JIPTL. (See JP 3-60 for more information on Joint Targeting.)

Army Corps or Divisions operating as tactical HQs are the most appropriate echelons at which to update the rationale and desired effects sections of the AIRSUPREQs. Each Army echelon is responsible for approving or denying AIRSUPREQs prior to submission to the next HHQ; as each AIRSUPREQ is approved, the supported objectives or tactical tasks should be clearly identified. The JFC's designated targeting oversight authority validates and prioritizes component TNLs according to the weight of effort assigned by the JFC to those specific objectives and tasks as outlined in the JFC's plans and orders.

AIRSUPREQ FOR SCHEDULED TARGETS (TARGET NOMINATIONS)

The normal suspense for submitting target nominations via AIRSUPREQ is prior to Stage 2, Target Development, of the Joint Air Tasking Cycle. ASL submission prior to Stage 2 is required to provide the Targeting Effects Team at the JAOC time to verify collateral damage estimates and generate weapon aimpoints. Aimpoints are described as the desired point of impact, joint desired point of impact, desired mean point of impact and non-lethal reference points.

- AIRSUPREQ should be populated with target data from the JFC-approved JTL and/or RTL.
- Army target nominations submitted prior to Stage 2, Target Development) may be resourced by the following scheduled air missions:
- Close Air Support
- Air Interdiction

See Figure 1. Planned Targets and Air Missions.

AIRSUPREQ FOR ON-CALL TARGETS (ON-CALL AIR MISSIONS)

The normal suspense for submitting AIRSUPREQs for on-call air missions is prior to Stage 3, Weaponeering and Allocation, of the Joint Air Tasking Cycle. ASL submission prior to Stage 3 is required to provide the Master Air Attack Plan team at the JAOC with the time necessary to conduct weaponeering. Weaponeering is the process of determining the quantity of a specific type of munition or other capability required to create a desired effect on a given target or target area. The MAAP team also works with joint airspace planners to ensure airspace is planned for each air mission. When requesting on-call air missions, Army units must clearly identify which tactical objective and tactical task the air mission will support. It is highly recommended to add any additional target information to the remarks section of the USMTF D670 (e.g., target type, size, composition, disposition, and target area). AIRSUPREQs for on-call air missions must be within the tolerance of the JFC's Air Apportionment decision and the JFACC's Air Allocation guidance for the planned ATO period.

- AIRSUPREQs for on-call air missions are not processed during the Joint Targeting Cycle and are not required to contain any data from the MIDB, JTL, or RTL. These AIRSUPREQs are submitted to the joint force as part of the Army ASL. The submitted AIRSUPREQ data is stored in the Air Operations Database at the JAOC and accessed by the MAAP team. Joint C2 systems are used to task aircraft and other capabilities required to support AIRSUPREQ (See the JP 3-30 for stages of the Joint Air Tasking Cycle).
- AIRSUPREQs for on-call air missions submitted prior to Stage 3 Weaponeering and Allocation may be resourced by the following on-call air missions:
- XCAS/XINT (airborne alert CAS/AI)
- GCAS/GINT (ground alert CAS/AI)
- EW (Electronic Warfare)

See Figure 1. Planned Targets and Air Missions.

AIRSUPREQ NUMBERING

Each AIRSUPREQ requires a unique AIRSUPREQ number for tracking, processing, and pairing with the tasked air mission(s). The Army ASL can't be processed digitally at the JAOC unless each AIRSUPREQ in the list is correctly numbered;

AIRSUPREQ numbers are a required field in the USMTF D670 message. AIRSUPREQ numbers are also a recognized field by which digital C2 systems can sort the ATO, making it very easy for requesting units to find information about which aircraft have been tasked to support them. Army echelons that don't use AIRSUPREQs to submit their target nominations should still assign AIRSUPREQ numbers to each target nomination. This will aid in identifying on the ATO which air missions are servicing Army targets.

The senior Army HQ is responsible for establishing AIRSUPREQ numbers for use by Army units. Units are assigned a series of AIRSUPREQ numbers via the operations order, Annex D-Fires, Appendix 5-Air Support. For greater visibility, AIRSUPREQ numbers may also be published in the Special Instructions. The AIRSUPREQ number is comprised of 2 letters that identify the ATO day, three letters that identify the requesting unit, and a three-digit sequence number. See Figure 2. Air Support Request Number.

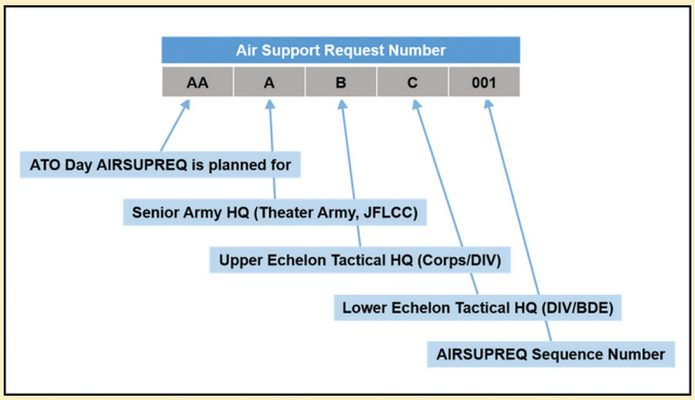


Figure 3. Air Support Request Numbering.

AIRSUPREQs are planned for specific ATO days. The AIRSUPREQ number uses its first two characters to identify which ATO day joint airpower and effects are requested. The next three letters identify the specific Army unit that is submitting the AIRSUPREQ. The first letter identifies the Senior Army HQ, e.g., Theater Army, JFLCC. The second letter identifies the Upper Echelon Tactical HQ, Corps or Division. The third letter identifies the Lower Echelon Tactical HQ, Division or Brigade. See Figure 3. Air Support Request Numbering.

The two-letter ATO day designation is created by assigning the number of the month and day to their corresponding letters in the alphabet. Since

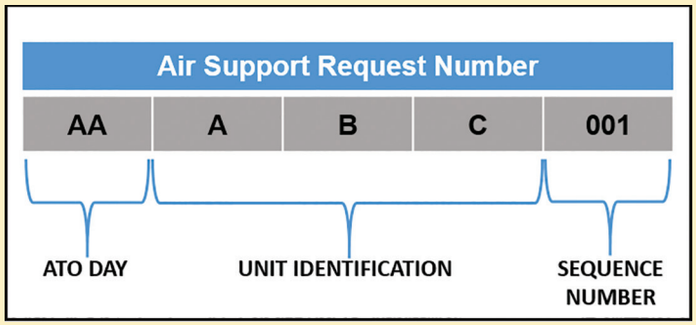


Figure 2. Air Support Request Number.

January is the first month of the year and "A" is the first letter of the alphabet, January would be designated as "A". The first day of January would also use the letter "A", resulting in Jan. 1 being annotated as ATO day "AA" and Jan. 26 being annotated at ATO day AZ. When the date of the month exceeds the number 26, the second letter starts over at "A". See figure 4. Example ATO Day Calendar.

Figure 4. Example ATO Day Calendar

ATO Days for March 2023						
SUN	MON	TUE	WED	THU	FRI	SAT
26 BZ	27 BA	28 BB	1 CA	2 CB	3 CC	4 CD
5 CE	6 CF	7 CG	8 CH	9 CI	10 CJ	11 CK
12 CL	13 CM	14 CN	15 CO	16 CP	17 CQ	18 CR
19 CS	20 CT	21 CU	22 CV	23 CW	24 CX	25 CY
26 CZ	27 CA	28 CB	29 CC	30 CD	31 CE	1 DA

Figure 4. Example ATO Day Calendar.

The three-letter unit identification portion of the AIRSUPREQ number is used to identify the requesting unit. The first letter signifies the senior Army HQ. The senior Army HQ is the highest Army echelon of command, e.g., Theater Army or JFLCC. Each unit is assigned a letter that represents its HQ. Figure 5. is a notional example of the first letter of the unit identification portion of an AIRSUPREQ number.

Figure 5. Assignment of first letter (example)

Senior Army HQs	Letter
USARCENT	C
USAREUR-AF	E
USASOC	F
ARNORTH	N
USARPAC	P
ARSOUTH	S

USARCENT - U.S. Army Central
USAREUR-AF - U.S. Army Europe and Africa
USSOCOM - U.S. Army Special Operations Command
ARNORTH - U.S. Army North
USARPAC - U.S. Army Pacific
ARSOUTH - U.S. Army South

Figure 5. Assignment of first letter (example).

The second letter in the unit identification of the AIRSUPREQ number indicates the upper-echelon tactical HQ. If an Army corps is operating in a tactical role, this letter should identify the Army corps where the request originated. If the corps is not operating as a tactical HQ, then an Army division should be the upper-echelon tactical HQ. Figure 6 is a notional example of a letter assignment for upper-echelon tactical HQ.

Figure 6. Assignment of second letter (example)

Upper Echelon Tactical HQs	Letter
I Corps	A
III Corps	B
V Corps	C
XVIII Airborne Corps	D

Figure 6. Assignment of second letter (example).

The third letter in the unit identification of the AIRSUPREQ number indicates the lower echelon tactical HQ. When operating beneath a tactical corps HQ, the third letter should identify the tactical division HQ where the request originated. In the absence of a tactical corps HQ, the third letter should identify the brigade within the division that submitted the AIRSUPREQ. When Army divisions operating as upper-echelon tactical HQ submit AIRSUPREQs in support of a maneuver brigade's operations, the third letter may be used to identify the brigade being supported. Figure 7. is a notional example of a letter assignment for lower-echelon tactical HQ.

Figure 7. Assignment of third letter (example)

Lower Echelon Tactical HQs	Letter
3rd Infantry Division	A
10th Mountain Division	B
82nd Airborne Division	C
101st Airborne Division	D
7th Infantry Division	E
25th Infantry Division	F
11th Airborne Division	G
1st Infantry Division	H
1st Cavalry Division	I
1st Armored Division	J
4th Infantry Division	K
3rd Armored Cavalry Regiment	L

Figure 7. Assignment of third letter (example).

The last three characters in the AIRSUPREQ number are used as sequence numbers, identifying the number of the request submitted by the unit. The numbers do not represent the type of air mission, CAS, AI, etc. Using the data in Figures 4 through 7, an example AIRSUPREQ number would look like this: **CWCDC001.** "CW" is the ATO day for March 23, 2023. "CDC" identifies ARCENT, XVIII ABN Corps, 82ABN Div. "001" identifies the request as the first AIRSUPREQ submitted by 82ABN Div.

AIRSUPREQS SUPPORT MULTIDOMAIN OPERATIONS

***Multidomain operations* are the combined arms employment of joint and Army capabilities to create and exploit relative advantages that achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders.** Employing Army and joint capabilities makes use of all available combat power from each domain to accomplish missions at the least cost, FM 3-0 OCT 2022.

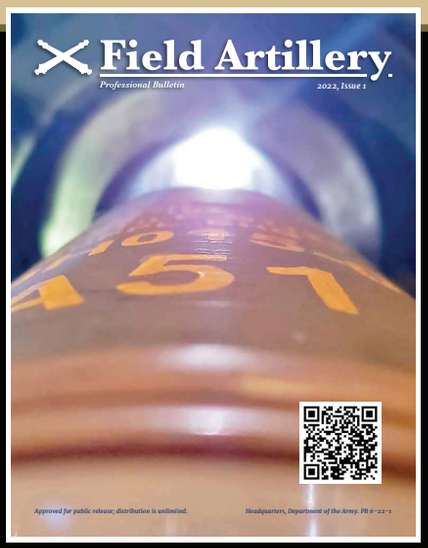
In addition to advising commanders on the most effective way to employ our organic artillery assets, Fires personnel must also understand and utilize the AIRSUPREQ process to request joint airpower in support of ground forces. Using joint airpower to assist in achieving the commander's objectives provides many benefits to the ground force. Here are a few examples: Ordinance delivered via fixed-wing aircraft are predominantly precision-guided and have a low probability of error resulting in less chance of fratricide and collateral damage; Pilots can provide battle damage assessments and additional intelligence via inflight reports during or shortly after target engagements, enabling commanders to make better-informed decisions; Aircraft can engage targets of opportunity when discovered during a mission based on commander's guidance.

The value of joint airpower and its ability to achieve effects in support of ground forces cannot be understated. Joint airpower is an extension of fires and should be leveraged to the greatest extent possible. Understanding air-ground operations, including the processes required to employ joint airpower, will help ensure the success of future operations.

Nick Niewadomski has been a member of the Fires community since 2004. In the Army, he was a 13F Forward Observer and served two combat tours in Iraq, OIF 05-06 and OIF 08-09. He was stationed at Ft. Hood, Texas, and Ft. Carson, Colorado. After separating from the Army in 2010, Niewadomski was hired as an Advanced Field Artillery Tactical Data System, Field Software Engineer, based out of Fort Bragg, North Carolona. He was the FSC2 system support regional lead for multiple OCONUS assignments, OEF 10-11, 12-13, and 13-14. He currently serves as a Joint Fires Instructor, GS-172-12, for the Army Joint Support Team in Hurlburt Field, Florida.

Read.

The FIELD ARTILLERY PROFESSIONAL BULLETIN is the premier publication of the Field Artillery! Stay informed and up-to-date on your profession.



Write.

Consider adding PUBLISHED AUTHOR to your resume! For submission deadlines and writing guidelines, contact FA PAO Judith Oman at: judith.n.oman.civ@army.mil

Photograph.

Take a great picture while out in the field? LIKE TO SEE IT PUBLISHED in magazine-quality color? Submit your charts, photographs and other support images with your article!

ACCELERATE YOUR CAREER by staying informed, reading and writing for the FIELD ARTILLERY PROFESSIONAL BULLETIN a widely-distributed, official US Army publication!

SUBMIT YOUR ARTICLE TODAY!

Getting Beyond Conflicting Identities:

Examining the Field Artillery Warrant Officer Baseline

By CW5 Rolando G. Rios

Conventional historiography of the Field Artillery Targeting Technician (131A) is mainly derived from the two wars in Iraq and Afghanistan. Personality-based targeting, non-lethal targeting, and high-value individual (HVI) targeting became the latest additions to a long list of neologisms that encouraged military leaders to think about the Field Artillery Warrant Officer as something more than a specialized technician. Target development, responsible producer codes, STAR packets, target system analysis, modernized integrated database, joint targeting toolbox, and other buzz words gained popularity as if these concepts were new, innovatively designed for counter-insurgency operations. The physical reality is that these concepts were (and are) not new. They were rarely exercised in training environments and hardly understood as fundamental technical requirements for targeting. At no other point in time within the history of the 131A has the Targeting Technician exhibited the technical and tactical acumen inherent in their genealogy than in the Global War on Terror campaign. However, to fight and win in a Multi-Domain, Large Scale Combat environment these technical skills must remain sharpened, routinely exercised, and further refined through specialized assignment-oriented training.

I theorize that a false understanding of the intricacies involved in targeting leads to a misunderstanding of the technical duties and scope required of the Field Artillery Warrant Officer. Many of us have a blind spot on the technical details involved in targeting that only the trained and certified 131A can perform. In a harsher expression, misidentification of the 131A inevitably leads to misutilization, which then creates dangerous pathways for factors to coalesce and threaten the health of the 131A population and more importantly, unit readiness. The fundamental questions driving this inquiry are: 1) Who are we?, 2) How do we (the 131As) define ourselves?, and 3) How do others define us?

The Army of 2030 and beyond will arguably be more technical than previous force structures. The Army's commitment to build multi-domain and long-range Artillery capabilities against well-armed competitors will depend on the technical skills of the Field Artillery Warrant Officer to ensure success. Adapting to the challenges of the future environment requires a focus on how we educate, train, develop, and employ our 131A Targeting Technicians to ensure overwhelming success in a multi-domain environment.

The general expression that 131As are the *sui-generis* (unique, in a class by itself, subject matter experts, technicians) can arguably be traced to the two decades of conflict in the Middle East and in Asia. Commanders and staff, civilian leaders, and operators in three-letter agencies received a greater understanding of the skills, talent, and abilities of the Field Artillery Warrant Officer. As evidenced by the upsurge in requests for a 131A, we can point to the Global War on Terror as a salient feature that can be used to chart the increase in demand. However, two problems limit the effective employment of the Field Artillery Warrant Officer. One, the Field Artillery Warrant Officer lacks a precise definition. Two, a low inventory of field grade Field Artillery Targeting Technicians (CW3 / CW4) limits the cohort's usefulness.

In the form of a thesis statement, I argue that a low inventory of the CW3 / CW4 131A population is a function of misidentification. "Everyone wants a Targeting Officer" – we have heard several senior leaders proclaim, but few people have a clear idea of the technical obligations inherent in the Targeting Technician's title. Drawing from the general expression that 131As are regarded as the *sui-generis* in their specialized field, this manifestation is a by-product of the Global War on Terror. To that point, I make three broad assertions: 1) The 131A structure is off-balance, 2) The Army Talent Alignment Process (ATAP) clearly exposes fractures in the system, and 3) The U.S. Army, to include the Field Artillery branch, cannot sustain continued reductions in the 131A senior population. Until we properly define the 131A identity and address the misalignment, the inventory of Field Artillery Warrant Officers will continue to worsen and have consequential effects on the foundation of Army 2030.

Defining Who We Are (The Answer is in Our Title: Targeting Technicians)

Although perceptions of the Field Artillery Warrant Officer vary, most formulations emphasize the words *subject matter expert*. "Experts of what specifically?" begs for an explanation. The definition found in the FA Smart Book of DA PAM 600-3 (Officer Professional Development and Career Management) is generally accepted as the theoretical lodestar aimed at establishing the foundation of the 131A identity. The FA portion of the smart book defines the 131A as an advisor to the commander and staff "on all matters relative to targeting, including the employment of Field Artillery target acquisition assets, fire support assets, as well as Basic, Intermediate, and Advanced Target Development" (2022, 15). In its current form, the definition is primarily based on a generalized expression that unfortunately separates technical and functional requirements essential for the Army of 2030.

When not properly defined, slogans can become consequential. In other words, when not clearly defined, the slogan *subject matter expert* can take on a different meaning that can mislead many to describe the 131A as a systems integrator or missile technician in a hypersonic unit, which is ectopic. Commentators argue that in modern times, the Field Artillery Warrant Officer represents a new paradigm akin to a generalized technician. This argument is neither plausible nor useful to the cohort, the Field Artillery branch, or the Army of 2030. Despite these arguments, it remains unclear whether misperceptions of the Field Artillery Warrant Officer can serve as a practical guide for the effective employment of the 131A.

What remains certain, however, is that the Army of 2030 will be progressively more technical. The rapid change in advanced technology requires an investment in the manner we train and develop Field Artillery Warrant Officers to conduct kill chain analysis, harness deep sensing technology, amalgamate targeting data from artificial intelligence and machine learning, and integrate digital capabilities from various systems, such as Tactical Intelligence Targeting Access Nodes (TITAN), Army Intelligence Data Platforms (AIDP), JADOCS / JTIC2S, and AFATDS. These systems are specifically designed to pair (across echelons) intelligence with operations to target entities performing a function for the adversary in a multi-domain environment.

Assertion 1: The 131A Structure is Off-Balance (Consequential Gaps in the Force)

In January 2022, FORSCOM G1 highlighted fourteen critical MOS shortages that were significantly impacting readiness. Of the fourteen Warrant Officer Technical Fields reported, the 131A MOS was ranked number one. The alarming report triggered an examination to identify contributing factors impacting readiness. While the discovery demonstrated an off-balance in the structure of the 131A, it also exposed a gap in personnel strength that is challenged to meet the demands of Army 2030.

The evolution of the 131A Force Structure from the Cold War era to the counter-insurgency (COIN) period saw a huge increase. Pre-9/11, the total 131A authorizations in the Active Component was 214. Post-9/11, the number of 131A authorizations exponentially grew to 508 (current authorizations). While many contend that Multi-Domain Operations (MDO) is Air-Land Battle 2.0, the reality is that Air-Land Battle mainly focused on operations in two domains (air and land), whereas MDO encompasses competition and conflict in five domains (land, air, sea, cyber, and space). The shift from COIN operations to MDO signifies a move from the BCT modular force to the Division as the Unit of Action. This transformation also suggests that major modifications will transpire at higher echelons (divisions, corps, and theater command), thereby validating the argument to tactically and operationally realign the 131As.

Assertion 2: Fractures in the System - Warning! Warning! Warning! (System Overload)

Existing perceptions of the Field Artillery Warrant Officer tend to be expansive, and in some instances, vague, which provide little guidance in the prioritization of competing requirements in assignments that impact the effective employment of 131As. Supporters for keeping the 131A identity expansive and vague seek to transfer attention and resources away from the issues of retention that fundamentally erodes readiness and consequentially keeps FORSCOM units at risk. FORSCOM's 2022 report drew attention toward an accessions problem; however, the critical

shortages in the 131A population reside at the field grade level (CW3 / CW4), not at the company grade (WO1 / CW2) or Senior Field Grade (CW5) levels. This is important to note. The collision between a high demand and a low inventory of CW3 / CW4 131As contributes to the reasons why unit on-hand strengths remain below authorizations.

Movement Cycles (MC) 23-01 and 23-02 showcased fractures in the system. In MC 23-01, there were 206 requisitions for a 131A. In that same cycle, there were only 10 officers identified to move, leaving 196 unfilled requisitions. In MC 23-02, there were 241 requisitions and only 16 officers were identified to move, leaving 225 unfilled requisitions. A high demand against a low-movement population provides a clear expression that the system is about to break. The low inventory number in the CW3 / CW4 populations is attributed to retirements, which severely impacts the ability to assign the right Warrant Officer to the right job at the right time. In this setting, episodes of high unfilled requisitions and forecasts in increased retirements will inevitably produce photogenic shocks that will trigger a response aimed at the emergency aspect of the crisis instead of the factors contributing to the fractured institutional system. Intellectual curiosity forces one to question the phenomenon. The best chance to meet the demands of Army 2030 is anchored on tactically and operationally realigning the 131A structure.

Assertion 3: The Question of Sustainability (A Cohort in Decline)

The erosion of the 131A identity and the impact it will have on the Field Artillery and the Army of 2030 becomes an issue when it pivots from the question of sustainability. The query on sustainability argues for a shift away from conceptual fine-tuning how we access and develop skilled talent and toward an appreciation for employing and retaining this talent as a modality.

The Army of 2030 is not our grandfather's Army. The Army of 2030 is anchored on a vision to remain the dominant land force on future battlefields against well-armed states. Perhaps more than in any previous epoch, the Army is investing in its people. To maintain this dominant force, the Army's People Strategy is transforming the way it accesses, develops, employs, and retains America's sons and daughters. However, to meet the demands of Army 2030 against evolving threats, a focus on the retention challenges that are outpacing the Army's People Strategy requires the adoption of new concepts. Customized retention strategies must be devised to meet the technical obligations inherent in the Army of 2030.

Recommendation

To align faculties of thought, the 2023 Fires Symposium provides an excellent opportunity to discuss "Building the 131A Bench for the Army of 2030." The time to realign the 131A tactically and operationally into authorized positions within the Operational Force is an endeavor that requires full support. To enable unit readiness, fill the gaps in FORSCOM, and prepare for Army 2030 demands honest work. This necessitates conducting a deeper analysis into the prioritization and placement of the 131As in Standard Requirement Code (SRC) 06 and Non-SRC 06 positions where duplication of efforts or misalignment of 131As exist. An alternative and extreme position to take is to allow the system to collapse entirely; however, that is not a reasonable nor recommended course of action.

Conclusion

The Global War on Terror altered the landscape of the Field Artillery Targeting Technician. The generalization of Field Artillery Warrant Officer has been socialized into a practice in which the 131A identity is vulnerable to misinterpretation and manipulation for narrow gain. It cannot be over-emphasized that preoccupation with a single source can result in an oversight that leads to a partial understanding of the problem in total. This oversight and misunderstanding may obscure the 131A identity as an important variable to retention, low inventory, and unit readiness.

About the author: CW5 Rolando Rios is currently serving as the fifth Chief Warrant Officer of the Field Artillery at Fort Sill, Oklahoma. In his 36 years of military service, he has served in a myriad of positions, ranging from a Q-36 Radar Section Leader, Brigade Combat Team Targeting Officer, Division Counter-Fire Officer, Division Field Artillery Intelligence Officer, Division Targeting Officer, Corps Senior Targeting Officer, and USAREUR Senior Targeting Officer. Prior to assuming the role of the Chief Warrant Officer of the Branch, CW5 Rios was the Course Manager for the Warrant Officer Instruction Branch. He holds a master's degree in Homeland Security from American Military University. and is currently working on completing his dissertation for a doctorate degree in Global Securities with the same academic institution.

MOVEMENT TO FRICTION:

Lessons learned of a Field Artillery Battalion Command Sergeant Major at the Joint Readiness Training Center

By CSM Sean E. Swint

23-02 Fires WfF FA BN AAR.

The 3-319th AFAR, Gun Devils, deployed as an associated enabler of 1/82 ABN to the Joint Readiness Training Center identified lessons learned and recommendations during a tremendously successful training rotation from the Command Sergeant Major's perspective. As the most Senior Noncommissioned Officer of the organization, these lessons and experiences will serve to enable further success from other senior leaders facing similar realistic training, focusing on Large-Scale Combat Operations.

Lessons learned during exercises, hardship rotations, and combat deployments redefine our doctrine for the next conflict. JRTC's mission supports units preparing for LSCO against a "near-peer threat" with multi-domain capabilities (Mission and Vision, 2022). Every rotation significantly increases the United States Army's ability to win on the battlefield of tomorrow in all domains. Specifically, the role of the 82nd Airborne Division and the ability to execute a Joint Forcible Entry operation with one of three or more of the Brigade Combat Teams, BCT, conducting an airborne assault to secure required objectives and support the Division Commander's intent. This mission and key objective are the genesis of our deployment at Ft. Polk, LA and the operation we planned, prepared, and executed, as well as validation of our preparedness for the next unknown Immediate Response Force mission. Our rotation at JRTC was highly successful, and having trained at all Combat Training Centers and serving in various roles was the top experience of my military career. This attributed to the team I was a part of, 3-319th AFAR, 1st BCT, 82d ABN DIV, and my role as the BCT's Field Artillery Battalion Command Sergeant Major. Following the culmination of this rotation resulted in the added understanding of CSM responsibilities, identifying friction points, and the importance that the CSM has on the operations process, especially for FA.

CSM Responsibilities: Advise, Assist, Counsel, and Mentor

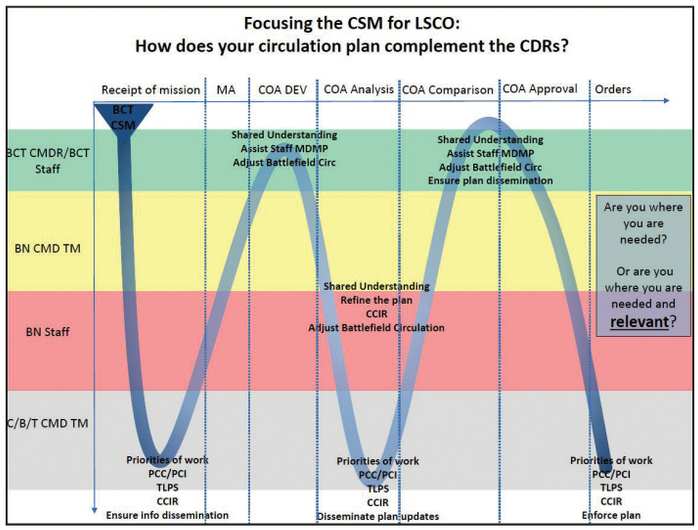
The months leading up to the rotation proved critical to the success of the organization, especially the required training and team building at the Leadership Training Program, LTP. This was my first interaction with the staff and the Commander, focused on an organized planning scenario. During this time, was when I began understanding my duties and responsibilities as a FA Battalion Command Sergeant Major. U.S. Army Combined Arms Center (2021) states, "The CSM is the principal NCO responsible for the health, discipline, morale, and welfare of the BN, and is the BN's senior enlisted trainer" and "The CSM acts as the CDR's representative in supervising aspects vital to BN OPS, as determined by the CDR". Additionally, responsibilities within the Field Artillery Cannon Battalion publication, which describes the CSM as "an extension of the commander's eyes," vital in assisting the staff during operational planning, advisor to the Commander, a mentor to unit First Sergeants and Noncommissioned Officers (Department of the Army, 2015a). I initially understood this role as the FA CSM and leveraging my wide-ranging experience, the Commander and I supported the staff throughout LTP. We redesigned the Planning Standard Operating Procedures and required warfighting products. Using this time at LTP is incredibly important! Bring as many NCOs as possible to aid in their warfighting function. NCOs are very experienced in their respective Military Occupational Specialties and provide unfiltered feedback that is essential for the operations process. LTP is also a unique opportunity for essential team building. Great organizations focus on teamwork and the overall performance of the team, not just individual successes. Next, once the staff is moving in the right direction, parallel to this is the mentorship of Battery First Sergeants. The primary product that guided me to develop counseling requirements was the "NCO Crosswalk Guide". This document was informative and explained what's required of each Company and Battery First Sergeant from the Mission Essential Tasks, what they do in

relation to the operations process, and where this is accomplished. (ex: Command Post)

Supporting the Commander's Intent and Objectives – Ammunition Haul Capacity

My commander, up-front prior to working on anything else, expressed what his main objectives were going into the rotation. He theorized there was only so much we could affect, pick one or two and get after it. Taking the previous year's performance into account, he prioritized ammunition haul capacity at the top of his list. FA haul capacity is the maximum ammunition transported within the Forward Sustainment Company, and all three firing batteries, using the unit's organic equipment and personnel. This translates to supporting the BCT with increased capability and effects on an LSCO battlefield from the FA battalion. Department of the Army, 2022, suggests, "The demands of large-scale combat rapidly deplete available stockpiles and require forces to retain large reserves of ammunition," His words were exactly, "I want to deploy to JRTC with 80% of our haul capacity – last year, the battalion had 12%". The top priority of the Commander for the upcoming rotation is now my priority to ensure accomplishment.

How does a command sergeant major support this? I immediately identified this within the influence of two main areas -- stress the importance of maintenance for required equipment to haul the ammunition and the personnel required to drive the equipment. Once we identified the problem set of equipment and personnel. We began planning and identifying fully mission capable on hand, and if needed, we were prepared to request additional equipment. This was not too difficult initially because it was already an enormous focus in the organization. Personnel management for drivers was where I spent time pulling personnel from other organizations. Filling our ammunition sections to the greatest extent possible. Even this wasn't sufficient. Battery first sergeants had sacrificed emplacement times to have howitzer section personnel drive the ammunition vehicles, park, and then move to support the emplacement. The focus for manning in support of JRTC haul capacity required weekly, if not daily, discussions. Our battalion executive officer spent time and effort prioritizing this with prepositioned equipment and maintenance prioritization that focused on all vehicles capable of hauling ammunition. I supported him in this effort as well. The outcome of our JRTC experience was most affected by this: reducing our sustainment problem in the fight caused the enemy Opposition Force to re-think their decisions. In the fight, more ammunition translates to a higher ratio of effects. The killing of a T-72 or similar tank required 108 rounds of 155mm High Explosive to have adjudicated effects. The focus here was enormous, and the impact it had later proved critical to the overall outcome of the rotation.



Focusing the CSM for LSCO (Hissong, 2022)

Identifying Friction Through Battlefield Circulation

Throughout the rotation, I adapted more each day to my piece in the exercise, my ability to be where the friction is, and anticipate where possible failures will come. As the senior NCO, I moved across the battlefield to seek out friction and insert myself wherever possible to reduce any gaps in the fight. From the beginning of the airborne assault to the offense where the BCT expanded the lodgment west, I found that I was an extension of the battalion commander every time I met one of my subordinate units at a position area for artillery. Upon arrival at any of the batteries, I met with mostly first sergeants and platoon sergeants. I asked important questions about the fight. What's the mission of this phase? commander's intent? What's your specified tasks?

Implied tasks? Combat slant of equipment and personnel? Casualties? What are your priorities of work? Do you have your battery defensive diagram? What's your black-and-gold plan? The point is that during battlefield circulation, it's

business. Focused on the battle and nothing less. CSM Joseph Hissong, Operations Group Command Sergeant Major, articulated this concept the best and tied it into the operations process. What echelons are you observing during time and space in the staff's collective military decision-making process? My experience and an example of this was during the defense; we had the FA Battalion Main Command Post in the vicinity of Hotel Dara Lam in the city of Debosier. I remained close and assisted the staff through to the Course of Action brief; following the brief, I went to ensure all batteries were in position and ready to defend an attack. I spot-checked security perimeters and defensive fighting positions. Taking into consideration viewing security perimeters from an enemy point of view, pointing out gaps and seams. Ultimately, this is an often-overlooked area, but exercised correctly, it achieves winning results in conflict.

Conclusion

Overall, the experience at JRTC #23-02 was imperative to the growth of our organization and my development as a senior NCO. These JRTC lessons learned shaped my understanding of CSM responsibilities, identifying friction points, and the importance that the CSM has on the operations process, especially for FA. Learning lessons on how to direct combat leadership with an understanding of CSM duties and being able to identify friction is where this experience matters. Battlefield circulation lessons taught by Senior CSMs, like CSM Hissong, further prepare senior leaders for their role in the fight when the time comes, especially in an LSCO conflict. The rotation was a huge success. Our unit fired 7,735 rounds, 240+ fire missions, and junior paratroopers, noncommissioned officers, and officers earned every bit of their performance!

Recommendations

Start preparing for JRTC immediately! Plan.

- Understand your roles and responsibilities in the fight -- Battlefield Circulation?
- Support your Commander and Staff – Advise/Assist.
- Counsel and mentor; inform your NCOs and Officers what's expected of them
- Be where you're needed, point of friction, and always be relevant.

References

Department of the Army. (2015). *Field Artillery Cannon Battalion*. (ATP 3-09.23).

Department of the Army. (2022). *Operations*. (FM 3-0).

Mission and vision. Mission and Vision:: Joint Readiness Training Center and Fort Polk. (n.d.). December 11, 2022, from https://home.army.mil/polk/index.php/about/mission

U.S. Army Combined Arms Center. (2021). *The Noncommissioned Officer Crosswalk Guide.*

CSM Sean E. Swint, a native of Webster, TX, enlisted October 18, 2005, as a Field Artilleryman. MOS: 13Z, Field Artillery Senior Sergeant. 17 years of service to the Field Artillery. Former Multiple Launch Rocket System (MLRS/HIMARS) Crewmember. Current position: Battalion CSM, 3rd Battalion, 319th Airborne Field Artillery Regiment, "Gun Devils".

(Photo by Edward Munéz, Fort Sill Public Affairs Office)

A master of organization and training, and with the help of General George Washington, Knox built a Continental Artillery of four regiments. These first Redleg units were composed of field, siege, and coast batteries. American Artillerists trained to take their place as equals to any Artillerymen in the world.

A Soldier from the 3rd Battalion, 27th Field Artillery Regiment, 18th Field Artillery Brigade stands in a High Mobility Artillery Rocket System (HIMARS) during U.S. Air Force Weapons School Integration training, Nov. 18, 2022. 3-27 FAR partnered with members of the U.S. Air Force's weapons school as part of its semi-annual training exercise. *(Photo by SGT Erin Conway, 18th Field Artillery Brigade)*

The 2023 submission deadlines for the

Field Artillery Professional Bulletin:

Summer edition, Apr. 7
Fall edition, Jun. 9
Winter edition, Sep. 15

Submit your articles to: judith.n.oman.civ@army.mil

U.S. ARMY

PIN: 214345-000