



# BULLETIN



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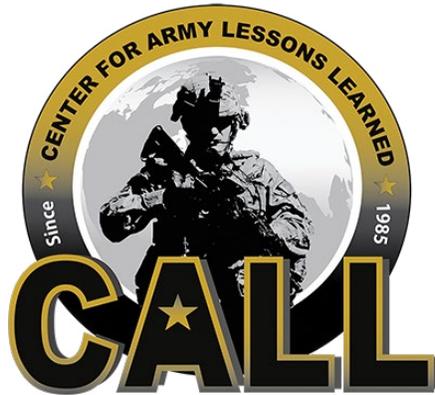
# CTC TRENDS

*FY2017*

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## **CTC Trends FY17**

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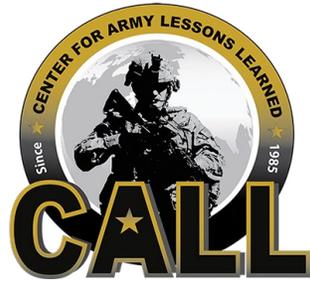
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## Foreword

Following years of deployments and combat in environments in Iraq and Afghanistan, and with emerging doctrine on unified land operations, many brigades have trained in the decisive action training environment (DATE) at combat training centers (CTCs) with great successes and many lessons learned. These lessons span across all warfighting functions and can meaningfully contribute to units' home station training by preparing a rotational training unit for upcoming CTC rotations. As always, the operational environment at the CTCs is meant to replicate current and relevant potential worldwide threats. These lessons are not only applicable for training at the CTCs, but provide valuable knowledge regarding potential worldwide deployments for brigade combat teams (BCTs).

This CTC Trends Bulletin identifies trends for fiscal year 2017 across the CTCs, based on observations from observer-coach/trainers (OC/Ts) and collection and analysis teams from the Center for Army Lessons Learned (CALL), with support from various Army Centers of Excellence. A trend is defined in Army Regulation 11-33, *Army Lessons Learned Program* (14 JUN 2017), as “an identified issue or best practice supported by three or more observations from multiple sources within a reasonable period.” CALL collects observations, best practices, and training results from OC/Ts at the CTCs; analyzes them; and compiles them annually in a publication.

Organized by Army tactical tasks from the Army Universal Task List, these CTC trends reflect both positive performance (sustains) and areas that need emphasis (improves). CTC trends provide valuable information to units developing and executing training for deployment to a CTC or an operational environment. Each chapter includes recommendations for units to successfully execute identified tasks. This provides a reference for training emphasis at home station. Additionally, identifying and analyzing trends allow doctrine writers, training developers, and other Army problem solvers to receive successful techniques and identify gaps in capability for doctrine, organization, training, materiel, leadership and education, and personnel and facilities (DOTMLPF) solutions. Applying the lessons learned at the unit or the institutional level from trends that are identified enables the Army to be a continually learning organization.

MICHAEL F. PAPPAL  
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Unless otherwise stated, whenever the masculine or feminine gender is used, both are intended.

**Note:** Any publications (other than CALL publications) referenced in this product, such as ARs, ADRPs, ADPs, ATPs, FMs, TMs, etc., must be obtained through your pinpoint distribution system.

## Introduction

### Summary of Trends and Methodology

The 10 trends listed below were identified from observations collected from 21 rotations at the three “dirt” combat training centers for fiscal year 2017 (FY17). The observations were aligned with tasks from Army Doctrine Reference Publication (ADRP) 1-03, *The Army Universal Task List* (02 OCT 2015), in order to compare the number of observations per Army Tactical Task (ART) and sub-task to identify the trends.

#### **1. Units are challenged to conduct the operations process, ART 5.1 (see Page 7).**

- A. Integrate requirements and capabilities, ART 5.1.1.4 (see Page 7)
- B. Conduct the military decisionmaking process (MDMP), ART 5.1.1.2 (see Page 12)
- C. Conduct fires planning, ART 5.1.1 (see Page 15)
- D. Perform rehearsals, ART 5.1.2.2 (see Page 19)
- E. Establish coordination and liaison, ART 5.1.2.1 (see Page 22)

#### **2. Units are challenged to conduct command post operations, ART 5.2 (see Page 25).**

- A. Organize people, information management procedures, and equipment/facilities, ART 5.2.1.1 (see Page 25)
- B. Establish or revise standard operating procedures (SOPs), ART 5.2.1.3 (see Page 28)

#### **3. Units are challenged to conduct knowledge management and information management, ART 5.3 (see Page 35).**

- A. Display a common operational picture (COP) tailored to user needs, ART 5.3.2.5 (see Page 35)
- B. Disseminate COP and execution information, ART 5.3.2.6 (see Page 37)
- C. Manage information and data, ART 5.3.3 (see Page 38)

#### **4. Units are challenged to provide logistics support, ART 4.1 (see Page 41).**

- A. Provide maintenance management, ART 4.1.1.8 (see Page 44)
- B. Provide supplies, ART 4.1.3 (see Page 45)

**5. Units are challenged to conduct operational area security, ART 6.4 (see Page 51).**

- A. Establish local security, ART 6.4.3 1 (see Page 51)
- B. Establish observation posts, ART 6.4.3.4 (see Page 53)
- C. Conduct area and base security operations, ART 6.4.1 (see Page 57)
- D. Conduct support area operations, ART 6.4.7 (see Page 58)

**6. Units are challenged to conduct cyber electromagnetic activities, ART 5.9 (see Page 61).**

- A. Perform electronic protection actions, ART 5.9.2.2 (see Page 61)
- B. Provide electronic warfare support, ART 5.9.2.3 (see Page 64)

**7. Units are challenged to provide health service support, ART 4.3 (see Page 67).**

- A. Provide medical evacuation (MEDEVAC) (air and ground), ART 4.3.2 1 (see Page 67)
- B. Provide medical treatment (organic and area medical support), ART 4.3.1.1 (see Page 68)

**8. Units are challenged to execute command programs, ART 5.5 (see Page 71)**

- A. Plan training, ART 5.5.1.4.2 (see Page 73)
- B. Train subordinates and units, ART 5.5.1.4 (see Page 74)

**9. Units are challenged to provide fire support, ART 3.2 (see Page 77).**

- A. Employ fires, ART 3.2.1 (see Page 77)
- B. Conduct counterfire operations, ART 3.2.2 (see Page 82)
- C. Conduct suppression of enemy air defenses (SEAD), ART 3.2.1.3 (see Page 84)

**10. Units are challenged to conduct mobility operations, ART 1.6 (see Page 91).**

- A. Conduct breaching operations, ART 1.6.1.11 (see Page 91)
- B. Conduct gap crossing in support of combat maneuver, ART 1.6.1.3.1 (see Page 95)

## Trends Definition and Methodology

According to Army Regulation (AR) 11-33, *Army Lessons Learned Program* (14 JUN 2017), a trend is defined “as an identified lesson or best practice supported by three or more validated observations from multiple sources within a reasonable period.”

The National Training Center (NTC) and the Joint Readiness Training Center (JRTC) submitted significant observations to the Center for Army Lessons Learned (CALL) through their Joint Lessons Learned Information System (JLLIS) observations or trends documents. Observations from two decisive action rotations that CALL observed were used for the Joint Multinational Readiness Center’s (JMRC) input to the “dirt” combat training center (CTC) trends in this publication. The observations were aligned with tasks from ADRP 1-03 in order to compare the number of observations per ART and sub-task to identify the trends.

There are some inherent biases in this method of combining quantitative and qualitative methods. First, there is observer bias in the determination of significant observations submitted by the CTCs. Second, there is some bias in the assignment of AUTL tasks to each observation based on personal knowledge and familiarity with the AUTL. Finally, there is bias in the AUTL itself in the number of tasks and sub-tasks in the warfighting functions. For example, ART 5.0, Conduct Mission Command, has more sub-tasks than the others, and there were more significant observations from the CTCs on mission command than on any other warfighting function.

There were 435 total significant observations from JRTC, NTC, and JMRC in FY17 as compared to 406 in fiscal year 2016 (FY16). Of these, 359 were “improve” observations and 76 were “sustain” observations. In FY16, there were 302 “improve” observations and 104 “sustain” observations. These observations were assigned an ART sub-task based on their content. The trends were then calculated based on numbers of significant observations in each task. These trends were then correlated in three ways. First, CALL military analysts calculated the trends by the individual ARTs, shown in Table 3 (based on AUTL tasks). The calculated trends included all but one in the mission command warfighting function. Also, the number of observations in all the sub-tasks were not taken into account to show related observations. Thus, the trends were calculated based on the sum of individual tasks in each major sub-task. For example, there were 135 total observations in ART 5.1, Conduct the Operations Process, and all of its sub-tasks, shown in Table 1 (based on sub-tasks). The chapters in this newsletter are presented based on the list in Table 1. Also calculated were the trends based on warfighting function and tactical mission tasks (see Table 2). All the trends identified meet the definition in AR 11-33 by having three or more validated observations from multiple sources during FY17.

**Table 1. Top 12 FY16 CTC trends based on sub-tasks (improve)**

<b>Task</b>	<b>Trend</b>	<b>No. of Observations</b>
ART 5.1	Conduct the operations process	135
ART 5.2	Conduct command post operations	53
ART 5.3	Conduct knowledge management and information management	31
ART 4.1	Provide logistics support	15
ART 6.4	Conduct operational area security	13
ART 5.9	Conduct cyber electromagnetic activities	13
ART 4.3	Provide health service support	9
ART 5.5	Execute command programs	8
ART 3.2	Provide fire support	8
ART 1.6	Conduct mobility operations	7

**Table 2. Trends by warfighting function and tactical mission tasks (improve)**

<b>Task</b>	<b>Trend</b>	<b>No. of Observations</b>
ART 5.0	Conduct mission command	254
ART 4.0	Sustainment warfighting function	25
ART 1.0	The movement and maneuver warfighting function	24
ART 6.0	The protection warfighting function	21
ART 3.0	The fires warfighting function	15
ART 2.0	The intelligence warfighting function	14
ART 7.0	Tactical mission tasks and military operations	6

**Table 3. Top 10 trends by individual AUTL tasks (ART) (improve)**

<b>Task</b>	<b>Trend</b>	<b>No. of Observations</b>
ART 5.1.1.4	Integrate requirements and capabilities	35
ART 5.2.1.1	Organize people, information management procedures, and equipment and facilities	25
ART 5.3.2.5	Display a common operational picture (COP) tailored to user needs	19
ART 5.1.1.2	Conduct the military decisionmaking process (MDMP)	16
ART 5.2.1.3	Establish or revise standard operating procedures (SOPs)	12
ART 5.1.1.6	Conduct fires planning	11
ART 5.1.2.2	Perform rehearsals	10
ART 5.2.1	Conduct command post operations to support tactical operations	9
ART 4.3.2	Provide medical evacuation (MEDEVAC) (air and ground)	7
ART 5.1.1.2.7	Produce a plan or order	7

Interestingly, the top five “sustain” trends based on sub-tasks are also five of the top six “improve” trends based on sub-task, shown in Table 4.

**Table 4. Top six sustain trends based on sub-tasks**

<b>Task</b>	<b>Trend</b>	<b>No. of Observations</b>
ART 5.1	Conduct the operations process	20
ART 5.2	Conduct command post operations	16
ART 6.4	Conduct operational area security	8
ART 5.3	Conduct knowledge management and information management	5
ART 4.3	Provide health service support	4
ART 5.9	Conduct cyber electromagnetic activities	3

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These results show that while the observer-coach/trainers are observing best practices in these trends, this may be the focus of their observations, thereby increasing observation bias.

Finally, when comparing the improve trends from FY16 to FY17, six of the 10 were on both lists with four new trends. Of these six, three had less observations (or improved) and three had more observations (or did not improve) (see Table 5).

**Table 5. FY17 versus FY16 improve trends based on sub-tasks**

Task	Top 10 improve trends based on sub-tasks FY17	Trend	No. of Observations	Task	Top 10 improve trends based on sub-tasks FY16	No. of Observations
ART 5.1	Conduct the operations process	↑	135	ART 5.1	Conduct the operations process	98
ART 5.2	Conduct command post operations	↑	53	ART 5.2	Conduct command post operations	26
ART 5.3	Conduct knowledge management and information management	↑	31	ART 4.1	Provide logistics support	22
ART 4.1	Provide logistics support	↓	15	ART 5.4	Control Tactical Airspace (out)	21
ART 6.4	Conduct operational area security	new	13	ART 3.2	Provide fire support	19
ART 5.9	Conduct cyber electromagnetic activities	↓	13	ART 7.5	Conduct tactical mission tasks (out)	19
ART 4.3	Provide health service support	new	9	ART 5.9	Conduct cyber electromagnetic activities	16
ART 5.5	Execute command programs (training)	new	8	ART 5.3	Conduct knowledge management and information management	15
ART 3.2	Provide fire support	↓	8	ART 7.2	Conduct defensive tasks (out)	14
ART 1.6	Conduct mobility operations	new	7	ART 1.2	Conduct tactical maneuver (out)	11

## Chapter 1

### Army Tactical Task 5.1 Conduct the Operations Process

**Trend: Units are challenged to conduct the operations process.**

- A. Integrate requirements and capabilities.
- B. Conduct the military decisionmaking process (MDMP).
- C. Conduct fires planning.
- D. Perform rehearsals.
- E. Establish coordination and liaison.

The first trend is Army Tactical Task 5.1, Conduct the Operations Process. This was the number one trend in fiscal year 2016 and had one third more “improve” observations than fiscal year 2016. This indicates that the trend continues to be a major issue for observer-coach/trainers who are coaching to correct it.

Integrate requirements and capabilities had 35 observations, conduct the MDMP had 16 observations, conduct fires planning had 11 observations, perform rehearsals had 10 observations, and establish coordination and liaison had six observations.

#### A. Integrate Requirements and Capabilities

BCT and battalion staff officers must understand each enabler’s capabilities and limitations, use professional analysis of the unit mission and requirements, and integrate enablers into the unit’s plan to maximize effectiveness.

An area in which brigade combat team (BCT) and battalion staffs are challenged is the integration and effective use of enablers in the fight. Observations include unit challenges in integrating enablers such as intelligence, surveillance, and reconnaissance assets; signal

intelligence and human intelligence collection teams; aviation task forces; brigade engineer battalions (BEBs); retransmission (RETRANS) assets; logistics units and assets; military police units; and military intelligence companies (MICOs); among others. In some cases, these enablers are organic to the BCT and other assets are attached to enhance the BCT capabilities. BCT and battalion staff officers must understand each enabler’s capabilities and limitations, use professional analysis of the unit mission and requirements, and integrate enablers into the unit’s plan to maximize effectiveness. Understanding enabler capabilities and then integrating them into the fight has always been a challenge and often depends on the capabilities of the leaders of the enabler unit and the staff officers at the BCT and battalion levels who are responsible for integrating them into the fight. If the staff officers have not trained with the enabler before, or at least been taught about the capabilities and mission sets in their professional military education, the chances of successful integration are low. Integration and effective use of enablers

and capabilities continues to be a challenge and needs leadership and institutional emphasis to improve. As more units conduct decisive action rotations at the combat training centers (CTCs), personnel will become more familiar with enabler capabilities, limitations, and likely mission sets. A plan for training new staff members in a unit to understand enabler capabilities and requirements is needed for successful integration.

### Root Cause Analysis

Issues with organic enablers are typically due to a lack of prior training and equipping at home station. The most successful integration of enablers at the CTCs occurs when units have developed relationships through home-station training. Enabler integration issues can be traced to either misunderstanding of capabilities during the MDMP, ineffective preparation after planning, or lack of synchronization during execution. This not only applies to attached enabler units, but integration of like enablers with their counterpart staff sections.

The most successful integration of enablers at the CTCs occurs when units have developed relationships through home-station training.

The following are factors that contribute to the root cause:

- Command and support relationships are not defined or understood within the BCTs.
- Enabler unit leaders struggle to explain their capabilities to maneuver commanders and make recommendations for employment to BCT and battalion staffs.
- There is a lack of clearly defined command and support relationships for the brigade's enabler units.

### How to Reverse the Trend

Early integration between the supported unit and enablers is key to success.

Early integration between the supported unit and enablers is key to success. As units develop their mission essential task list (METL), they need to ensure they properly plan, execute, and assess the training requirements for the unit to accomplish its mission. Units need to evaluate the demonstrated ability of

individuals, leaders, and units against specified training standards. All organic enablers and/or those anticipated to be attached to the BCT must be accounted for in the training and assessment plans. Professional development sessions early in the training cycle to help staffs understand capabilities and limitations of enablers can lead to better understanding and execution during the planning process.

### Best Practices Recommended by Observer-Coach/Trainers

The role of the brigade staff is to identify the requirements and missions for enablers and assign them as tasks to a battalion for execution. The battalion (maneuver, reconnaissance, or BEB) should provide mission command, battle tracking, and sustainment for assigned enablers. For example, the BCT S-2 and S-6 should provide technical guidance for the brigade communications network and intelligence collection while the BEB ensures assigned units comply with the technical guidance and receive required sustainment. This requires close collaboration between the BEB and BCT staffs.

BCT and BEB MDMP should result in priority intelligence requirements (PIRs), named areas of interest, and reporting requirements to engineer reconnaissance teams (ERTs) and supported units that enable mobility planning within the BCT. ERTs should integrate with supported units during home-station training. ERTs should be brigade-level reconnaissance assets that are included in the BCT intelligence collection plan. Engineers providing mobility support to the cavalry squadron should not be called ERTs, but should be called mobility support teams or simply engineer teams. This will prevent confusion on the task and purpose of engineer teams supporting the cavalry squadron.

During the MDMP, the BEB staff must consider how to best use all subordinate headquarters to accomplish assigned missions. Following the process for developing courses of action (COAs) during the MDMP will enable the BEB staff to recommend the task organization that best enables successful execution of BEB missions. BEB commanders need to develop how they want to utilize their sapper companies and develop appropriate training plans. For example, if one sapper company is responsible for all three sapper platoons and coordinates mobility, countermobility, survivability support for three maneuver battalions, while the second sapper company controls all blade assets and the route clearance platoon, then each company should have a different METL and training plan. BEB commanders also need to set conditions for their sapper companies by engaging maneuver battalion commanders and the BCT commander on how to best employ sapper companies.

The BEB S-3 should work with the BCT S-3 to ensure route clearance is incorporated into the brigade operations synchronization meeting to develop a patrol schedule out to at least 48 hours to give subordinates time for troop-leading procedures (TLPs). Route clearance patrols should be combined arms patrols whenever possible based on the commander's risk assessment. The combined arms route clearance patrol should have a security force capable of defeating enemy forces at the obstacle and an engineer and/or explosive ordnance disposal clearance force to eliminate explosive hazards.

If a route clearance patrol is used to lead a ground assault convoy or escort convoys then the route clearance platoon should be organized as part of a breach force and resourced according to the breaching fundamentals. Specifically, the breach force should be sufficient to suppress, obscure, secure, reduce, and assault enemy forces at the obstacle. The BEB should also ensure there is a plan for medical evacuation, recovery, obstacle intelligence gathering, and employment of breaching tenants in the plan.

Task force engineers should be aligned with maneuver units at home station to integrate and develop relationships. A deliberate training plan is needed to ensure task force engineers understand their functions, engagement area development, obstacle planning, and survivability planning, and are proficient in developing key execution matrices (e.g., survivability and obstacle synchronization matrices).

Key to successful planning are the integration and synchronization of the communications plan with the maneuver COA. Planning for contingency RETRANS locations based on mission, enemy, terrain and weather, troops and support available, time available, and civil considerations (METT-TC); determining security and logistics support; and finally reporting requirements. It is the brigade S-6's responsibility to plan RETRANS and the signal company's responsibility to ensure

Key to successful planning are the integration and synchronization of the communications plan with the maneuver COA.

the teams are manned, trained, and equipped to carry out the plan. Establish a RETRANS team standard operating procedure (SOP) including mission orders; priorities of work; precombat check (PCC) and precombat inspection (PCI) checklists; load plans; duties and responsibilities; and primary, alternate, contingency, and emergency (PACE) communications plan. RETRANS teams must be fully trained in radio and antenna operations, proper site selection and defense, TLPs, and the basics of field craft. If RETRANS teams will co-locate with another unit, ensure proper link-up and integration occur prior to mission execution.

RETRANS planning needs to be synchronized with the maneuver plan during COA development and refined during wargaming. Signal capabilities and limitations must be addressed and understood. The signal company commander must be present during COA development and wargaming to provide updated analysis. The triggers and locations for RETRANS emplacement must be published in the BCT operation order (OPORD) as tasks to units.

It is imperative to conduct link-up with the supported unit at the earliest possible point and integrate into its battle rhythm events. Participation in the CTC Leader Training Phase is critical for this initial link-up and planning for communications support. Develop an integration SOP outlining duties and responsibilities for the supported and the supporter. The signal company and expeditionary signal battalion enablers should develop a clearly defined enabler brief giving the supported unit their capabilities, limitations, and required sustainment.

The collection manager and Tactical Unmanned Aircraft System (TUAS) leaders must maintain consistent and effective communication to ensure operations are synchronized with the brigade intelligence collection plan and respective airspace control measures. The relationship with the brigade aviation element (BAE) must be maintained to ensure expeditious clearance of airspace for TUAS operations. These relationships need to be built over time and with multiple repetitions and rehearsals for all related tactics, techniques, and procedures (TTP).

A plan for providing a security attachment for the TUAS platoon needs to be made prior to deployment to the JRTC. Key leaders at the MICO, BEB, and BCT should determine the best COA that would allow the TUAS platoon to achieve its maximum level of support and ability to support the BCT with full-motion video capability.

Recommend that anyone responsible for determining the allocation of human intelligence (HUMINT) assets be well-versed in the application of command or support relationships as well as navigating the operations process. Field Manual (FM) 2-0, *Intelligence Operations* (15 APR 2014), Chapter 1, Paragraphs 1-102 through 1-105, provide a starting point on task-organization considerations for HUMINT collection teams (HCTs), and Chapter 2, Paragraphs 2-84 through 2-95 provide information on planning considerations for the employment and control of HCTs. Planners involved in the use of HCTs can use both of these sections to help determine the best command or support relationship for HCTs based on mission analysis/intelligence preparation of the battlefield and METT-TC. In addition to the information provided in FM 2-0, units should also consider the depth of the communications packages, freedom of movement, and logistical coordination to conduct movement to support each potential command or support relationship.

The BEB staff/MICO should request support from the brigade S-6, division G-2/G-6, and supported unit to provide redundant communications for low-level voice intercept (LLVI) teams. LLVI teams require adequate communications systems to communicate both mounted and dismounted with their supported unit and require long-range communications systems to send reports back to the MICO/brigade headquarters (Army Stationing and Installation Plan [ASIPS]/Multiband Inter/Intra Team Radio [MBITR], Joint Capability Release [JCR], and tactical satellite [TACSAT]). Of note, there are long-range communications systems available from the CTC-replicated division G-2 for rotational units. There may also be systems available within the BEB and BCT. Lastly, the supported unit can provide long-range communications support on both lower and upper tactical internet to assist teams sending and receiving reports from the brigade S-2.

MP platoons must be trained to operate as a platoon and decentralized by squad.

Home-station training must be balanced across all three military police (MP) disciplines with a special focus on detention and security operations since these are the most common

disciplines executed by MPs a CTC. MP platoons must be trained to operate as a platoon and decentralized by squad. MP platoons are best prepared for the CTC by developing solid fundamentals for each MP discipline, effective procedures for TLPs, PCCs/PCIs, command post operations, and patrolling as opposed to developing expertise in a single discipline.

Commanders must understand their PIRs and how to leverage assets to answer them. MPs who have organic Ravens must conduct home-station training that incorporates this unit. By training to employ Raven at home station, MP commanders will understand how to utilize the Raven to answer mission-specific PIRs.

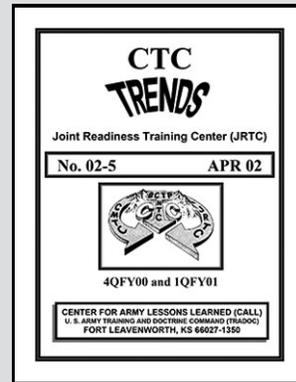
Electronic warfare (EW) sections actively participate in all steps of the MDMP, advising staff primaries on both threat and friendly EW capabilities and vulnerabilities. COAs should account for threat actions in the spectrum against the BCT, and the BCT should target threat assets to ensure freedom of maneuver and mission command. Friendly EW effects should be rehearsed and synchronized with every operation.

Enabler integration must be a training objective at home station. MICOs and BEBs must conduct active adjacent unit coordination to ensure sustainment, integration, and utilization occurs to standard. Brigade-level mission orders must delineate command and support relationships and task and purpose for each collection team.

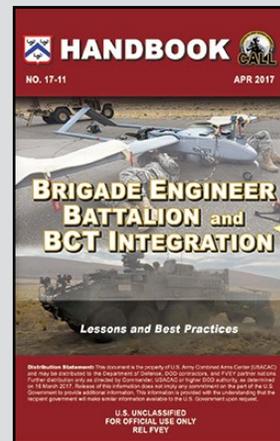
Aviation task forces must communicate their unique capabilities to supported units in order to achieve the desired effects of the ground force commander while reducing risk to aviation. Commanders should also incorporate the aviation mission survivability officer within the BAE or in the aviation task force to provide subject matter expertise on aircraft survivability equipment capabilities and limitations in order to assist in mission analysis and COA development when utilizing Army aviation in an urban environment.

### CALL Resources

Integration issues have habitually been a challenge even before Operation Enduring Freedom in 2003. Many of the integration issues noted are also in the “Command and Control Battlefield Operating System Part 3” chapter in Center for Army Lessons Learned (CALL) publication 02-05, *JRTC Trends and TTP, 4th QTR FY00 and 1st QTR FY01*, available online at <https://call2.army.mil/toc.aspx?chapter=2520&live=1>. (CAC required)



Also available is CALL publication 17-11, *Brigade Engineer Battalion and BCT Integration Handbook*, available online at <https://call2.army.mil/toc.aspx?document=7480> or hardcopies can be ordered online at <https://call2.army.mil/rfp/default.aspx>. (CAC required)



## B. Conduct the Military Decisionmaking Process

Another recurring trend at the CTCs is units' ability to conduct effective MDMP. This has long been a challenge for BCT and battalion staffs. Staffs struggle to complete a deliberate MDMP, resulting in publication of a thorough and complete OPORD at the onset of the mission. Commanders and staff leaders are challenged in providing adequate guidance and supervision of the process to enable staffs to be efficient in conducting the MDMP. The MDMP is best trained through repetition and leader emphasis. The staff will improve the speed and quality of its MDMP through repetitions. This will lead to validating and/or updating the SOP.

### Root Cause Analysis

Lack of repetition and staff experience is the primary cause of units' weak MDMP practices. Lack of familiarity with the MDMP and insufficient guidance and supervision by senior leaders contribute to the cause. Incomplete unit SOPs or not adhering to published SOPs are also contributors.

## How to Reverse the Trend

Units that conduct the MDMP more often are better able to execute the rapid decision-making process that is often required at the CTCs. Leaders must emphasize MDMP training during home-station training, provide guidance and direction during the process, and revise unit SOPs to accurately reflect the unit's process. Commanders should exercise staffs through deliberate and rapid decision-making processes, which can only be done after the MDMP has been completed on the base OPORD.

Commanders should exercise staffs through deliberate and rapid decision-making processes.

### CALL Resource

Units and individuals can utilize CALL handbook 15-06, *MDMP Lessons and Best Practices*, for a better understanding of the MDMP. It is available for download online at <http://usacac.army.mil/sites/default/files/publications/15-06.pdf> or hardcopies can be ordered online at <https://call2.army.mil/rfp/default.aspx>. (CAC required)



## Best Practices Recommended by Observer-Coach/Trainers

The BCT timeline should take into account the higher headquarters, operational, planning, and templated enemy timelines when creating its plan. The chief of staff (executive officer [XO]) or the BCT S-3 develops a staff planning timeline that outlines the time headquarters can spend on each step of the MDMP and identifies a specific time to brief the commander on each step. The staff planning timeline indicates what products are due, who is responsible for them, and who receives them. It includes times and locations for meetings, briefings, and key events. This timeline serves as a benchmark for the commander and staff throughout the MDMP, future operations, and current operations processes. The timeline should align both operations and planning timelines across the brigade's holistic view of operations to synchronize current and future operations typically accomplished 72 to 96 hours out and solidified in the brigade's operations synchronization process. Consider the following when creating a planning and operational timeline:

- The time required for the headquarters and subordinate units to prepare for the mission.
- A timeline that includes the higher headquarters, operations, planning, and enemy events enabling the BCT to see themselves holistically in time aligned against each other.

- Guidance on conducting the Army design methodology and abbreviating the MDMP.
- Identify outside agencies and organizations to incorporate into the planning process.

Staffs should develop a planning SOP for the MDMP and regularly practice their procedures for the MDMP. Special attention should be given to detailed staff running estimates, COA development, and wargaming as these are the areas staffs find most challenging.

In most instances, commanders used a template to publish initial guidance to their staff to facilitate the planning process. This accomplished a couple tasks, one being that it forced the commander to issue initial guidance (a task not often accomplished at the JRTC), and the staff can anticipate what to expect from the commander's initial guidance prior to the MDMP.

Units must possess an updated planning SOP and tactical SOP (TACSOP). As a tool to quickly gain shared understanding in a rapidly changing environment, incorporating a two-minute battle drill with key decision makers and planners is paramount to the success of the planning process and operations management.

Utilize the S-4's knowledge and expertise for key inputs specific to the mission during the MDMP. The S-4's knowledge, supply data analysis, and relationships with logical supporting units must be integrated with the operation. Participation in the planning process enables the S-4's ability to anticipate requirements and coordinate the logistical operations to meet mission demand. Understanding logistical feasibility and limitations is just as critical for operational planners to understand in order to mitigate the plan from being unsupportable due to logistics. Sustainment must be synchronized with operations. Ensuring the S-4 has a seat at the planning table will support this end state.

During receipt of mission, the XO must quickly establish a realistic and attainable plan-to-plan. Planning timelines must be tied in with other staff requirements and the battle rhythm, and allow time for contingencies. A recommended technique is to allow time in between each planning step to meet other requirements. If the staff must complete mission analysis and COA development in one day, an example is to allocate three hours for both with four hours in between for other staff requirements and individual needs. Another technique is to remove 25 percent of allocated time off the top. If a task force has four days to plan an operation, the initial plan-to-plan should result in publishing the OPORD by day three, which allows for a fourth day for contingencies, planning timeline shift, or to analyze branches and sequels. This will allow the task force to fully complete the MDMP and truly allow them to utilize the one-third, two-thirds rule.

Planning timelines must be tied in with other staff requirements and the battle rhythm, and allow time for contingencies.

Effective communication is essential to mission command. Unit leadership must place emphasis on the role of the S-6 during the MDMP. This sometimes proves to be difficult as the S-6 is not responsible for his own warfighting function (WfF). Most leaders assume the S-6 falls under the mission command WfF during the MDMP, when in fact the S-6, as the network and communications subject matter expert, plays a key role across all WfFs during the MDMP. With that said, the S-6 must gain a deeper understanding of the complexities of mission sets and tasks faced by their battalion. The S-6 must also seek to understand how his unit accomplishes those mission sets. Lastly, the S-6 needs to understand what elements are required to talk to each other and what information needs to be conveyed. When it comes to increasing proficiency in

RETRANS operations, special emphasis must be placed on the following training: Sergeant's Time Training for conduct battalion/squadron frequency modulated (FM) RETRANS communications support, and situational training exercise lanes for conducting battalion/squadron FM retransmission communications support. Additionally, focus should be given to establishing alternate RETRANS teams to account for the limited amount of personnel and equipment authorized by the modified table of organization and equipment (MTOE).

### **C. Conduct Fires Planning**

Another area that challenges BCTs is conducting fires planning. Issues range from synchronizing fires with maneuver, managing airspace in conjunction with fires, planning fires for deep/shaping fights, synchronizing fires and intelligence collection plans, and simply using available planning tools. Many BCT staffs do not ensure the incorporation of commander's guidance for fires and intelligence (high-payoff target lists and collection priorities) from the targeting decision board into the operations process. BCT commanders tend to not give detailed guidance of fires and intelligence collection. BCTs have difficulty disseminating detailed fire support and intelligence collection plans and products. A lack of detailed and rehearsed observation plans result in unobserved enemy formations and targets, the late execution of planned targets, and not engaging high-payoff targets.

#### **Root Cause Analysis**

Effective fire planning must be synchronized with the intelligence collection plan, which is tied to the commander's PIRs and decision points. This synchronization starts during the MDMP based on the commander's guidance and developed COAs. Failure to synchronize assets based on the commander's guidance and intent and failing to synchronize supporting assets is the root cause of poorly developed fires plans.

#### **How to Reverse the Trend**

Once again, training and repetition are keys to success in units effectively planning fires. Commanders and fire support officers (FSOs) must exercise fires planning processes during home-station training with close supervision and detailed guidance for all echelons. Fires planning exercises must include intelligence collection managers, fire support elements and teams at all echelons, and airspace managers. FSOs must detail how execution of the fires plan supports maneuver and the mission requirements according to the commander's guidance

FSOs must detail how execution of the fires plan supports maneuver and mission requirements according to the commander's guidance and intent.

and intent. Targeting working groups and boards should be established and processes outlined in unit SOPs. Targeting working groups must be exercised on how to support the commander's intent.

## Best Practices Recommended by Observer-Coach/Trainers

A collective training program focusing on the brigade targeting and operations process and shaping the BCT deep fight will contribute to the refinement or creation of a BCT SOP for nesting targeting with the BCT commander's deep fight. Training will improve the brigade and battalion staff's knowledge of all targeting tasks throughout the operations process and the required linkage between intelligence, the targeting and operations process, and execution. The training program should utilize individual and collective targeting tasks allowing for full repetitions of the targeting/operations cycle with each WFF providing input. One suggestion is that BCTs train and work at home station with a set battle rhythm that includes a targeting working group, targeting decision brief, operational synchronization, and a tasking order focused on the BCT fight, while allowing battalions to focus on the close fight.

BCT and battalion staffs, in addition to battalion FSOs and fire support noncommissioned officers (FSNCOs), must understand development of detailed observation plans and the use of forward observers. While training fire support planning, the planning and synchronization of the observer plan and target triggers will facilitate learning and the mastery in the execution of accurate and timely fires.

Upon receipt of the mission, company commanders should use existing battalion-established graphic control measures. The company commanders should establish their own direct fire control measures, disseminating them to the company's junior leaders for employment. When done to standard, this will aid the company in accomplishing its primary goal of any direct fire engagement: to eliminate the enemy by acquiring first and shooting first. Applied correctly, these principles give subordinates the freedom to respond rapidly upon acquisition of the enemy.

The brigade should train the development of detailed and synchronized airspace management plans and fire support plans during the operations process. This will allow development of standards and understanding of the airspace management and fire support plans that will facilitate for effective air-ground integration and combined arms maneuver.

Maintain home-station training plans that focus on exercising the operations process and field artillery support plan production. Field artillery battalion staffs should implement detailed and sequential production of the operations process and field artillery support plan for all events that require detailed planning and coordination at home station.

Field artillery battalion fire direction centers must learn how to use their equipment as designed. Setting up the proper data distribution lists and criteria within the Advanced Field Artillery Tactical Data System (AFATDS) user preferences will help greatly with all geometry management. Field artillery battalions should create a daily battle rhythm event in their TACSOP for fire support coordination measure (FSCM) scrubs. FSCM scrubs should be conducted a minimum of twice daily. Units also need to establish a standard process of managing current FSCMs and deleting outdated ones. When current FSCMs are sent or outdated ones are deleted, the battalion FDC should follow up with a net call to all subordinate units, which forces the batteries to acknowledge and help the management process.

Effective fire support does not happen without prior planning and coordination. The observer must know what his responsibilities are and where he fits into the overall plan. The troop FSO is the principal fire support advisor to the commander. The fire support team plans, coordinates, and executes fire support for the commander's concept of operations. The FSO ensures the

scheme of fires fully supports the commander's intent for fire support. The maneuver commander has the responsibility to integrate fire support with the scheme of maneuver. He provides the commander's intent for an operation and issues guidance to include guidance for fire support. The FSO translates the guidance into fire support tasks. Each fire support task and purpose directly supports a maneuver task and purpose. The FSO then assigns responsibility of tasks in the fire support plan, assets, and priority of fires to the observers using all available assets. The FSO ensures dissemination of fire support products to all supporting assets. The maneuver commander also has the responsibility of ensuring observers understand what targets can be engaged, when they can be engaged, and which targets are the priority for the operation.

Often, the troop may not be the priority for fires. This does not excuse the responsibility of the commander to have a fires plan. His fires plan should incorporate organic assets as well as any assets available from higher command.

While the maneuver commander is responsible for integrating fire support and maneuver, the FSO must understand the scheme of maneuver as much as the company and troop commander.

While the maneuver commander is responsible for integrating fire support and maneuver, the FSO must understand the scheme of maneuver as much as the company and troop commander. The FSO devises his fire

support plan based on the commander's guidance and submits the plan to the commander for his approval. FSO responsibilities include the following:

- Plan, coordinate, and execute fire support.
- Make recommendations to integrate all fire support assets into the maneuver commander's scheme of maneuver.
- Integrate the fire support plan with the company/troop OPORD/operation plan and address fire support tasks during rehearsals.
- Keep key personnel informed of pertinent information (by spot reports and situation reports).
- Train the fire support team and forward observers in applicable fire support matters.
- Initiate calls for fire on targets of opportunity and execute planned targets in accordance with the fire support plan.
- Prepare and disseminate the fire support plan and/or execution matrix to key personnel.
- Advise the company/troop commander on the positioning and use of company/troop mortars.
- Allocate forward observers and other observers to maintain surveillance of target and named areas of interest.
- Plan, direct, and manage the employment of observer platforms and laser equipment where they will best support the commander's concept of operation.

- Provide emergency control of close air support and call for and adjust naval gunfire in the absence of qualified personnel. See Army Techniques Publication (ATP) 3-09.32, *Joint Application of Firepower (JFIRE) Fire Multi-Service Tactics, Techniques, and Procedures for the Joint Application of Firepower* (21 JAN 2016), for additional information.
- Ensures that forward observers are qualified to include target mensuration.

The commander must clearly state the intent for fires and ensure that the fires plan supports each phase of the operation. The commander coordinates the following with the fire support officer:

- The scheme of maneuver, which includes the area of operation, timing and triggers of advance, rate of movement, passage of lines, and Army aviation in the area of operation
- Identification of priority of fires, which identify which platoon has priority of fires
- Identification of critical targets, which seriously impede mission accomplishment
- Identification of priority targets, along with the time they will be in effect
- Close air support: The commander and fire support officer, in coordination with the squadron tactical air control party, determine what close air support assets are available, when they are available, and how to use (including target selection and desired effects).
- Fire support coordination measures, which are established by higher headquarters. These control measures are existing or proposed, permissive, or restrictive.
- Ammunition restrictions, which place limitations on the use of obscuration, improved conventional munitions, or other ammunition (including established controlled supply rates)

Troop commanders must take an active role in fires planning. With input from the FSO, they need to ensure that there is a well-coordinated fires plan that supports the operation and ensures the desired effects are met.

### Training Resource

See JRTC best practices for the targeting meeting video available online at [https://atn.army.mil/dsp\\_template.aspx?dpID=595#](https://atn.army.mil/dsp_template.aspx?dpID=595#). (CAC required)



## D. Perform Rehearsals

Rotational units struggled to conduct regular and effective rehearsals. These struggles are more apparent for supporting WfFs (fires/sustainment/information collection) and at echelons below brigade, particularly at the company/troop and platoon levels. Sustainment rehearsals typically occurred during reception, staging, onward movement, and integration (RSOI), but did not occur for offense and defense operations. When sustainment rehearsals occurred, they lacked critical sustainment information for the upcoming operation and often lacked the executors of the sustainment plan.

### Root Cause Analysis

A unit's ability to execute rehearsals is solely dependent on the planning timeline. Generally, a unit will run out of time and the first item to be overlooked is the quality of rehearsals.

Additionally, attendance at rehearsals often does not include key personnel that will execute actions during operations. For example, a fires rehearsal may not include observers that are responsible for specific planned targets to rehearse execution of those targets. Observations also indicate that commanders' absences from rehearsals lead to lower-quality rehearsals due to lack of leadership emphasis and not ensuring the supporting plans

... commanders' absences from rehearsals lead to lower-quality rehearsals ...

meet the maneuver commanders' intents.

### How to Reverse the Trend

Units must be disciplined in including rehearsals in their planning timelines and executing each rehearsal to standard across all WfFs and at all echelons. Unit TACSOPs should identify specific rehearsals the unit should conduct during planning and preparation for operations. TACSOPs should also identify time-constrained rehearsal plans and identify which rehearsals may be combined or abbreviated when timelines do not support the full rehearsal schedule. Types of rehearsals (backbrief, rock drill, etc.) should be identified and prioritized for each designated rehearsal. Leaders must be diligent in supporting rehearsal schedules and ensure proper attendance by key personnel in each rehearsal.

## Best Practices Recommended by Observer-Coach/Trainers

Army Doctrine Reference Publication (ADRP) 4-0, *Sustainment* (31 JUL 2012), states that preparation for sustainment activities includes, but is not limited to plan refinement, rehearsals, information collection, coordination, inspections, and movements. For sustainment to be effective, the staff must conduct several actions and activities to prepare forces for operations. ADRP 5-0, *The Operations Process* (17 MAY 2012), states that rehearsals are key events during preparation and assist the force with understanding the plan and practicing expected actions to improve performance during execution. The rehearsal reinforces knowledge management within the sustainment cell and the BCT staff. According to FM 6-0, *Commander and Staff Organization and Operations* (05 MAY 2014), knowledge management provides the methods and means to efficiently share knowledge among individuals and distribute relevant information where and when it is needed.

The CTC sustainment cell advocates use of a detailed script during the sustainment rehearsal. Vignettes and walking through scenarios gives the attendees an understanding of the roles and responsibilities within their organization and external supporters. Ensure there is depth to the rehearsal and all attendees leave with a clear understanding of their roles and responsibilities.

Ensure there is depth to the rehearsal and all attendees leave with a clear understanding of their roles and responsibilities.

The sustainment rehearsal allows leaders and Soldiers to synchronize key portions of the sustainment plan within the operation. The sustainment rehearsal is not a backbrief of the concept of support/sustainment; it is an opportunity to synchronize all the battalions and ensure they understand their role in the plan and how it supports the maneuver plan.

To improve situational understanding throughout an organization, the preferred rehearsal is face-to-face on a medium that best represents the terrain. In a recent rotation, the performance of the squadron improved greatly with face-to-face rehearsals because the unit was able to identify and work through issues and transition points. In person, rehearsals such as combined arms rehearsals, rehearsal of concept, or even a map rehearsal are not executed because of a constrained timeline and is the first indicator that a plan will be desynchronized and require far more effort in mission command systems.

Components of the MDMP can be streamlined, but the quality of rehearsals should never be sacrificed because of time.

Units should solidify their planning timelines early in the process and make rehearsals the priority. Components of the MDMP can be streamlined, but the quality of rehearsals should never be sacrificed because of time. Maneuver battalions should consider the importance of fire support rehearsals in

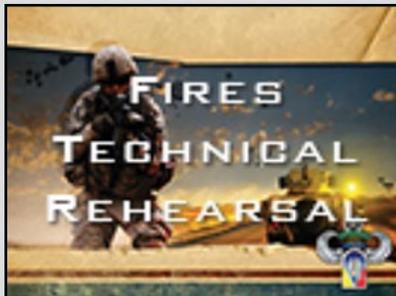
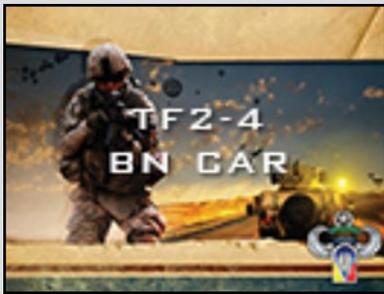
synchronizing fires to support maneuver. The attendees should be battalion commander, S-3, S-2, battalion FSO, battalion FSNCO, targeting officer, company FSO, company FSNCO, forward observer teams, mortar platoon leader/platoon sergeant, scout platoon leader/platoon sergeant, and the radar team chief.

The battalion commander should have an interest that fires are synchronized to support the maneuver plan. His presence changes the tone of the brief. Participants are more aware when the battalion commander is present. The S-3 can verify synchronization with scheme of maneuver. The S-2 can provide, by phase, the enemy situation and receive requests for information related

to targeting. The battalion FSO briefs by phase, the fire support targets, brigade/battalion targets, priority of fires, and FSCMs. The mortar platoon leader verifies and synchronizes mortar firing points, targets are in range, and maximum ordinate for each target so the FSO can forecast when to pre-clear air. Company FSOs, the scout platoon leader, and forward observers brief by phase observation post locations, target, trigger, location, observer, delivery system, attack guidance, and communications net (TTLODAC) for brigade/battalion targets and FSCMs.

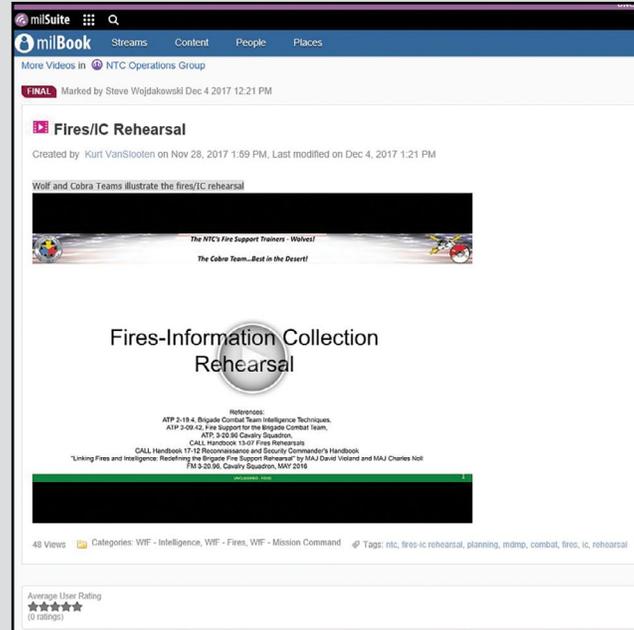
### Training Resource

See JRTC best practices for the following rehearsals videos: Battalion Combined Arms Rehearsal Fire Support Rehearsal, Fires Technical Rehearsal, Sustainment Rehearsal, and Information Collection Rehearsal online at [https://atn.army.mil/dsp\\_template.aspx?dpID=595#](https://atn.army.mil/dsp_template.aspx?dpID=595#). (CAC required)



## Training Resource

See the National Training Center Fires Information Collection Rehearsal video online at <https://www.milsuite.mil/book/leadercasts/7024> . (CAC required)



## E. Establish Coordination and Liaison

### Root Cause Analysis

During BCT-level operations at a CTC, establishing coordination and liaison is more important than during home-station training. Most BCTs and battalions are authorized one liaison officer (LNO) on the MTOE to send to their higher headquarters, but this does not account for 24-hour operations during decisive action nor the need for LNOs at an adjacent unit. Most units must pull additional officers or noncommissioned officers (NCOs) to provide needed liaison. Also, the scale of home-station training does not usually help train this task except during warfighter simulation exercises. Even then, it is usually done only at the BCT level. Unit TACSOPs generally do not specify adjacent unit coordination requirements that standardize and ensure requirements are met.

## How to Reverse the Trend

LNOs must be properly resourced and integrated. It is important to integrate the LNO into all aspects of the brigade staff's planning process early to quickly build effective relationships between the units. Additionally, the LNO must arrive at the higher echelon unit with a complete package (computer, radio, maps, plans, etc.), and the unit must provide him a work station with connectivity. Identifying the right officer or NCO early for the role of LNO allows for train-up and understanding of the staff and commander. Clear guidance on duties and responsibilities, along with a unit "smart book," will set an LNO for success.

Early identification of the right officer or NCO to be an LNO allows for train-up and understanding of the staff and commander.

Units can benefit from adding a checklist for adjacent unit coordination in their TACSOP and rehearse its use at home station. An adjacent unit coordination checklist must include, but should not be limited to the following:

- Identification of the adjacent unit
- Mission of the adjacent unit
- Size and composition of the adjacent unit
- Adjacent unit maneuver plan
- Adjacent unit fire support plan
- Planned times and points of departure or re-entry (passage of lines)
- Planned fire support and control measures
- Adjacent unit combat service support assets available
- Frequencies and call signs
- Location of key leaders
- Challenge and password, running passwords, and number combinations
- Pyrotechnic and signal plan
- Additional information about the enemy
- Recognition signals (far and near)

## Best Practices Recommended by Observer-Coach/Trainers

There should be a battalion-wide SOP for shift and lift signals. The more specific these signals are to individual companies and platoons, the more difficult it is for adjacent units to understand each other. With a battalion SOP for shift and lift signals, there may have been better communication with the support-by-fire positions at the breach. There also needs to be an effective battle handover from one company to another when a second company is following to assume. In this case, there was virtually no handover. And lastly, support-by-fire positions and individual elements need to have an understanding of adjacent units in time and space. The squad leader or platoon leader at these support-by-fire positions should know where adjacent companies are even if he is just a squad leader or platoon leader.

Aviation battalion task forces (ABTFs) need to identify and employ LNOs to the BCT. The BAE does not take the place of aviation task force involvement in the planning process. It assists the BCT in aviation planning and provides the aviation brigade or the supporting aviation task force leaders with BCT mission information. It is critical that aviation commanders and S-3s participate and lead aviation mission planning in support of the BCT (see Training Circular (TC) 1-400, *Brigade Aviation Element Handbook* [27 APR 2006], and ATP 3-04.1, *Aviation Tactical Employment* [13 APR 2016]). The brigade aviation officer works for the BCT commander and is an integral part of the BCT commander's staff. The brigade aviation officer must also maintain a relationship with the aviation brigade commander/aviation task force commander and staff. The brigade aviation officer must ensure appropriate information is exchanged among the aviation brigade, BCT, and the rest of the BAE to facilitate smooth and timely aviation support (see TC 1-400).

An ABTF is a mini-combat aviation brigade. As such, subordinate ABTF echelons are better served and represented in the ABTF plans process when designating a LNO. ABTFs should consider LNOs for nonorganic echelons a requirement in the applicable mission order (usually an OPORD) process.

## Chapter 2

### Army Tactical Task 5.2 Conduct Command Post Operations

**Trend: Units are challenged to conduct command post (CP) operations.**

- A. Organize people, information management procedures, and equipment/facilities.
- B. Establish or revise standard operating procedures (SOPs).

The second trend is Army Tactical Task (ART) 5.2, Conduct CP Operations. This trend has 53 observations with 34 on organize people, information management procedures, and equipment/facilities and 12 on SOPs. This was also a trend in fiscal year 2016, but there were more “improve” observations in fiscal year 2017 because it has been a focus of observer-coach/trainers (OC/Ts) to reverse this trend. This trend also relates to two of the top three trends: conduct the operations process and conduct knowledge management and information management.

In order to conduct successful CP operations, units should man, equip, and organize CPs to control operations for extended periods. Effective CP personnel use information systems and equipment to support 24-hour operations while they continuously communicate with all subordinate units and higher and adjacent units to conduct CP operations.

#### **A. Organize People, Information Management Procedures, and Equipment/Facilities**

Units organize people, information management procedures, and equipment/facilities essential for using and communicating the common operational picture (COP) and information to achieve situational understanding and to direct the conduct (planning, preparing, executing, and assessing) of operations. Organize people, information management procedures, and equipment/facilities is an area that challenges brigade combat teams (BCTs).

#### **Root Cause Analysis**

Units do not set up and displace all their CPs during home-station training for all events. They conduct future operations planning while tracking current operations as they would at a combat training center (CTC) or during combat. It takes numerous repetitions of the operations process while utilizing all CPs during home-station training to train a staff to be effective and provide the commander with the right information at the right time to make effective decisions.

#### **How to Reverse the Trend**

Units should plan to utilize all their CPs for home-station training events. Units need to determine how to best organize their CPs to be effective and then codify this information in their SOPs. The commander must be personally involved to ensure the executive officer (XO) and staff understand how he processes information and makes decisions. The CP must be organized to provide information for decision making.

Using the CPs and COPs in garrison and at every training event, from M4 qualification through decisive action training environment (DATE) rotations, will help refine the requirements of the COP, tailor it to the end user, and develop muscle memory for its use to increase its effectiveness. By training the company and battalion CPs in garrison, members will become accustomed to the upper three functions of the company CP and the six functions for the battalion CP due to the nature of a garrison environment's constantly competing requirements. These competing requirements force headquarters to operate in a manner where the commander requires recommendations and delegates decision-making authority while entrusting others to help synchronize the multiple ongoing missions assigned to the company. Using the systems and products designed for the field in this environment will help refine products and SOPs so that field time can be used to test solutions and make minor adjustments as needed. All training events should be designed to provide multi-echelon training involving the entire operations process with a focus on reporting and assessing information.

Rotating units often do not track and process information that is relevant for the commander to make decisions or convey a COP. This is usually due to inability of units to identify and manage relevant information within their operational environment through systems and processes to generate and maintain situational understanding under ideal and degraded conditions. Units do not develop and test a CP SOP at home station.

The shared understanding between levels of command and staff sections is hindered due to unsynchronized battle rhythms/SOPs, not exploiting mission command information systems integration, and not fully leveraging information sharing capabilities (systems can be complicated). Some of these challenges were as simple as shift changes to the complex tasks of battle tracking and processing information that is relevant for the commander to make decisions or convey a COP.

The SOP should include unit-specific information, occupation and layout standards, staff requirements, duties and responsibilities, necessary equipment, tracking products, tools, battle-tracking methods, and standards. At a minimum, the CP should include frequency modulated (FM) communications, analog tracking, and Joint Capabilities Release (JCR).

### **Best Practices Recommended by Observer-Coach/Trainers**

Company commanders must create a CP SOP for their companies with clearly delineated duties and responsibilities for headquarters personnel. Not only must they be solidified in an SOP, but they must be exercised at every training event prior to deploying to a CTC. Repetition will create a functioning CP.

Analog COPs are necessary for effective CPs. The best analog COPs are usually designed to have a four- by four-foot board with a metallic or cork backing, mounted at a 45-degree angle with magnetic graphical pins underneath a 1:25,000 scale map with a minimal amount of overlays that face all the warfighting function (WfF) desks, and have a digital COP to the side or behind it. The location of the analog and digital COP is generally better when directly above or

Successful practices for personnel include either the battle captain or the battle NCO being the appropriate person for moving markers on the map.

to the side of the other for reference. Successful practices for personnel include either the battle captain or the battle noncommissioned officer (NCO) being the appropriate person for moving markers on the map.

An intelligence and fires representative are the other two nearest personnel to the map to update overlays. The digital and analog COPs should be viewable by the commander from his desk, as well as the field grade/operations sergeant major who have a permanent place in the tactical operations center. The remaining support personnel should also face these COPs to visualize and take direction from the battle captain/NCO.

A communications exercise (COMMEX) should be conducted prior to deployment to a CTC. This would ensure the brigade can communicate horizontally and vertically with subordinates and higher headquarters utilizing all their mission command systems. This is not being done to one set standard across BCTs. The COMMEX ensures on-the-move communications systems capabilities maintained by a battalion maintains are fully mission capable.

Prior to coming to a CTC, the troop commander, XO, and first sergeant need to determine what they want the troop CP to look like, the trackers they need, and who will man it. Once this is done, the troop XO needs to ensure trackers are built, the communications sergeant has all communications platforms running, and the radio operators and CP sergeants understand their battle drills as well as their duties and responsibilities. These systems need to be tested at platoon and company training events and then refined to suit the troop commander's needs to facilitate reporting and battle tracking. To help ensure the success of the troop CP, the first sergeant has to ensure the Soldiers in the troop CP are those who can execute their assigned tasks with little to no guidance or oversight. Send NCOs to battle staff to enhance their military progression and development along with improving Army organizations. Also, refine tactical standard operating procedures (TACSOPs) and planning SOPs to include the roles and responsibilities of NCOs across the battalion.

Units must arrive at a CTC having already established procedures for operating a CP at home station during unit training or simulations. Companies must designate personnel to man and run the CP outside the commander and first sergeant to allow continuity. Companies must also develop rest plans for these Soldiers. Furthermore, the duties and responsibilities of personnel must be explicit and delineated. To maintain a shared understanding, analog trackers must be available, current, and provide information that enables subordinate leaders at the platoon level and drives decisions at the company level. Systems must be established to gather inputs internally and externally to develop the COP. In the event a higher echelon has not created a channel to receive or provide information, such as an operations and intelligence net or administrative and logistics net, then information requirements need to be developed to extract that information from the higher headquarters. Additionally, systems must be developed to ensure information is disseminated to the lowest level through face-to-face touch points, radio communications, or other means.

Higher headquarters particularly at brigade struggle to adhere to the Army standard of the one-third, two-thirds rule for planning, outlined in Army Doctrine Reference Publication 5.0, *The Operations Process* (17 MAY 2012). Successful trends were those that maximized company-level time and had efficient systems in place at the appropriate staff entities, which quickly produced the necessary fighting products to issue operation orders, conduct effective war-gaming prior to combined arms rehearsals (CARs), and implement mission command. Mission command is successful when task, purpose, commander's intent, and desired end state with a 70 to 80 percent plan and fighting products are disseminated quickly to lower echelons. Trusting lower-level leaders to be flexible and adaptable and not having a perfect plan is necessary to ensure enough time and preparation is allocated to the most junior but lethal decision makers.

## **B. Establish or Revise Standard Operating Procedures**

An area that challenges BCTs is establishing or revising SOPs.

### **Root Cause Analysis**

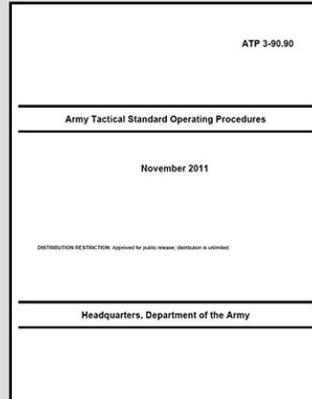
Often, SOPs are something units update when they have time, but are often not done until last. Other causes are lack of leadership emphasis and standardization from battalion through division levels that result in confusion, especially in reporting.

### **How to Reverse the Trend**

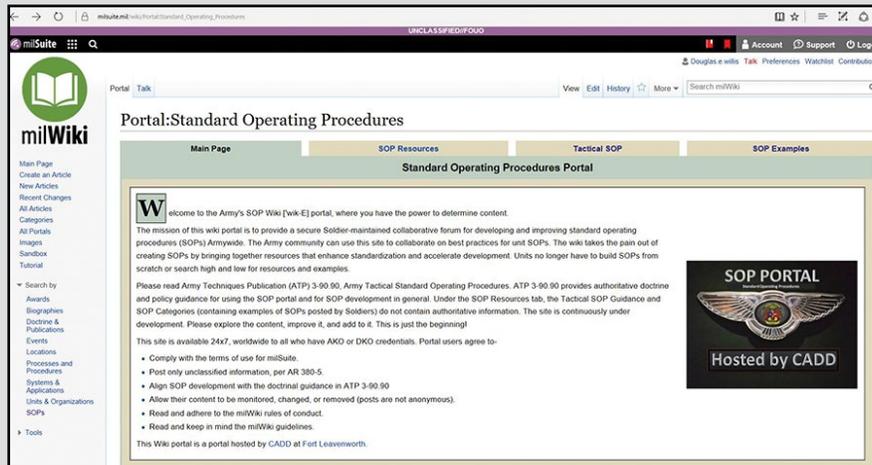
Successful units at the CTCs were those that created or modified a set of instructions at home station covering the tasks and functions that lend themselves to a definite or standard procedure without a loss of effectiveness. Unit SOPs or revisions facilitated mission accomplishment and WfF integration under “normal” operations as well as restoration/recovery plans and procedures when faced with critical failures. Most rotating unit staff personnel struggle during the initial phases of the exercise to define their respective duties and responsibilities within the section, such as duties and responsibilities for the shift officer or “battle captain.” These are often ill defined, requiring the S-3 or XO to make routine decisions detracting from their focus on other areas of the CP operations. They are also challenged in establishing and developing a battle rhythm that drives the operations process through the incorporation of functional and integration processes such as intelligence preparation of the battlefield, targeting, and the military decisionmaking process (MDMP).

## Army Doctrine

Doctrine has provided information to make units successful in Army Techniques Publication (ATP) 3-90.90, *Army Tactical Standard Operating Procedures* (01 NOV 2011), available online at [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/atp3\\_90x90.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp3_90x90.pdf). (CAC required)



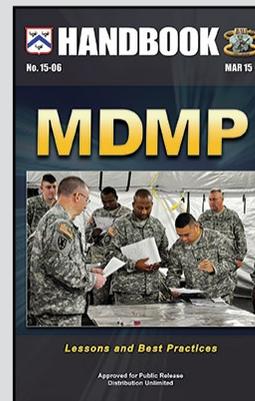
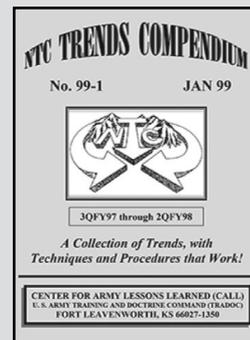
Chapter 3 of ATP 3-90.90 has the following link to a collaborative milWiki portal site with examples: [https://www.milsuite.mil/wiki/Portal:Standard\\_Operating\\_Procedures](https://www.milsuite.mil/wiki/Portal:Standard_Operating_Procedures).



### CALL Resources

SOP development and CP operations issues have habitually been a challenge even before Operation Enduring Freedom in 2003. Many of these issues are discussed in Center for Army Lessons Learned (CALL) publication 99-1, *National Training Center (NTC) Trends and Tactics, Techniques, and Procedures (TTP) Compendium*, available online at <https://call2.army.mil/toc.aspx?document=2505>. (CAC required)

Units and individuals can also utilize CALL handbook 15-06, *MDMP Lessons and Best Practices, for a better understanding of and use during the MDMP*, available online at <http://usacac.army.mil/sites/default/files/publications/15-06.pdf> or hardcopies can be ordered online at <https://call2.army.mil/rfp/default.aspx>. (CAC required)



These challenges create gaps in shared understanding between current and future operations regarding the details of named operations. One challenge in current operations is the initial tracking of operations with systems such as the Tactical Airspace Integration System (TAIS), Dynamic Airspace Collaboration Tool (DACT), Force XXI Battle Command Brigade and Below (FBCB2)/Blue Force Tracker (BFT), and the upgraded JCR and Joint Battle Command-Platform in conjunction with analog products. Upper Tactical Internet Systems (Command Post of the

The SOPs are effective under “normal” conditions, but often must be altered to meet changing conditions in the operational environment. A unit’s SOPs or its revisions facilitates mission accomplishment and WfF integration. Units need to have policies and procedures for operating and maintaining information systems under “normal” operations as well as restoration/recovery plans and procedures when faced with critical failures.

Future [CPOF], Advanced Field Artillery Tactical Data System (AFATDS), TAIS, etc.) are often ineffective in an austere environment with frequent movements (long setup time coupled with limited bandwidth capacity) further complicating situational understanding.

## Best Practices Recommended by Observer-Coach/Trainers

Continue to develop and publish SOPs digitally and in hard copy. Share SOPs across the BCT and with attached echelons above brigade units as early as possible in order to maintain common understanding. However, ensure the documents are “living” and able to be edited/adjusted after each training event. A solution to the TACSOP length issue would be to determine which information is pertinent to all units (i.e., precombat checks and inspection checklists, packing lists, equipment marking, patrol base operations, troop-leading procedures, etc.) and publish them in a base document. Then annexes that cover specific areas (i.e., tactical unmanned aerial systems, route clearance, sapper, retransmission, etc.) can allow leaders quick reference to critical information by capability.

Troops fail to maintain accurate information on unit status (maintenance, supply, and personnel), situational awareness on known and templated enemy locations, and understanding adjacent and higher echelon locations and concept of operations. Often, this is the direct result of the lack of an established SOP for CP operations. In particular, units lack an SOP for the use of digital systems. CP personnel must have an understanding of how they are to receive information, distribute information, analyze information, submit recommendations, integrate resources, and synchronize resources with their digital systems. TACSOP entries should address manning, roles and responsibilities, reports and formats, orders and graphics sharing, and data management. The SOP should also address the maintenance of an analog common COP.

Battalion and battery commanders, along with the battalion fire direction officer and fire direction noncommissioned officer, should ensure every fire direction center (FDC) within the battalion operates utilizing the same doctrinal crew duties. Statistically, past rotations at the NTC have shown that FDCs without defined crew duties take significantly longer than those that follow standardized crew duties as defined by doctrine. It is imperative to get all FDCs to utilize and follow the standardized crew duties outlined in Training Circular 3-09.81, *Field Artillery Manual Cannon Gunnery* (13 APR 2016). Digital master gunners should incorporate performance of crew duties as a grading function for FDCs within their organization as part of their certification criteria. This would ultimately ensure every FDC operates the same way regardless of section personnel changes.

The troop CP is a critical mission command node for the troop. The troop CP accomplishes a litany of critical tasks for the commander including submission and reception of logistics status reports, analysis and synthesis of collected information, and tracking troop and adjacent unit activities. The full list of the duties and responsibilities within the troop CP can be found in ATP 3-20.97, *Cavalry Troop* (01 SEP 2016), Appendix C, Troop Command Post. Without the troop CP, the troop commander essentially becomes the sole mission command node for the troop and accepts much of the troop CP’s responsibilities in addition to his command responsibilities. This can become overwhelming for even the best commanders. Although CP personnel are retained with the troop during operations, the loss of the troop CP largely inhibits them from accomplishing their responsibilities throughout the course of the operation.

While seen as mission critical, troops fail to develop contingency plans for the troop CP in the event it becomes non-mission capable. Analysis of the cavalry troop task organization reveals two options within the troop to address this situation, specifically the mortar section’s organic High Mobility Multipurpose Wheeled Vehicle (HMMWV) and the troop commander’s Bradley.

Using the mortar section's HMMWV as a contingency troop CP allows the troop executive officer to retain freedom of movement, provides FM and digital communications, and allows two other personnel to provide updates to the COP and analog tracking products. However, the drawback to this option is that the mortar section loses its organic trailer used to carry extra ammunition.

The second option for a contingency CP is the commander's Bradley. The commander's Bradley provides adequate working space for up to two CP personnel and provides an FM and digital link forward to the troop's platoons and higher to squadron. The space in the rear of the Bradley allows for degraded analog battle tracking as well. The troop commander and XO also enjoy better coordination with each other as they are co-located. However, this COA possesses more drawbacks than the first recommendation. While the commander's Bradley has a digital link to the squadron headquarters, the troop XO must relay messages through the commander rather than retain the ability to send and receive digital messages independently. Any FM communications from the XO must either be relayed via the squadron command net, or the commander must change channels for the XO before sending reports.

Finally, the co-location of the troop's first and second in command makes the troop vulnerable if the commander's track is destroyed. While the recommendations presented here do have drawbacks, ensuring a contingency CP is planned, codified in the troop SOP, and trained allows the troop CP to remain operational in the event the troop M1068 Standard Integrated Command Post System (SICPS) is rendered non-mission capable. Although some CP capabilities will be lost, retention of situational awareness of the ongoing operation allows the troop to function more efficiently and better operate within commander's intent than if all of the CP's capabilities are lost.

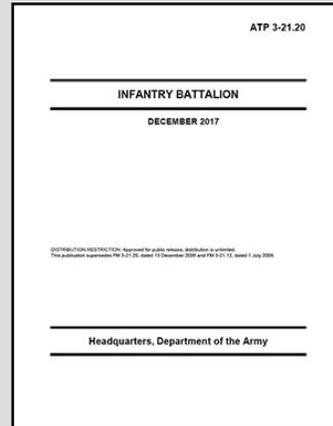
### CALL Resources

CALL publication 13-09, *Company Intelligence Support Team (CoIST) Handbook*, available online at <https://call2.army.mil/toc.aspx?document=7101> (CAC required), provides detailed information on CP operations at the company level. The CoIST handbook captures lessons learned and TTP of the CoIST in the operational environments that will enable CoIST to support operations across the spectrum.

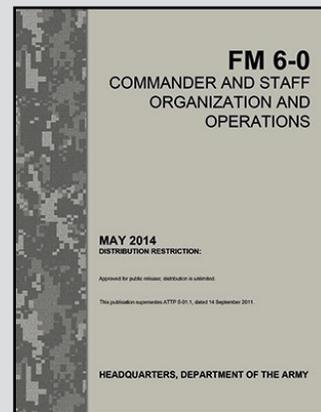


**Army Doctrine**

Battle tracking (not icon tracking) operations are outlined in ATP 3-21.20, *Infantry Battalion* (28 DEC 2017), available online at [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN6672\\_ATP%203-21x20%20FINAL%20WEB.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN6672_ATP%203-21x20%20FINAL%20WEB.pdf).



See also Field Manual 6-0, *Commander and Staff Organization and Operations* (05 MAY 2014), available online at [http://www.apd.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN3747\\_FM%206-0,%20C2%20Incl%20-%20FINAL%20WEB.pdf](http://www.apd.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN3747_FM%206-0,%20C2%20Incl%20-%20FINAL%20WEB.pdf).





## Chapter 3

### Army Tactical Task 5.3 Conduct Knowledge Management and Information Management

**Trend: Units are challenged to conduct knowledge management and information management.**

- A. Display a common operational picture (COP) tailored to user needs.
- B. Disseminate a COP and execution information.
- C. Manage information and data.

The third trend is conduct knowledge management and information management. This task accounted for nearly one tenth of the total improve observations (31 out of 359). Of these observations, about two thirds were associated with displaying a COP tailored to user needs. These 31 observations are a 200 percent increase from the fiscal year 2016 trends on this task. This trend moved up from 8th to 3rd in fiscal year 2017.

#### A. Display a Common Operational Picture Tailored to User Needs

Incomplete COP displays lack the critical information needed by commanders to assist in the visualization of their organization. They visualize the battlefield immediately upon entering the tactical operations center (TOC).

#### Root Cause Analysis

Units lack the use of a single display of relevant information within a commander's area of interest tailored to the user's requirements and based on common data and information shared by more than one command, therefore, creating an incomplete COP. Units struggle to establish a COP in analog and digital form due to lack of standardization of what information is critical to decision making, what needs to be displayed, where it needs to be displayed, and in an established format. Units struggle to maintain a detailed and updated COP within the TOC.

The TOC does not provide the battalion commander or staff with a true understanding of the battlefield. The COP lacks the detailed analysis displayed in analog and digital form such as a military combined obstacle overlay; fires, boundaries, enemy, and scheme of maneuver overlays on the map; or Joint Capabilities Release (JCR)/Command Post of the Future (CPOF)/Joint Battle Command-Platform (JBC-P). COPs are rarely updated with the subordinate unit's locations, enemy locations, significant acts, or adjacent units. This leads to a TOC/current operations (CUOPS) staff that is unable to conduct the rapid decision-making and synchronization process. The COP should be tailored to the specific unit and its function.

For example, a COP in an attack helicopter company/troop may have specific enemy graphics, templated surface-to-air weapon systems, named areas of interest, aircrew data, and other key information versus an aviation maintenance company/aviation maintenance troop whose COP would reflect information pertinent to the aviation maintenance company/aviation maintenance troop's mission. Information that makes the COP valuable for an aviation maintenance company/aviation maintenance troop includes an aircraft maintenance status for the entire aviation battalion task force, repair parts status, and a map of the area of operations. An effective map of the area of operations for the aviation maintenance company/aviation maintenance troop will also have templated enemy graphics as well as identified landing zones during air assault missions to help facilitate downed aircraft recovery team planning and contingency operations.

The COP should be updated frequently to reflect the most current information. Units often fail to update the COP or even produce a map of the area of operations with operational graphics and control measures. Analog COPs require a material time investment and to be effective must be consolidated, common across echelons, and continuously updated. The standards of these updates must be defined across the organization so the executors stay on track.

Additionally, units struggle to enforce a battle rhythm which drives the reporting and assessing aspects of the operations process to facilitate accurate, timely, and relevant information being shared across the organization internally (across the warfighting functions in the staff and companies) and externally to adjacent and higher units that assist in updating the COP.

### **How to Reverse the Trend**

Units that perform this task well present relevant information in audio or visual formats that convey the COP for decision making and exercising other command functions. The COP format should be understandable to the user and tailored to the needs of the user, unit and the situation, and mission.

During the military decisionmaking process (MDMP), the planning staff must produce fighting products for the subordinate units and the necessary tracking products for the CUOPS staff. These products can include digital and acetate overlays, execution checklists, a synchronization matrix, and operational graphics. Upon completion of the combined arms rehearsal, the CUOPS staff begins battle tracking and keeping the COP updated in the TOC so the commander can see his organization and visualize the battlefield immediately upon entering the TOC. The COP should be a single display of relevant information that also creates clear shared understanding among the staff.

### **Best Practices Recommended by Observer-Coach/Trainers**

The Army does not have a standardized analog COP or list of materials. Therefore, input must be provided by the commander at echelon for development, as it is a tool to assist his visualization. The COP generally consists of a 1:25,000 scale map, magnetic or pushpin doctrinal symbols, overlays, and additional paper charts for updating information.

The best analog COPs are usually designed as having a four- by four-foot board with a metallic or cork backing, mounted at a 45-degree angle with magnetic graphical pins, underneath a 1:25,000 scale map with a minimal amount of overlays that faces all of the warfighting function desks, and has a digital COP to the side or behind it. The location of the analog and digital COP is generally better when they are adjacent to each other as well as visible for quick reference.

Successful practices for personnel include either the battle captain or the battle noncommissioned officer (NCO) being the appropriate person for moving markers on the map. An intelligence and fires representative are the other two nearest personnel to the map to update overlays. The digital and analog COP should be viewable by the commander from his desk, as well as by the field grade/operations sergeant major who have a permanent place in the TOC. The remaining support personnel should also face these COPs to visualize and take direction from the battle captain/NCO.

## **B. Disseminate the Common Operational Picture and Execution Information**

The COP and execution information was not disseminated between headquarters in time with sufficient quality and quantity to allow the headquarters to initiate actions that met the commander's intent.

### **Root Cause Analysis**

Rotational units have shown varying levels of degrees in reporting during high-tempo operations. Lack of a unit standard operating procedure (SOP) covering combined or independent command posts (CPs) limits the ability of the unit to conduct mission command due to inadequate battle tracking and reporting from company to battalion. The battalion is unable to maintain an adequate COP because of an inadequate company CP. Company CPs are often a green notebook in the company commander's pocket with little digital or analog battle tracking. Company commanders struggle with limited communications with subordinate platoons and teams to receive reports and do not have an SOP to process information within the company CP. Some company commanders do not understand the importance of a CP and deliberately fail to establish any CP. Units do not convey relevant information of any kind from one person or place to another by any means to improve understanding or to initiate or govern action, conduct, or procedure.

### **How to Reverse the Trend**

Companies should train on CP operations and develop SOPs that cover manning, equipping, sheltering, protecting, and connecting the CP with subordinate, adjacent, and higher units. Responsibilities and formats for reporting must be understood from battalion to platoon level. Commanders must plan and issue orders for each phase of the operation, and not just an initial operation order in the interim staging base.

### **Best Practices Recommended by Observer-Coach/Trainers**

The key to successful CP operations is the ability of the organization's leaders to understand the problem, visualize an outcome, describe the format for the solution in the SOP, and ensure compliance with the company SOP. Units that do not incorporate pre-planned SOPs and rely on hasty CP operations without the use of a common SOP often do not succeed at meeting all training requirements set forth upon arrival at the combat training centers (CTCs).

CPs must be exercised at home station using digital and analog tracking systems with thorough communications training for platoons and CP personnel alike. Platoons should employ their OE-254 antennas to extend their frequency modulation range. CPs and platoons cannot rely solely on JCR and must have a complete primary, alternate, contingency, and emergency (PACE) plan and must be trained to build and use overlays in the JCR or Blue Force Tracker (BFT).

## C. Manage Information and Data

Artillery firing batteries at the CTCs struggle with ammunition management and effective data management in the Advanced Field Artillery Tactical Data System (AFATDS) and Digital Flight Control System (DFCS).

### Root Cause Analysis

The unit had ineffective data management and tracking of ammunition in AFATDS and DFCS at the battery level due to not having a centralized individual to conduct ammunition management, ineffective shift changes, and lack of understanding field artillery tasks and ammunition management.

The battery did not lack a leader managing ammunition, but rather had too many leaders involved in ammunition management. Instead of designating one leader to manage the ammunition and send updates, each of the battery leaders sent updates without communicating with the other. As a result, the fire direction center (FDC) received ammunition updates at different times of the day from the battery commander, platoon leader, first sergeant, and gunnery sergeant. The FDC continued to update its ammunition tracker, but did not conduct analysis as to why its ammunition numbers changed even though it had not fired any rounds in several hours. This affected the FDC's ability to process fire missions. There were numerous occasions when the FDC thought it was "black" on ammunition, however the commander was tracking otherwise. Not knowing the ammunition on hand by type affected the FDC's ability to deliver fires and its fire mission processing times.

Platoon FDCs operated independently only thinking of platoon operations instead of battery operations. The battery also struggled with cross-loading its ammunition based on their field artillery tasks. The batteries loaded their ammunition based on the preponderance of type of ammunition rather than their field artillery tasks. This became an issue when a majority of their guns only had M107 high explosives, when their field artillery task was to provide smoke obscuration. Their M825 smoke rounds were on the field artillery ammunition support vehicle rather than on the guns. This did not allow responsive fires. Their missions requested smoke because the battery had to re-allocate ammunition.

### How to Reverse the Trend

At a minimum, the platoon FDCs should have an accurate count of rounds, propellants, and fuzes by type, square weight, and lot code. The FDC needs accurate ammunition data to meet the five requirements for accurate fires. Additionally, platoon leaders need to understand ammunition management to ensure proper distribution of ammunition on the gun line. Ensure that when firing, batteries at the CTCs operate simultaneously with two platoon FDCs, and there is effective cross talk about managing the battery's ammunition inventory and AFATDS data. When a single-platoon FDC leaves, ensure there is a pass-down inventory to share a COP of ammunition when taking control of the other platoon's guns.

**Best Practices Recommended by Observer-Coach/Trainers**

Artillery unit commanders from the battery commanders through the fire support coordinator should ensure every FDC and gun crew within the battalion understands ammunition management. The battalion tactical standard operating procedure (TACSOP) should outline the standard for what type and how much ammunition to shoot during standard fire missions. A unit's TACSOP should also outline the amount of ammunition each vehicle can carry and its standardized load out. This will give the unit an idea of what should be loaded on the guns and ammunition carriers in relation to each battery's current field artillery tasks. It is imperative that the battery understand its field artillery tasks so that it knows the targets it is responsible for and the munitions required to prosecute those targets. If the battery does not understand this information, it will place the wrong ammunition on the gun line, which leads to less responsive fires. Battery training should focus on knowledge of ammunition management and reporting to include the capacity of ammunition that each vehicle in their formation can carry. This will help leaders plan ammunition distribution and triggers for resupply.



## Chapter 4

### Army Tactical Task 4.1 Provide Logistics Support

**Trend: Units are challenged to provide logistics support.**

- A. Provide maintenance management.
- B. Provide supplies.

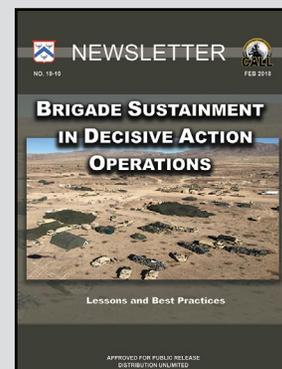
This trend has fewer observations than fiscal year 2016 by 25 percent. Only the sub-task, provide maintenance management, is the same. Provide supplies is new for this fiscal year. This shows a positive direction in sustainment at the brigade combat team (BCT) level and below and should continue as home-station training realism and combat training center (CTC) rotations continue to provide BCT leaders and sustainers with more experience.

Logistics involves both military art and science. Knowing when and how to accept risk, prioritizing myriad requirements, and balancing limited resources require military art while understanding equipment capabilities incorporates military science. Logistics integrates strategic, operational, and tactical support of deployed forces while scheduling the mobilization and deployment of additional forces and materiel. Logistics include maintenance, transportation, supply, field services, distribution, operational contract support, and general engineering support.<sup>1</sup>

Within the sustainment warfighting function, Army Doctrine Reference Publication (ADRP) 4-0, *Sustainment* (31 JUL 2012), states “the sustainment staff’s role in synchronizing sustainment planning with operations is necessary to assist operational commanders and staffs set the conditions for what is in the realm of the possibility.”<sup>2</sup> In order to synchronize the sustainment plan, the BCT S-4 and the brigade support battalion (BSB) support operations officer (SPO) must understand their roles and responsibilities.

#### CALL Resource

Center for Army Lessons Learned (CALL) newsletter 18-10, *Brigade Sustainment in Decisive Action Operations*, available online at <https://usacac.army.mil/sites/default/files/publications/18-10.pdf>, discusses observations and best practices from the National Training Center (NTC) that can help units in synchronizing the sustainment plan with the scheme of maneuver and in developing home-station training that addresses observer-coach/trainer (OC/T) observations.

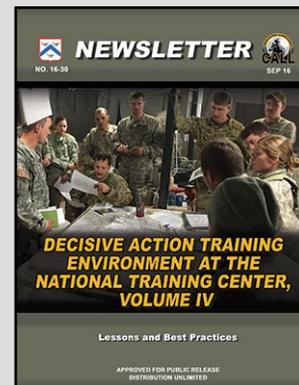


The BCT S-4 and SPO coordinate planning and execution of the brigade support mission. BCT S-4s and SPOs are often challenged to identify their roles prior to arriving for a rotation at a CTC. As noted in CTC observations, they frequently fail to identify who is responsible for which logistical function, how to ensure everyone in the brigade knows who is doing what, and how to train at home station to provide logistical support.

A successful technique to mitigate the challenges of synchronization is for the BCT S-4 and SPO to understand each other's roles while training at home station. They must identify who will be responsible for managing, preparing, and leading the logistical reports and orders for the BCT. The orders, reports, and meetings expected to be produced or organized include Paragraph 4, Annex F, and concept of support (per phase); logistics status (LOGSTAT); logistics common operational picture (LOGCOP) development; logistics synchronization (LOGSYNC) matrix; and LOGSYNC and maintenance meetings. The S-4 and SPO should work together in the production of all of these items. Each is responsible for leading specific actions. The BCT S-4 should produce Paragraph 4, Annex F, and the initial concept of support of the operation order (OPORD) for each phase. The BCT S-4 is also responsible for collecting the LOGSTAT from each battalion and submitting it to the division. The SPO is responsible for taking the OPORD products produced by the BCT S-4 and developing a concise and executable concept of support. Once the BCT S-4 has consolidated the BCT LOGSTAT, the SPO should produce the brigade's LOGCOP. The SPO also produces the LOGSYNC matrix and uses it to lead the LOGSYNC and maintenance meetings.

### CALL Resource

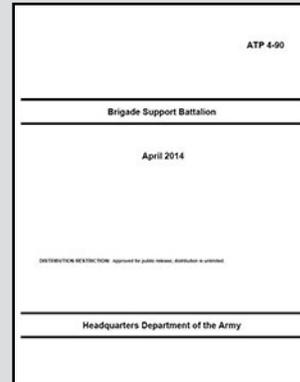
CALL newsletter 16-30, *Decisive Action Training Environment (DATE) at the NTC Volume IV*, Chapter 13, contains additional information on defining logistics roles and responsibilities. The newsletter is available for download online at <https://call2.army.mil/docs/doc7413/16-30.pdf#page=1>. (CAC required)



### Army Doctrine

Army Techniques Publication (ATP) 4-90, *Brigade Support Battalion* (02 APR 2014), contains information on sustainment at the BCT level and is available online at [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/atp4\\_90.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/atp4_90.pdf).

See also Field Manual 3-96, *Brigade Combat Team* (08 OCT 2015), Chapter 9, available online at [https://armypubs.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/fm3\\_96.pdf](https://armypubs.army.mil/epubs/DR_pubs/DR_a/pdf/web/fm3_96.pdf).



At the battalion level, successful units define the roles and responsibilities of the S-4 and the forward support company (FSC) commander as an essential step in providing logistics support. The S-4 is the staff officer primarily responsible for logistics operations and plans. The S-4 is the staff integrator between the battalion commander and the FSC commander who executes logistics operations for the battalion. The FSC commander assists the battalion S-4 with the battalion logistics planning and is responsible for executing the logistics plan in accordance with the BSB and supported battalion commander's guidance. The S-4 has several responsibilities during battalion operations to ensure the continuous execution of support operations by the FSC. These include consolidation of the battalion LOGSTAT, requesting ammunition via Department of Army (DA) Form 581, *Request for Issue and Turn-In of Ammunition*, planning and coordinating logistics package (LOGPAC) operations, and determining logistics release point (LRP) locations and execution time. The submission of logistics reports from the companies, their consolidation into a battalion status, and submission to brigade and the BSB are the actions necessary for accurate and timely forecasting and the maintenance of the LOGCOP.

The S-4 is generally located in the combat trains command post (CTCP), which maintains the LOGCOP for the battalion as part of being an alternate command post. This provides the S-4 with an understanding of friendly locations and future operations that are needed to properly place LRP and coordinate LOGPAC. The FSC commander should assist in planning these logistics operations, but the S-4 is responsible for the plan. In units where the FSC commander rather than the S-4 has planned the LOGPAC and LRP location and time, resupply has become desynchronized.

Accurate and timely LOGSTATs are a challenge for many units. A unit's ability to capture and report LOGSTATs at all echelons significantly affects its capability to forecast and transition to predictive sustainment planning. LOGSTAT reporting is often inconsistent and inaccurate during decisive action rotations. Effective sustainment rehearsals are necessary to ensure the operation plan can be supported and to ensure everyone understands the concept of support during each phase of the operation.

Army Tactical Task (ART) 4.1, Provide Logistics Support, is a broad, overarching task. Within ART 4.1, the observations were categorized under two main tasks: provide maintenance management and provide supplies.

## **A. Provide Maintenance Management**

An area that challenges BCTs is providing maintenance management. A challenge in maintenance management is the movement and control of sustainment assets on the battlefield. Moving toward the forward line of troops with sustainment assets must be rehearsed and well understood by the FSC elements and the maneuver company they support. Maneuver first sergeants and company supply sergeants are critical in synchronizing the movement of sustainment assets and commodities to the warfighter on the forward line.

Battalions are challenged to ensure combat power and maintenance statuses are synchronized. Successful units conduct regular maintenance meetings scheduled on the battle rhythm. Coordination between the battalion S-4 and the FSC maintenance technician ensures the combat power status reflects the maintenance status and provides the battalion the ability to influence generation of combat power (prioritize repairs or recovery). Synchronizing combat power trackers and maintenance status among the battalion, FSC, and supported companies is essential in maintaining, building, and planning for combat power. Without an accurate LOGSTAT and minimal daily coordination between the FSC and the supported battalion, units do not have a true picture of capabilities for current and future operations.

### **Root Cause Analysis**

Many issues with maintenance management comes down to information flow. A functional COP of maintenance status and effective communications is needed to get parts ordered quickly and fix forward.

### **How to Reverse the Trend**

A technique used by successful units has been to place field maintenance teams forward of the CTCP, co-located with supported maneuver companies. This will provide the companies with the ability to quickly regenerate combat power. Each team is equipped with the tools and recovery assets for the type of company they support. Mission command is with the field maintenance teams' senior mechanic who uses Joint Capabilities Release (JCR)/JCR-Logistics to communicate with the CTCP about vehicle faults and requirements for additional support. Field maintenance teams execute the "fix-forward" concept to enable the BCT's success in tactical operations.

Units proficient in Class IX supply requisition put damaged or dead-lined vehicles on the Army 026 Report (generated by the Standard Army Maintenance System [SAMS-2]) and order parts against it. They are able to track the part in the system and will frequently receive the part before the unit attempts a walk through. In recent rotations, units that used a walk through over the 026 Report requisition waited on parts for an average of four days more than units who ordered similar parts through the 026 Report requisition. By using the 026 Report, a unit can also better track its use of unit funds for Class IX supplies. OC/Ts recommend that maintenance control technicians and maintenance control officers limit the use of walk-through requisition and train on SAMS-2 and the Global Combat Support System-Army (GCSS-A). GCSS-A has proven to be a useful tool in the tracking of parts and speeding up the process of requisition.

## Best Practices Recommended by Observer-Coach/Trainers

In addition to improving overall mission command, units going to a CTC should focus on fully synchronizing sustainment elements into their MDMP. In addition, emphasis should be placed on improving current operations and future operations relationships with maintenance leaders and their understanding of their maintenance company's capabilities and limitations. Mission rehearsals should include all elements of the task force regardless of direct level of involvement.

Line replaceable units (LRUs) can be added to the authorized stockage list as reparable exchange lines stored at the supply support area (SSA). When a combat system becomes non-mission capable for that particular LRU, it is added to the deadline report and the LRU is ordered. The crew then turns in the bad LRU to the SSA and receives the replacement. The faulty LRU is then job ordered to the Direct Support Electrical Systems Test Set (DSESTS) section for repair. DSESTS can order necessary circuit cards against a demand-supported shop stock. Upon completion of the repair, the LRU is returned to the SSA to be added back to the authorize stockage list. The division G-4 should request and add a stockage code to the LRU to ensure it does not get released outside the BCT.

Units predominantly collect and distribute DA Form 5988-E, *Equipment Maintenance and Inspection Worksheet*, during logistics LRP operations. Some units make the company first sergeant or platoon sergeant responsible for tracking DA Form 5988E. First-line leaders must also ensure Soldiers complete the DA Form 5988E to standard. Common deficiencies are lack of an annotated corrective action and maintenance supervisor's signature. Unit leaders must check the completed form before forwarding it to maintenance personnel. Unit personnel must train to this standard at home station. If Soldiers care about the process and develop pride in their equipment, they will perform proper preventive maintenance checks and services and improve the quality of the DA Form 5988E submission.

### B. Provide Supplies

An area that challenges BCTs is providing supplies.

#### Root Cause Analysis

**Provide supplies.** Sustainment in a decisive action or multinational environment has been identified by all the CTCs as one of the fundamental skills necessary for successful operations at a CTC. ART 4.1 is representative of the sustainment experience from each of the CTCs. BCT, battalion, and BSB staffs are challenged to provide logistics support to their brigades. Observations in the logistics area are often the result of other tasks. The root causes of poor performance in many logistics tasks can be traced to tasks listed under the mission command warfighting function. Take Home Package (THP) comments from CTC OC/Ts have focused on defining sustainment roles and responsibilities of the BCT and battalion staffs and the BCT S-4 and BSB SPO at the brigade level, and the battalion S-4 and FSC commander at the battalion level; establishing and maintaining a LOGCOP; maintaining accurate LOGSTATs; forecasting logistics requirements; having a logistics SOP that is understood and followed; and having a disciplined logistics process. Additional causes include gaps within the logistics planning process sustainment SOPs and inadequate or nonexistent sustainment rehearsals.

Each of these classes of supply rely on four essential actions: forecasting (also known as projection or requirements determination), requisition, distribution, and retrograde. During an operation, these tasks may be performed sequentially or concurrently, as required. Observations in this area generally addressed roles and responsibilities, forecasting and distribution, Class IV preparation and distribution, locations of assets, and sustainment rehearsals.

Sustainment is often desynchronized between the support echelons. Battalion distribution plans are inconsistent in terms of the capability and Soldier skill set placed at the combat and field trains. Sustainment doctrine allows the BCT flexibility in the manning and arraying of sustainment forces between the field trains command post (FTCP), CTCP, and the company echelon or trains. The concepts of support that do not work often cause emergency or immediate and unplanned resupply situations. By using known requirements, capabilities, and consumption rates for all classes of supply, sustainment planners should produce a logistics estimate with a logistics task order that mitigates shortfalls and back haul.

BCT sustainment planners are generally challenged in conducting this anticipatory logistics analysis (forecasting) and are not informed on the science of maneuver warfare and armored tactics. This lack of understanding and poor forecasting drive multiple unplanned resupply operations. To achieve proactive versus reactive support, in successful units, the sustainment planners produce a continuously updated logistics estimate that takes into consideration the distance traveled by the maneuver task force, the time needed to travel those distances, and the consumption rates for all classes of supply. This log estimate informs the concept of support that specifies the logistics task order of the FSC assets between the FTCP and the CTCP. Thorough logistics estimates and concepts of support assist in the emplacement of FSC assets optimally at these echelons.

**LOGSTAT and LOGCOP.** To avoid third-order effects that can cost Soldiers' lives, logistics planners must be able to develop a complete LOGCOP of the area of operations. But that picture cannot be achieved unless units provide timely and accurate LOGSTATs. The LOGCOP begins with knowledge and data of the logistics status before the operation begins. Accurate and timely reporting combined with constant updates to the current status are what provide the BSB commander, SPO, BCT S-4, BCT commander, and S-3 with an understanding of the sustainment status of the brigade. The LOGSTAT is what then facilitates future operations and maintains current operations. Without an accurate LOGSTAT and LOGCOP, operational planning is based on a logistical unknown. Successful units rely on a disciplined sustainment process to forecast requirements, acquire the needed logistical classes of supply, get the supplies delivered where needed, and return the distribution assets so the process can continue.

The logistics estimate worksheet is an effective tool to facilitate logistics estimates and planning for all classes of supply. The logistics estimate worksheet has been used during DATE rotations as a forecasting tool to preclude emergency resupply requests. The LOGSTAT report is the feeder for the visibility, forecasting, and execution of the sustainment mission. Consequently, the LOGSTAT report must be detailed enough to be an effective tool but also easy enough for everyone to use and understand. Once the LOGSTAT format is determined, an effective data-transfer battle rhythm must be established to develop an effective LOGCOP.

Many battalions have been observed co-locating their FTCP within the brigade support area (BSA). Placing the FTCP within the BSA can facilitate coordination, security, and mutual support. Consideration must be given and a risk assessment done to ensure the FSC can remain responsive to the needs of its supported battalion. A specific consideration is the ability to maintain an emergency resupply package of Class III and V supply at the CTCP. If that is not possible due to manning or distance, the squadron's FTCP may need to be located closer to the forward line of troops. Any positioning of logistics assets requires a risk assessment. Designation of LRPs is another planning consideration. LRP locations and times must be followed in order to maintain adequate logistical support. Unless LRP discipline is maintained, LOGPAC resupply can be delayed simply due to time-distances involved in transit.

Synchronization within the BSB has been a challenge for many brigades. When a battalion S-4 and FSC commander do not agree on the concept of logistical support, the process is not synchronized and the plan is at risk of failure. Battalion S-4 and FSC commander tracking of different running supply estimates have resulted from receipt of inconsistent, non-standardized LOGSTAT reports. This makes accurate tracking of on-hand quantities of supply as well as forecasting future requirements very difficult. Consequently, the forecasting, managing, and supplying commodities (Classes I, III, V, and IX) to the supported companies can be constrained.

Battalion S-4s and FSC commanders continue to struggle with Class V forecasting, resulting in desynchronized logistical plans and unscheduled resupply convoys often under emergency conditions. This adversely affects the FSC's planning and management of its assets and increases risk from fatigue on distribution platoons. This is especially true in fire support battalions. The S-4, S-1, battalion surgeon, and the FSC commander "... form a sustainment planning cell at the battalion main command post to ensure sustainment plans are fully integrated into operations planning."<sup>3</sup> The integration of this planning cell provides critical information to operational planners that ensures the battalion has adequate amounts and types of ammunition to support field artillery tasks. As a component of the sustainment running estimate, the S-4 should understand the required supply rate, controlled supply rate, and authorized basic load, and be prepared to provide input to the S-3 and planners as mission analysis progresses into course of action development. During mission analysis, the S-4 should use logistical forecasting tools such as the logistics estimate workbook (LEW), in order to identify Class V requirements early, and then coordinate with the FSC commander to solidify the distribution plan. Integrating the S-4 and FSC commander during home-station training and using Combined Arms Training Strategies (CATS) tasks and associated key collective tasks will help to facilitate Class V operations when deployed to a CTC.

### CALL Resource

CALL newsletter 16-29, *DATE at the Joint Multinational Readiness Center (JMRC) Volume III*, Chapters 10, 11, and 12, contain additional information on defining logistics roles and responsibilities in a multinational environment. It is available online at <https://call2.army.mil/docs/doc7412/16-27.pdf#page=1>.



### Best Practices Recommended by Observer-Coach/Trainers

FSC commanders must understand the supported commanders' intent. This is essential to making sure sustainment is synchronized and the appropriate level and type of sustainment is forecasted. Sustainment planners participate in all aspects of the MDMP to ensure synchronization and unity of effort. FSC commanders as well as the battalion S-4 add to the MDMP and provide planning considerations in conjunction with the battalion commander's intent.<sup>4</sup> The concept of support is then derived from running estimates developed using a variety of planning tools. These running estimates project consumption rates for key classes of supply, casualty figures, maintenance requirements, and other sustainment requirements that are then executed by the FSC commander.<sup>5</sup>

Develop a consumption rate for each of the classes of supply. Draw enough supplies to last for the desired operational timeline (preferably 72 hours) and ensure it is nested with the squadron's concept of support. Use the consumption rate to forecast what will be needed and where the troop might be located based on the operational tempo. This will enable the troop to maintain momentum and make resupply efficient and sustainable.

Sustainment for the military intelligence company (MICO) must be thoroughly planned and clearly articulated within the BCT OPORD. During BCT planning, the MICO commander assists the BCT S-2 in developing tasks and employment strategies for MICO signals intelligence collection, human intelligence collection, and unmanned aircraft system (UAS) platoons. The MICO commander also recommends task-organization and command and support relationships to the BCT staff for optimum use of military intelligence collection assets, establishment of sustainment and security relationships with the BCT headquarters company, and subordinate battalions to sustain and protect military intelligence company personnel and equipment. Sustainment for the MICO should be a combined planning effort by the BCT S-2, parent battalion S-4, and the company executive officer to ensure all pillars of sustainment are meticulously planned and included in the BCT OPORD. All supported battalions must understand their roles and responsibilities in employing and sustaining intelligence assets. Detailed planning by the aforementioned individuals will ensure that intelligence operations are conducted seamlessly with no degradation due to sustainment.

Retransmission (RETRANS) teams are positioned to provide maximum frequency modulation communications coverage to the BCT. The brigade engineer battalion (BEB) and signal company commanders must take the following into consideration to ensure RETRANS sites are sustainable:

- What are the command and/or support relationships for each RETRANS team?
- Is the sustainment plan synchronized with the operation plan?
- Is there enough flexibility in the sustainment plan to allow RETRANS freedom to displace in order to support maneuver elements?
- Are RETRANS sites accessible by ground? If not, is there an alternative site for resupply or has coordination been made for aerial resupply.

Parallel planning involving the BCT, BEB, signal company commander, and FSC commander can eliminate RETRANS sustainment issues. The signal company commander needs to be incorporated into the BEB or supporting task force sustainment rehearsal and must participate in battalion LOGSYNC meetings.

The brigade needs to instill in all the battalions/squadron that when an enabler is attached to a Soldier, he is the primary provider of all classes of supply. Since the reconnaissance squadron is the parent unit, Classes II and IX supply can flow through those channels. However, strictly planned coordination needs to encompass the weapons company and its platoons that are attached around the battlefield. Additionally, the plan needs to cover all emergency resupply procedures for the enablers.

OC/Ts recommend that the FTCP co-locate with the BSA to benefit from and augment the security of the BSA and to use the communications network established by the BSB. Locating the FTCP near the BSB command post allows the Warfighter Information Network-Tactical to obtain support from the BSB Command Post Network. FTCPs should maximize the full capability of the very small aperture terminal and combat service support information systems interface.

Successful FSCs and battalion logisticians significantly reduced logistics patrol and back haul requirements through effective use of the LEW and analog tracking tools, improving commodity tracking and forecasting. FSC commanders utilized the LEW to effectively establish a baseline of consumption rate and used this tool to predict future consumption rates. They validated their estimates through deliberate confirmation of quantity distribution through the use of consumption reports delivered by the distribution platoon. The use of these products and techniques resulted in a steep reduction in back-haul requirements for water and fuel. Prior to this observation, units typically back hauled between 12,000 to 15,000 gallons of fuel and 3,000 to 5,000 gallons of water per day. Applying the best practice using the LEW, unit effective logistical techniques resulted in a back haul of less than 1,000 gallons of fuel and 500 gallons of water. This is an estimated 65 percent reduction in fuel back haul and 45 percent reduction in water back haul. The LEW is not the only forecasting tool available, but has been tested and proven to work well.

Other units used the LEW to design and develop analog trackers using the necessary fields (Class III B tab and Class I tab) to track the unit LOGCOP and provide timely observations and recommendations to both the field artillery and BSB leadership. These practices allowed the staff to facilitate running estimates for use during mission planning and the MDMP.

### CALL Resource

Units and individuals can utilize CALL handbook 15-06, *MDMP Lessons and Best Practices*, for a better understanding of the MDMP available online at <https://call2.army.mil/toc.aspx?document=7288&filename=/docs/doc7288/15-06.pdf> (CAC required) or harcopies can be ordered online at <https://call2.army.mil/rfp/default.aspx>.



Confusion over Class IV allocation, building, and distribution negatively impacts the brigade's ability to employ defensive and construction materials in an efficient manner (ART 4.1.3.4, Provide Barrier and Construction Materials [Class IV]). The responsibility of the Class IV process has been observed as being unclear, distorted, or ignored over several CTC rotations. The points of failure in this process are defined in who should allocate materials to each battalion, who should do the construction, and who should distribute materials. Brigades should clearly define the roles and responsibilities of Class IV management in Paragraph 3 and Annex F of the brigade OPOD. Rehearse the Class IV plan in detail during sustainment rehearsals to ensure all supported units, including detached and enabler units, understand what modules they can expect.

### Endnotes

1. ADRP 4-0, *Sustainment*, 31 JUL 2012, pages 1-1 and 1-2.
2. Ibid., page 3-4.
3. ATP 3-09.23, *Field Artillery Cannon Battalion*, 24 SEP 2015, page 7-3.
4. ADRP 4-0, Chapter 3.
5. Army Doctrine Publication [ADP] 5-0, *The Operations Process*, 17 MAY 2012.

## Chapter 5

### Army Tactical Task 6.4 Conduct Operational Area Security

**Trend: Units are challenged to conduct operational area security.**

- A. Establish local security.
- B. Establish observation posts.
- C. Conduct area and base security operations.
- D. Conduct support area operations.

This trend has 12 relevant observations. There were four significant observations on establish local security, two on establish observation posts, five on conduct area and base security operations, and one on conduct support area operations. This trend is new to the top ten for fiscal year 2017.

#### A. Establish Local Security

Units are challenged in establishing local security. Observations range from fundamental tasks such as maintaining security during patrol halts or patrol base activities to engagement area development in securing defensive positions.

Over the course of rotations, units struggle to enforce security and the priorities of work. For example, Soldiers are executing “rucksack flops,” pulling security from their backs, failing to find cover and maintain their weapons. Units are not training in endurance or enforcing standards over long periods of time. The drop in security starts with a failure of individual Soldier discipline once they become tired and hungry. Security continues to decline because leaders, specifically team leaders, do not troop the line and ensure Soldiers are pulling security properly.

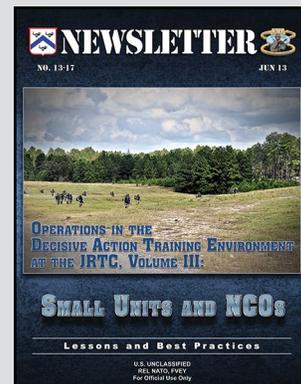
Over the past several rotations, units had the implied task of developing engagement areas to defend and mass fires on critical points in the battlefield. The steps and sub-steps of engagement area development are outlined in Army Techniques Publication (ATP) 3-21.20, *Infantry Battalion* (28 DEC 2017). Steps and sub-steps of engagement area development that are commonly disregarded or executed poorly include the following:

- Identify likely enemy avenues of approach. Rotational weapons company and platoons are too hasty in or skip the initial reconnaissance of the engagement area. Units rarely conduct reconnaissance from the enemy’s perspective.

- Determine enemy scheme of maneuver. Rotational units continually fail to refine the enemy situation as it pertains to their unit echelon. Many under use or do not have an operational company intelligence support team to assist company leadership in describing the fight from the enemy's perspective. The units do not completely analyze and disseminate to subordinates how the enemy will structure the attack, in what formation, or sequence, etc.
- Determine where to kill the enemy. The weapons company fails to properly plan for and disseminate direct fire control measures that match the enemy's scheme of maneuver. At best, it has been observed that the company commander will have graphics on a map overlay. Often however, no direct fire control measures are used.
- Emplace weapons systems. Various key steps of emplacing weapons systems are often ignored. Units rarely drive the engagement area to confirm that selected positions are tactically advantageous. Units rarely plan for alternate and supplementary fighting positions to achieve desired effects.
- Conduct an engagement area rehearsal. There is little emphasis on the rehearsal; often, it is not conducted at all. Coaching focuses on replicating the threat and conducting rehearsals to improve the defense of the engagement area, especially in regards to the use of fire commands and triggers as well as displacement criteria.

### CALL Resource

To better understand engagement area development, see Chapter 3 of Center for Army Lessons Learned (CALL) newsletter 13-17, *Operations in the Decisive Action Training Environment at the Joint Readiness Training Center (JRTC) Volume III*, available online at <https://call2.army.mil/toc.aspx?document=7197&file=true>. (CAC required)



### Root Cause Analysis

Local security issues can be traced to lack of Soldier familiarity and training on fundamental security tasks and sub-tasks as identified in doctrine, standard operating procedures (SOPs), or priorities of work in mission-specific orders. Soldiers are not trained to perform tasks in the absence of specified direction. Units do not follow doctrinal procedures and considerations for engagement area development.

## How to Reverse the Trend

Unit SOPs reinforce doctrinal procedures and considerations. Soldiers and leaders must maintain discipline to act according to SOPs and priorities of work. Leaders must issue appropriate guidance and enforce standards. Train and establish SOPs to implement procedures in ATP 3-21.20.

### B. Establish Observation Posts

Another area in which units struggle is establishing dismounted observation posts (OPs). This is primarily seen in Stryker or armored brigade combat teams in which fire support teams (FISTs) typically operate in M1131 Stryker fire support vehicles (FSVs) or M7 Bradley fire support vehicles (BFISTs).

Both the M7 BFIST and Stryker FSV have the Fire Support Sensor System (FS3), which is an upgraded Long Range Advanced Scout Surveillance System (LRAS3) that has an added laser designator. This is the most precise system in the Army's inventory, achieving 20-meter target location errors (TLEs) at ranges of 10 kilometers. The stand-alone computer unit, which is present in both the BFIST and Stryker FSV, is capable of mensuration and can provide category 1 targeting grids on stationary targets, making them ideally suited for precision targeting. Also, both systems have upgraded communications suites capable of simultaneously monitoring four radio nets and pushing a digital very high frequency (VHF) signal 3-10 kilometers. Furthermore, BFIST and FSV are maneuverable, but only as long as they travel on roads, paths, and some types of limited terrain. They are unable to navigate and establish OPs on mountains and highly restricted terrain that is only accessible by dismounts. Often, rotational units will only attempt to establish OPs on terrain features that have roads or paths leading to the top.

Mounted OPs are typically hard to conceal. Both the Stryker FSV and the M7 BFIST are over 8-feet high, with the BFIST over 11-feet high. Both systems have identifiable FS3 configurations mounted that distinguish them as reconnaissance or fire support vehicles. Because of this, their visual signature is extremely high and easy to spot, especially when they have emplaced on high ground to establish an OP. Since fire support and reconnaissance assets are typically high-payoff targets, opposing forces will quickly identify FSVs attempting to establish OPs and engage them with direct or indirect fire.

Dismounted FISTs use the AN/PED-1 Lightweight Laser Designator Rangefinder (LLDR). This system is not as accurate as the FS3, but is extremely effective when properly calibrated. Dismounted OPs also rely on relay communications through the FIST vehicles to maximize communications range and capability that may not be available in dismounted configurations. Company FISTs that emplace in OPs while mounted in their FSVs, either the M7 BFIST or M1131 Stryker FSV, are less effective at observation and survivability than dismounted FISTs that use the LLDR.

Company FISTs that emplace in OPs while mounted in their fire support vehicles are less effective at observation and survivability than dismounted FISTs.

## Root Cause Analysis

Units are untrained in establishing dismounted OPs from FIST vehicles or unwilling to dismount the vehicles during operations, whether for convenience or to maintain capability with integrated fire support and communications systems of the vehicles.

## How to Reverse the Trend

Units identify the most effective locations for OPs based on observation plans and execution timelines. Employ dismounted OPs when dismounting provides advantages in observation and survivability of the FIST. Use FIST vehicles in concealed locations. Units must develop SOPs that direct dismounted OPs supported by mounted OPs that provide additional sectors of observation and a communications relay.

## Best Practices Recommended by Observer-Coach/Trainers

Units must develop SOPs that direct dismounted OPs supported by mounted OPs that provide additional sectors of observation and a communications relay.

The first step to effective dismounted observation within an armored brigade combat team or Stryker brigade combat team is the implementation of SOPs that support dismounted tactics, techniques,

and procedures. Units must determine how they are going to employ fire support assets. BFISTs and Stryker FSVs are capable at expedient OPs and have enhanced communications abilities. SOPs that direct dismounted OPs supported by mounted OPs will provide dismounted FISTs with a “base station” that can receive calls for fire, mensurate the grid provided if necessary, and process this mission digitally before sending it to the battalion fires cell. Units must train in combined mounted and dismounted fire support tactics and be comfortable executing them.

Physical training must be a priority. Fire support personnel must be capable of foot marching moderate distances (5 to 10 kilometers) over uneven terrain with more than a 45-pound load. Units should plan and execute nonstandard physical training, involving mountain climbing under load. Land navigation, especially during periods of darkness, is essential during this training. Ideally, FIST teams develop the capability to move through restrictive terrain for five to six hours at night, with all the equipment and supplies required to survive in an OP for three to four days.

To locate and plan effective OPs consistently, company/troop, battalion, and brigade fires cells must train to improve their OP selection using the enemy situation template and the modified combined obstacles overlay to determine where OPs will be most useful and concealed. Fires cells must make recommendations to their respective maneuver S-3/commanders on these locations.

Units must be proficient in their dismounted fire support systems. LLDRs are extremely effective when properly calibrated. However, they will not effectively acquire targets if improperly initiated. Mounted units must ensure that they train their Soldiers properly in the setup and maintenance of the LLDR and other dismounted fire support systems.

When selecting the site for the dismounted OP, the reconnaissance platoon section leader ensures there are vehicles overwatching the potential OP site and reconnoiters the site prior to occupation. He then establishes security, overwatching the far side of the site and sweeps the area for enemy activity or booby traps. Once he has confirmed the site is suitable, he issues a five-point contingency plan and displacement criteria to the OPs before returning to the vehicles. Once he has returned to the vehicles, he will select hide sites and fighting positions for the vehicles supporting the OPs. The drivers and gunners will then create a sector sketch for their position.

Considerations for OP site selection can be remembered by using the acronym BLUES:

**B** – Blend in with the surrounding area. Does the site look natural? Does it attract unwanted attention?

**L** – Low-to-the-ground construction techniques are used. Does the site provide protection against small arms and direct weapons fire?

**U** – Unexpected sites should be used. Do the enemy forces expect Soldiers to look out the window or out the small hole in the wall?

**E** – Evacuation routes are planned during site selection. Where is the link-up location with friendly forces?

**S** – Avoid silhouetting of the site by using the sides of hills, not the crests. Can the sniper see a Soldier silhouetted against the skyline, wall, or other object?

A minimum of two scouts man each OP. The two scouts should switch jobs every 20 to 30 minutes because the observer's effectiveness decreases quickly after that time. Essential equipment for the OP includes the following:

- Map of the area with graphics
- Compass
- Communications equipment (wire and radio)
- Observation devices (binoculars, observation telescope, and night observation devices)
- Signal operating instructions
- Report formats
- Weapons such as personal and crew-served. This includes AT4 rocket launchers and appropriate mines.
- Chemical, biological, radiological, nuclear, and high-yield explosives equipment and individual protective equipment to achieve mission-oriented protective posture (MOPP) level-4 gear.

Once the OP is set, the scouts will begin to improve their battlespace and develop a sector sketch with the following essential information:

- Key and significant terrain, including named areas of interest and avenues of approach
- Location of the OP
- Location of the hide position
- Locations of vehicle fighting and observation positions
- Alternate positions (hide, fighting, and observation)
- Routes to and from the OP and fighting positions
- Sectors of observation with dead space identified
- Preplanned artillery targets
- Target reference points for direct fire
- Prepared spot reports and calls for fire based on trigger lines and projected locations where the enemy will first be seen
- Locations of protective obstacles such as Claymore mines and trip flares

Platoon and section leaders must have a firm understanding of the fundamentals of establishing an OP to ensure they meet their reconnaissance objective and provide the commander with a clear understanding of their area of operation.

The following are applicable Army Warfighting Challenges (AWFCs):

- No. 8: Enhance Realistic Training
- No. 9: Improve Soldier, Leader, and Team Performance
- No. 17: Employ Cross-Domain Fires
- No. 20: Develop Capable Formations

The following are applicable Combined Arms Training Strategies (CATS)/Training and Evaluation Outline (T&EO) Tasks:

- Establish a Fire Support Team OP (06-TM-5049)
- Conduct Surveillance from an OP (171-300-0014)
- Supervise Placement of an OP (171-121-3037)
- Plan Company/Troop Fire Support (061-284-3033)

- Plan Fire Support at Company/Troop Level (171-620-0019)

The following are applicable doctrine publications:

- Army Doctrine Reference Publication (ADRP) 3-09, *Fires*, 31AUG 2012
- ATP 3-09.30, *Observed Fire*, 28 SEP 2017

### C. Conduct Area and Base Security Operations

Brigade support battalions (BSBs) attending combat training centers (CTCs) need additional training and increased proficiency in protection warfighting function tasks to include brigade support area (BSA) defense planning, construction of survivability positions, and entry control point operations. Most BSBs are not prepared to defend against Level II enemy attacks.

Many BSBs are challenged in defending against Level II enemy attacks.

Upon occupation, the BSBs fail to maximize protection assets (gun trucks) to conduct security and chemical, biological, radiological, and nuclear sweeps. Their lack of a defensive posture limited the BSB's ability to preserve combat power, maintain 360-degree security, and deter enemy threats. The quartering party does not conduct a terrain walk in accordance with its tactical standard operating procedure (TACSOP). Units do not emplace obstacles, concertina wire, or berms, making enemy breach probable. Range cards are not being completed at entry control points or any of the fighting positions.

Units do not emplace obstacles, concertina wire, or berms, making enemy breach probable.

In accordance with most BSB TACSOPs, the S-3 section exercises mission command over the base defense plan to include the entry control point, quick reaction force, and OPs. However, the headquarters and headquarters company (HHC)/BSB commander performs as the base defense operations center officer in charge, which often conflicts with the S-3 section on who was in command during an attack. The readiness level of the quick reaction force is essential to the BSA's perimeter defense. Typically, the quick reaction force's response time to tactical situations is approximately seven minutes. The BSAs' entry control point typically consist of single strand concertina wire arrayed in a serpentine traffic flow configuration. Entry control point personnel do not know general orders nor are familiar with the BSB TACSOP. However, most entry control point personnel understand escalation of force, deadly force, rules of engagement, and force protection measures.

### Root Cause Analysis

Units focus more on system operational capability than security of positions. Roles and responsibilities for security operations are not clearly defined among personnel and units occupying BSAs.

## **How to Reverse the Trend**

BSBs need clearly defined roles and responsibilities for base defense operations. Prioritize security of positions ahead of placing systems into operation. Incorporate specified priorities of work in unit SOPs. Train and rehearse base security operations.

## **Best Practices Recommended by Observer-Coach/Trainers**

Understanding priorities of work among every company is critical for a BSB to support the brigade. The BSB commander empowering one person to task companies for base defense and that one person working with the S-3 is critical for a successful defense. The best defenses are established in approximately two hours upon occupation. The perimeter includes fighting positions with range cards and communications to the base defense officer in charge or S-3. The BSB should conduct battle drills or rehearsals as soon as possible. These rehearsals include attacks, casualties with aide and litter teams, and reporting criteria internally and externally to adjacent units or the brigade. Emplacing triple-strand concertina wire limits the avenues of approach for the enemy. Rehearse entry control point operations with personnel and equipment with different scenarios.

### **D. Conduct Support Area Operations**

Brigade engineer battalions often receive the mission to secure the BCT's command post. This often results in a base defense mission being assigned to the brigade engineer battalion's HHC. HHC roles in area security and base defense are poorly synchronized. The HHC typically struggles to plan, prepare, and execute the base defense appropriately resulting in a lack of mounted and dismounted primary, alternate, supplementary, subsequent, and strong-point battle positions. Furthermore, direct fire control measures, fires integration, and engagement/disengagement criteria are missing. Rehearsals with all other units within the base defense plan do not occur. Units fail to address engagement area development and commanders fail to assume tactical control of adjacent units to synchronize base defense efforts.

## **Root Cause Analysis**

Roles and responsibilities for security of the brigade combat team command post are not clearly defined in brigade combat team SOPs. Authority for implementing base security measures with available assets is not defined. Units do not have established priorities of work and have not trained and rehearsed support area operations.

## **How to Reverse the Trend**

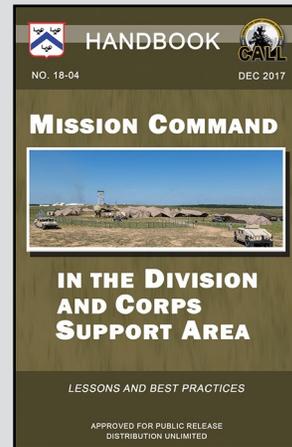
Commanders tasked with area/base defense must assume tactical control of adjacent units early and exercise mission command to ensure all elements understand the mission as well as the commander's intent. Units also need to implement the Common Defensive Control Measures as outlined in ADRP 3-90, *Offense and Defense* (31 AUG 2012). Incorporate specified priorities of work in unit SOPs. Train and rehearse base security operations.

**Army Doctrine**

Additional information can be found in Field Manual 6-0, *Commander and Staff Organization and Operations* (05 MAY 2014), and T&EO Task 07-2-5135, Operate a Command Post.

**CALL Resource**

Additional information can be found in CALL handbook 18-04, *Mission Command in the Division and Corps Support Area*, available online at <https://call2.army.mil/toc.aspx?document=17586>.





## Chapter 6

### Army Tactical Task 5.9 Conduct Cyber Electromagnetic Activities

**Trend: Units are challenged to conduct cyber electromagnetic activities (CEMA).**

- A. Perform electronic protection actions.
- B. Provide electronic warfare (EW) support.

This trend has 13 observations. Six of these observations were on perform electronic protection action and three were on provide electronic warfare support. This also was a trend in fiscal year 2016, but mainly addressed offensive and defensive cyber operations. This year, most were focused on electronic warfare instead of cyber. These observations show that the U.S. Army is trying to improve its CEMA portion of the multi-domain battle and is concentrating on electronic warfare in addition to cyber operations. The U.S. Army has identified the need to improve its equipment and doctrine for CEMA overall.

#### A. Perform Electronic Protection Actions

An area that challenges brigade combat teams (BCTs) is the performance of electronic protection actions, mainly reaction to GPS jamming. Overseas contingency operations capabilities are nascent at the BCT level and the pilot program has shown there are a number of doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy (DOTMLPF) changes needed to increase the effective use of cyber enablers in the fight. Understanding cyber capabilities and then integrating them into the fight is a new challenge .

#### Root Cause Analysis

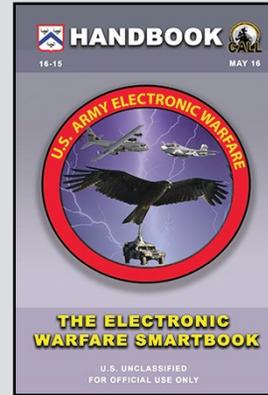
Enabler integration staff officers have little or no experience in cyber capabilities at the tactical or any other level. Expeditionary cyber equipment is needed to make effective use of offensive cyber capabilities at the tactical level. Units become partially effective at integrating offensive cyber capabilities if they have been part of the cyber pilot program at the combat training centers (CTCs) and cyber capabilities are taught to the unit by the U.S. Army Cyber Command training team during home-station training. Most units will lack training and experience in offensive cyber capabilities because the program is still relatively new. If the BCT commander and staff have not trained with the cyber capabilities previously or at least been taught about the capabilities and cyber mission sets in their Professional Military Education (PME), the chances of successful integration are low.

#### How to Reverse the Trend

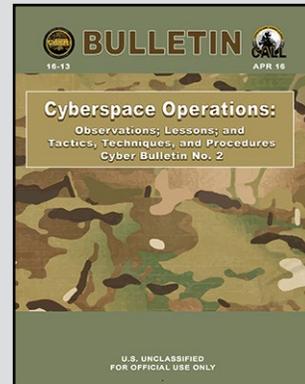
Integration and effective use of EW capabilities will continue to be a challenge and need leadership and institutional emphasis to improve. As more units conduct decisive action rotations at the CTCs with EW capabilities, personnel will become more familiar with EW and cyber capabilities, limitations, and likely mission sets. The institutional Army will need to acquire and field expeditionary EW equipment to achieve success with tactical-level EW operations.

### CALL Resources

Center for Army Lessons Learned (CALL) handbook 16-15, *Electronic Warfare*, is a resource for understanding EW and is available online at <https://call2.army.mil/toc.aspx?document=7383>. (CAC required)

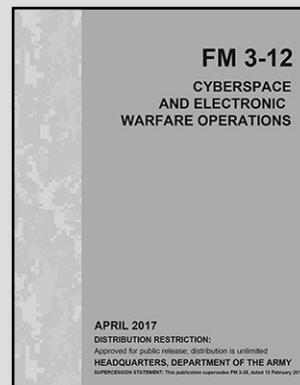


See also CALL bulletin 16-13, *Cyberspace Operations: Observations; Lessons; and Tactics, Techniques, and Procedures*, available online at <https://call2.army.mil/toc.aspx?document=7375>. (CAC required)



### Army Doctrine

Additional information can be found in Field Manual (FM) 3-12, *Cyberspace and Electronic Warfare Operations* (11 APR 2017), available online at [http://www.apd.army.mil/epubs/DR\\_pubs/DR\\_a/pdf/web/ARN3089\\_FM%203-12%20FINAL%20WEB%201.pdf](http://www.apd.army.mil/epubs/DR_pubs/DR_a/pdf/web/ARN3089_FM%203-12%20FINAL%20WEB%201.pdf).



## Best Practices Recommended by Observer-Coach/Trainers

Establish and rehearse battle drills at all levels for responding to electromagnetic interference (EMI). The staff can execute targeting concurrently with operator troubleshooting to save time. Report EMI events to the next higher level as soon as possible. Establish, publish, and rehearse using a standardized EMI report or adopt and use Chairman of the Joint Chief of Staff Manual (CJCSM) 3320.02 C and D, *Joint Spectrum Interference Resolution (JSIR) Procedures*, or a meaconing, intrusion, jamming, and interface report.

The following are pertinent questions to answer:

- What system is experiencing EMI?
- Where is it located?
- When did the EMI start?
- How long has it been happening?
- What is the impact to the mission?
- What frequency is affected?

Units can load their Defense Advanced GPS Receiver (DAGRs) with crypto keys before conducting training at or departing from home station. Prior to entering a contested environment, power on the encrypted DAGR, get a baseline reading of the ambient noise with the Jammer Finder application, and acquire the military signal. This will enable units to operate deeper into a contested environment while providing an additional indicator of enemy activity.

Ensure all Soldiers understand and recognize potential jamming. Standardize reporting procedures so the task force or BCT gets the required information to resolve the issue. As jamming becomes more prevalent in the operating environment, units and staffs must ensure rapid and accurate reporting of EMI, regardless of the suspected source. Jamming could be an indicator for enemy operations while detrimental to friendly operations.

Rotational training units should continue to anticipate enemy EW attacks against their systems throughout each phase of operations. Brigade S-2s should identify enemy EW as part of their enemy course of action during planning and work with their own EW personnel to identify likely locations of enemy jammers. Organic and echelons-above-brigade intelligence assets should be leveraged to locate enemy jammers as soon as possible and fires should be employed to destroy them.

## **B. Provide Electronic Warfare Support**

This trend has observations on the lack of systems currently available to conduct EW and knowledge of the concepts and capabilities.

### **Root Cause Analysis**

The U.S. Army did not continue development of EW systems after the Cold War ended. When faced with the problem of improvised explosive devices (IEDs) during the past 16 years on counterinsurgency, the focus on EW was only to counter IEDs because the Army was not fighting a near-peer threat. Units have not trained in the contested CEMA environment at home station and staff officers do not understand EW capabilities and tactics to integrate these capabilities into the military decisionmaking process (MDMP).

### **How to Reverse the Trend**

Units should develop, share, and refine best practices and tactics, techniques, and procedures (TTP) for organizing and employing tactical EW teams. As the U.S. Army acquires the appropriate tactical EW equipment, units that have been training tactical EW will be further along. The successful task-organization of BCT EW manning to support employment of ground-based EW systems demonstrates that manning is robust enough to field a system, while planning and operationally supporting the BCT and subordinate battalion staffs. Further use of this or similar task-organization models will serve to validate this observation. System fielding and integration at the BCT level will also drive specialization within the EW career field between the officer, warrant officer, and noncommissioned offer (NCO) cohorts. This will allow clearer separation of duties and responsibilities, and a more efficient EW staff.

Continued fielding of ground-based EW systems to BCTs will facilitate the discovery and integration of TTP for future system employment. Planning and integration should begin at home station prior to employment at a CTC or other large-scale exercise in order to validate these TTP. This will drive shared understanding across the BCT formation about the capabilities a ground-based EW system brings to BCT operations. Finally, PME should include blocks of instructions on EW capabilities and limitations at all levels to increase EW knowledge and the chance of successful integration in the operations process.

### **Best Practices Recommended by Observer-Coach/Trainers**

Rotational training units seeking to employ tactical EW teams must develop concepts for employment prior to arrival at the National Training Center and educate their staffs on the capabilities these teams bring to the BCT formation. EW capabilities should be synchronized with the information collection plan in order to answer priority information requirements. Electronic attack should be planned in conjunction with the unit targeting cycle in order to provide effects against enemy forces in support of maneuver.

## DOTMLPF Recommendations

**Doctrine:** Army Techniques Publications 3-36, *Electronic Warfare Techniques* (16 DEC 2014), should be revised to cover tactical employment of ground EW systems or created as a separate publication. This should be rapidly updated in order to facilitate the spread of new TTP to the EW force as it learns more about tactical employment through CTC and deployment experience. Units can also use CALL handbook 16-15, *EW Smartbook*, in addition to doctrine publications.

**Organization:** The fielding of ground EW systems to the formation would necessitate the formation of an EW element from organic EW personnel already present in a BCT modified table of organization and equipment (MTOE). This should be a platoon-sized element that would be located in the military intelligence company of the BCT.

**Training:** New equipment fielding and testing should be conducted with BCT EW platoons as it becomes available. BCT EW staff should also participate in the training to ensure they possess the knowledge necessary to plan for employment.

**Materiel:** Materiel solutions for ground EW currently exist in the form of the Duke system for electronic attack. An interface with the system should be established to more easily and rapidly program it for dynamic targeting.

**Leadership and education:** Updates should be made to education systems through EW personnel at the centers of excellence to account for the employment of ground EW systems.

**Personnel:** An increase in BCT MTOE of one EW technician (290A) warrant officer should be implemented. This provides one 290A warrant officer on the BCT staff for EW targeting and one 290A warrant officer as the ground EW team lead. Organization of EW personnel organic to the BCT would necessitate removing one NCO from each battalion in order to form the EW platoon.

**Facilities:** Installation spectrum clearances should be analyzed to ensure ground EW equipment can be trained in garrison. This will facilitate preparation for CTC rotations and deployment.

BCT fires planning staff need to develop a mechanism to assign targets to the expeditionary cyber electromagnetic activities team (ECT)-provided cyberspace capabilities. For example, the fire support element (FSE), with the BCT S-2 overlays broad named areas of interest (NAIs) on population centers with templated computer networks. The NAI size should not exceed the ECT's collection capability (i.e., if the cyber-intelligence, surveillance, reconnaissance [C-ISR] capability can only collect within 700 meters, then the NAI should not exceed a 700-meter radius). If C-ISR capability is desired over the whole population center, then NAIs should be staggered to accommodate it. When hostile content or intent is discovered within the NAI, it becomes a targeted area of interest and the ECT aligned against it becomes the firing platform. The FSE should sub-categorize the FSE targeting block and designate a portion for targets developed for cyber fires (i.e., out of the FSE target block of AE0001-9999, portion AE900-999 for cyber use).

Update fires doctrine to reflect cyber tasks as part of division FSTs. Update training at all echelons of fire support to include cyber effects and capabilities to better prepare units to synchronize fires in support of a commander's scheme of maneuver.

Establish and enforce a recurring CEMA working group that includes the BCT S-2, S-6, fire support officer, EW officer, CEMA lead, and overseas contingency operations planner. The intent of the meeting is to establish a common operational picture in cyberspace that includes depicting adversaries both physically and logically, identifying blue force critical infrastructure and key resources, and displaying network topologies in the area of operation. In addition, each warfighting function should receive training that depicts how to integrate and employ cyber capabilities at the BCT level.

The BCT's expeditionary cyber team that is task-organized into four cyber teams was effective to support operations. Limitations included logistics, communications, terrain, and time, all essential to coordinate cyber effects. The tactical employment across four maneuver battalions in company/platoon formations requires dedicated time to inform the force on the true limitations and constraints to employ cyber capabilities. Integration should occur during all phases of the BCT's collective training to include field-training exercises and command-post exercises. Training should emphasize reporting to both the BCT and battalion command posts. The development of a cyber reporting format and the utilization of the operations and intelligence net should improve communications across the task force.

## Chapter 7

### Army Tactical Task 4.3 Provide Health Service Support

**Trend: Units are challenged to provide health service support.**

- A. Provide medical evacuation (MEDEVAC) (air and ground).
- B. Provide medical treatment (organic and area medical support).

The seventh trend is Army Tactical Task 4.3, Provide Health Service Support. The challenges units face in conducting MEDEVAC was the leading observation noticed. This task accounted for nearly two thirds of the total improve observations. The leading cause of the improve observations was lack of MEDEVAC and casualty evacuation (CASEVAC) planning.

#### **A. Provide Medical Evacuation (Air and Ground)**

Providing MEDEVAC (air and ground) was a challenge for units as they conducted their combat training center (CTC) rotations.

#### **Root Cause Analysis**

Lack of proper MEDEVAC and CASEVAC planning and execution created challenges for units when evacuating their wounded from point of injury to the Role 1 facility in a timely manner.

**Note:** The lack of planning, coordination, synchronization, and rehearsals at the different echelons of command impact the ability to conduct effective evacuation operations, which can result in patients expiring due to excessive evacuation time.

#### **How to Reverse the Trend**

Units need to plan and execute MEDEVAC and CASEVAC operations to provide direct and area air and ground MEDEVAC support for evacuating sick, injured, or wounded personnel (U.S., joint, interagency, intergovernmental, and multinational forces; enemy prisoners of war; detained or retained personnel; and, when authorized, civilian personnel).

Units evacuate from the point of injury or wounding, casualty collection points, battalion aid stations, ambulance exchange points, or any other designated points where casualties have been located and need evacuating to higher-role medical treatment facilities in the area of operations. Units provide medical care en route to include critical care while transporting patients to, between, and from treatment facilities in the area of operations and document the care provided. Units need to also plan personnel recovery operations and provide emergency pickup, transport, and delivery of medical equipment, medications, and blood products, etc., to, between, and from medical treatment facilities in the area of operations, as required.

Air MEDEVAC, CASEVAC, and resupply are unreliable and cannot be the sole plan for sustainment. A robust ground MEDEVAC and CASEVAC plan to support removal of casualties in a timely manner is crucial to the preservation of combat power.

### **Best Practices Recommended by Observer-Coach/Trainers**

A successful way units have addressed this issue is by leveraging their command sergeant major (CSM). In an effort to synchronize CASEVAC, some CSMs inject themselves into the evacuation process. Working together, the CSM and medical officer (MEDO) apply themselves early in the military decisionmaking process (MDMP) and fully understand the commander's intent and battalion's mission to develop an effective health service support plan. They then create the medical operation plan or order that conforms to the scheme of maneuver and provides the commander mobility and flexibility. During the combined arms rehearsal, the MEDO synchronizes the plan with the line companies, adjacent battalions, and the brigade surgeon cell. At the sustainment rehearsal, the CSM coordinates with the first sergeants to ensure the plan is understood, rehearsed, and synchronized across the battalion. As observed, this unity of effort between the CSM and MEDO is effective through the planning and execution of medical coverage.

The teamwork between the CSM and MEDO, when creating, rehearsing, and executing the medical plan is a best practice observed at the National Training Center. This, in conjunction with an adherence to the six principles of the Army health system (flexibility, control, mobility, conformity, continuity, and proximity) provides the commander with effective, efficient, flexible, and executable plans.

### **B. Provide Medical Treatment (Organic and Area Medical Support)**

Proper triage procedures need to be provided at the battalion aid station and casualty collection point.

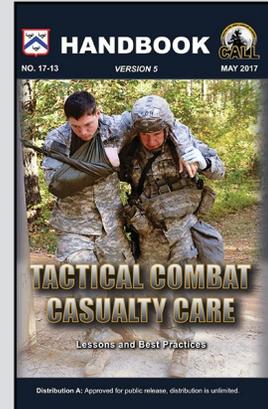
#### **Root Cause Analysis**

Improper triage and treatment of casualties at the casualty collection point and battalion aid station increases combat power loss. Medical providers from the local populace provided initial care for wounded Soldiers. The senior medic did not communicate with the local providers to understand the situation and the treatment provided. The medics on the ground did not assess patients, which resulted in improper patient packaging (i.e., not using litter straps). Lack of senior medic interaction allowed killed-in-action patients to be loaded with live patients in ambulances, which took resources and priority away from the wounded. While en route to the battalion aid station, the medics did not transcribe the care given onto Department of Defense Form 1380, *Tactical Combat Casualty Care (TCCC) Card*. Additionally, the lack of route reconnaissance caused a delay in arriving at the battalion aid station, which resulted in priority patients dying of wounds.

A significant number of Soldiers die of wounds because the battalion aid station did not always conduct proper triage. Medics did not reassess a patient's initial treatments from point of injury during evacuation. Medics focused on the Multiple Integrated Laser Engagement System (MILES) card and not on the injuries sustained by the Soldiers. After finally doing a triage reassessment, the triage noncommissioned officer realized the medics placed the patients originally as priority instead of an urgent status. Medics did not properly acquire needed medical equipment such as a pelvis stabilizer to increase patient's survivability.

### CALL Resource

TCCC guidelines are evidence based and battlefield proven to reduce deaths at the point of injury. TCCC teaches first responders to treat casualties in the proper order, treating the most critical situations first. This is done using the acronyms MARCH (massive hemorrhage, airway, respirations, circulation, head injury/hypothermia) and PAWS (pain, antibiotics, wounds, splinting) Center for Army Lessons Learned (CALL) handbook 17-13, *Tactical Combat Casualty Care*, Chapter 4, illustrates the proper use of TCCC principles of MARCH and PAWS and best practices for conducting TCCC in a combat environment. It is available online at <https://call2.army.mil/toc.aspx?document=17493>.



### How to Reverse the Trend

Medics need to understand that the MILES card is a training tool and they should not rely only on the card for patient triage and treatment. Medics need to use critical thinking skills based on their medical training to perform proper triage procedures and medical treatment. This could be done during home-station training by requiring medics to perform proper triage on patients based on the type of injury and not on specific triage categories. If units are not conducting triage battle drills to enhance medics' knowledge and proficiency, the dying-of-wounds rate will increase. Additionally, units should conduct battle drills to ensure proper loading and unloading procedures, securing patients to a litter, and lifting techniques (i.e., wearing proper personal protection equipment). Senior medics on the ground must understand and enforce standards.

### Best Practices Recommended by Observer-Coach/Trainers

At home-station training, conduct triage battle drills to enhance the medics' knowledge and proficiency and sharpen their critical thinking skills based on their medical training to perform proper triage procedures and medical treatment. Base the training on the causality of injury and not on a specific triage category.

Senior medics need to understand their roles and responsibilities, provide proper leadership and guidance to junior medics, and conduct battle drills for patient packaging and proper loading sequence of patients. Units need to conduct route reconnaissance of area of operations as well as use their Joint Capabilities Release (JCR) platform for navigation assistance, if available. Units should train medics on JCR use and have appropriate graphics posted to assist in evacuating patients from the point of injury or casualty collection point to battle aid station.



## Chapter 8

### Army Tactical Task 5.5 Execute Command Programs

**Trend: Units are challenged to execute command programs.**

- A. Plan training.
- B. Train subordinates and units.

This trend had eight observations, including five on plan training and three on train subordinates and units. There were two significant observations on military intelligence. Military police operations accounted for two observations and chemical, biological, radiological, and nuclear (CBRN) training accounted for one observation. There was one observation on chemical reconnaissance platoon training and two observations on firing battery operations.

Command programs are those required by U.S. Code and Army regulations. In some cases, doctrine also addresses aspects of these programs. Command programs include the following tasks:

- Support commander’s leadership responsibilities for morale, welfare, and discipline.
- Preserve historical documentation and artifacts.
- Conduct official ceremonial, musical, public, and special events.
- Develop a command environmental program.
- Develop a command lessons learned program.

Inclusive in execute command programs is train subordinates and units and plan training.

Units are challenged to execute command programs. Specifically, they are challenged to plan training and to train subordinates and units. As leaders develop their mission essential task lists, they need to ensure the unit properly plans, executes, and assesses the training requirement for the unit to accomplish its mission. Units need to evaluate the demonstrated ability of individuals, leaders, and units against specified training standards. Training may be evaluated against the training objectives or task training standards.

Observations at the combat training centers (CTCs) indicate many units arrive for their rotations untrained in basic tasks. Training is the primary focus of a unit when not deployed. It requires the same level of detail, intensity, and focus that a unit applies to deployed operations. The operations process provides a common framework for units to plan, prepare, execute, and assess training and to integrate leader development into training plans. Battalions and higher units use the military decisionmaking process (MDMP) to develop unit training plans. Companies use troop-leading procedures to develop unit training plans.

## Root Cause Analysis

Discussions with unit leaders have indicated the root cause for units and Soldiers arriving at CTCs untrained on essential tasks has been lack of training at home station. This is true across a variety of warfighting functions, generally at company-level and below tasks.

The purpose of unit training is to build and maintain ready units to conduct unified land operations for combatant commanders. Units build flexibility, integration, lethality, adaptability, depth, and synchronization capabilities through the mastery of individual and collective tasks under the conditions of the anticipated operational environment. Effective training gives Soldiers confidence in their own abilities and their leaders, forges trust, and allows the unit to adapt readily to new and different missions.

Units train any time, at any location, at home station, CTCs, or when deployed for operations. However, units spend most of their time training at home station. The home-station training environment offers a variety of training resources.

Commanders and leaders who understand the opportunities and challenges of home-station training have an edge over those who do not. Observations from observer-coach/trainers (OC/Ts) at the CTCs indicate most units can trace their successes or challenges to how they trained at home station.

Collective task proficiency results from developing tactical, technical, individual, leader, and lower-level collective skills through instruction, experience, and repetitive practice. Commanders develop a unit training plan to develop collective task proficiency.

## How to Reverse the Trend

Units identify a desired outcome, develop effective ways of achieving it, recommend the most effective one, and produce a sequence of activities that achieve expected results. Army Tactical Task, Plan Training, includes assessing training proficiency, articulating a training vision, issuing training guidance, managing time, establishing training events, and allocating training resources to activities and events.<sup>1</sup>

The first step in conducting effective home-station training is planning and resourcing the training. Field manual (FM) 7-0, *Train to Win in a Complex World* (5 OCT 2016), is the authoritative guide for training management and the starting point for understanding how the Army trains.

## A. Plan Training

Home station is where units can focus on training readiness. It provides opportunities to improve proficiencies and make maximum use of available training resources. At home station, the key to quality, efficient training is early planning and resourcing. To effectively train, leaders must determine the tasks to be trained, what resources are available locally, and how to obtain those resources.

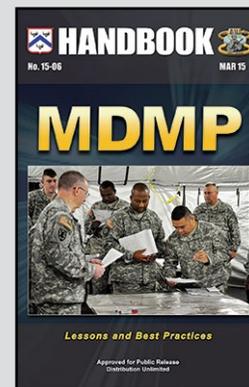
An example of the challenge for many units in training basic tasks is the observation from CTC rotations that military police units are often unable to conduct all three military police disciplines (security and mobility support, police and detention operations), frequently focusing their preparatory training on detention operations only. A lack of proficiency by military intelligence Soldiers on the systems they must operate, observed during several CTC rotations, has been traced to inadequate home-station training. A further example from CTC observations of the failure to plan training is the lack of proficiency in CBRN training of many aviation units. OC/Ts have noted that the lack of CBRN proficiency appears to be due to a lack of planned training before the rotation.

### Root Cause Analysis

Training is the primary focus of a unit when not deployed. It requires the same level of detail, intensity, and focus a unit applies to deployed operations. The operations process provides a common framework for units to plan, prepare, execute, and assess training and to integrate leader development into training plans. Battalions and higher units use the MDMP to develop unit training plans and companies use troop-leading procedures to develop unit training plans.<sup>2</sup>

#### CALL Resource

Units and individuals can utilize Center for Army Lessons Learned (CALL) handbook 15-06, *MDMP Lessons and Best Practices*, available online at <http://usacac.army.mil/sites/default/files/publications/15-06.pdf>, or hardcopies can be ordered online at <https://call2.army.mil/rfp/default.aspx>. (CAC required)

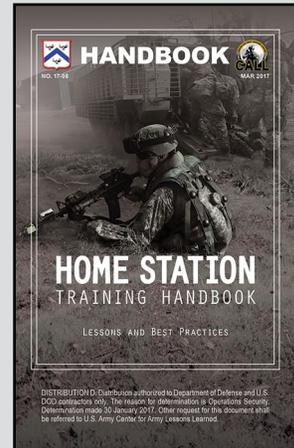


### How to Reverse the Trend

The corrective action needed starts with a better understanding of Army doctrine from FM 7-0. Mission analysis to determine which tasks to train, followed by coordination for the training resources, time, and training areas/facilities is what is needed to plan training. Collective task proficiency results from developing tactical and technical, individual, leader, and lower-level collective skills through instruction, experience, and repetitive practice. Commanders develop a unit training plan to develop collective task proficiency.<sup>3</sup>

### CALL Resource

A useful guide for units conducting home-station training is CALL handbook 17-08, *Home Station Training Handbook*. It contains many lessons and best practices to help commanders and leaders plan home-station training and how to train their subordinates and units. It is available online at <https://call2.army.mil/toc.aspx?document=7471&filename=/docs/doc7471/7471.pdf>. (CAC required)



### B. Train Subordinates and Units

Battle-focused training occurs when commanders determine the right collective tasks to train, ensuring their unit develops the right task proficiencies that best support their higher unit's mission essential tasks. Units cannot train on everything due to limited time and training resources. Commanders must prioritize training tasks to make efficient use of time and resources to develop key training proficiencies.

*“Units instruct personnel to improve their capacity individually and collectively to perform specific military functions and tasks. Training prepares Soldiers, leaders, and units to conduct tactical operations and win.”*

— Army Doctrine Reference Publication (ADRP) 7-0, *Training Units and Developing Leaders*  
(23 AUG 2012)

### Root Cause Analysis

Reconnaissance platoons received inadequate training in techniques for reconnaissance and surveillance and in the use of chemical equipment and Dismounted Reconnaissance Sets, Kits, and Outfits (DRSKO) at home station. Conversely, units that followed training doctrine and conducted the proper training achieved increased proficiency. OC/Ts observed that artillery batteries became more proficient in basic battery operations including battery defense, occupations, movement, and use of digital systems, which they attributed to increased standardization, better field exercises at home station, pre-rotation training, and increased focus on artillery tables.

## How to Reverse the Trend

Unit training initially focuses on developing proficiency in Soldier and small-unit skills since they are the essential foundation for training more complex, higher-level collective tasks. The start point for training a task is based on the leader's assessment of current task proficiency. That start point can be at the crawl, walk, or run level. Soldiers must understand the task and its contributions to the unit's capability, so they can adjust the execution of the task to meet new and unfamiliar situations. When Soldiers and units meet the standards for a task, leaders challenge their Soldiers by changing the conditions for the task to make it more challenging. Changing conditions force Soldiers and leaders to apply previous experience to the new problem.

### Training Resource

Leaders at all levels should become familiar with ADRP 7-0 and also the Unit Training Management website at [https://atn.army.mil/dsp\\_template.aspx?dpID=446](https://atn.army.mil/dsp_template.aspx?dpID=446). (CAC required)



## Endnotes

1. ADRP 7-0, *Training Units and Developing Leaders*, 23 AUG 2012.
2. Army Doctrine Publication 7-0, *Training Units and Developing Leaders*, 23 AUG 2012.
3. Ibid.



## Chapter 9

### Army Tactical Task 3.2 Provide Fire Support

#### **Trend: Units are challenged to provide fire support**

- A. Employ fires.
- B. Conduct counterfire operations.
- C. Conduct suppression of enemy air defenses (SEAD).

This trend has seven total observations. There were five significant observations on employ fires, and one each for conduct counterfire operations and conduct SEAD.

#### **A. Employ Fires**

Brigade combat teams (BCTs) and fires battalions are challenged in employing fires. The challenges range from conducting detailed fire support planning at the BCT, planning and rehearsing observation plans, massing fires on high-payoff targets (HPTs), maintaining operational capability during degraded operations, and using independent secondary checks in firing units.

BCT FSOs are not leveraging the BCT S-2 for target development and further struggle in the dissemination of maneuver and fire support products and graphics.

BCT staffs are not conducting effective fire support planning and execution throughout the operations process. BCTs are not conducting detailed fire support planning focused on fighting the BCT deep/shaping fight. BCT fire support officers (FSOs) are not leveraging the BCT S-2 for target development and further struggle in

the dissemination of maneuver and fire support products and graphics. BCTs lack the linkage between the outputs from the targeting process and the operations process. A lack of detailed and rehearsed observation plans result in unobserved enemy formations/targets, the late execution of planned targets, and not engaging HPTs.

At firing unit echelons, units do not conduct effective secondary checks in the fire direction centers (FDCs). Paladin units typically rely on the Advanced Field Artillery Tactical Data System (AFATDS) as the primary and Paladin Digital Fire Control System (PDFCS) in the paladin as secondary checks when processing fire missions. The Centaur is an alternate method of conducting a secondary check. However, Centaurs are not always updated throughout operations. This causes an issue when the FDC loses digital communications with the gun line or if a gun's PDFCS malfunctions. When this happens, FDCs simply call that gun or themselves out of the fight, reducing the combat power of the battery and battalion. On some occasions, units are computing fire missions on the AFATDS and sending fire commands to the guns via voice without a secondary check. In doing this, the FDC is not verifying the mission as safe by utilizing a secondary check. If the mission was not properly processed in the AFATDS or the database is not up to date, this may result in a firing incident. Some units come to the National

Training Center (NTC) with tactical standard operating procedures (SOPs) stating that Centaurs will be used during all operations. However, this is not always enforced in the FDC. The loss of firing capability and, more importantly, the overall safety of operations are in jeopardy without units exercising the initiative to utilize all tools provided to them.

Firing batteries struggle to maintain capability with howitzers during degraded operations. Typically, M109A6 batteries training at the NTC are proficient in the use of PDFCS. Most units' predeployment Table I-XVIII certifications rely on the use of the artillery digital systems, such as AFATDS and the PDFCS, during execution of these tables. M109A6 batteries have challenges maintaining continuous operations of their PDFCS systems for the entirety of an NTC rotation due to human and mechanical error. Although it is possible and safe to maintain firing capability with degraded digital systems, few units have conducted the necessary training and preparation to do so.

### Root Cause Analysis

BCT commanders tend not to give detailed guidance for fires and intelligence collection. An absence of detailed guidance severely affects the focus of planning and resourcing all BCT and echelons above brigade-allocated assets (fires, aviation, and intelligence collection). This leads to inappropriate resource allocation of BCT assets and a failure to request division and higher assets during staff processes. Further, unit SOPs either do not adequately address fire support and targeting processes or units fail to apply established SOP and doctrinal processes. BCTs struggle to identify gaps in fire support planning because of rehearsals that are not conducted to established standards. This leads to incomplete observation plans and failing to mass fires on HPTs at critical times and locations on the battlefield.

For firing unit echelon trends, failure to meet established doctrinal guidelines for independent secondary checks and improper fire commands cause errors

Degraded operations require an additional amount of time and resources to achieve proficiency ...

resulting in firing incidents and/or fratricide on the battlefield. These are training and standards deficiencies. M109A6 battalions commit their predeployment training and resources to achieving maximum proficiency on their digital fire support systems. Degraded operations require additional time and resources to achieve proficiency, but provide the field artillery battalion the capability — albeit slower — to execute conventional and special fire missions.

### How to Reverse the Trend

The BCT headquarters needs to focus its fire support effort in fighting and shaping the BCT deep fight to set conditions for the maneuver battalions fighting the close fight. If there is AFATDS, Tactical Airspace Integration System (TAIS), AMDWS-detailed guidance, and plans for the execution of fires for the deep fight developed from the targeting cycle, the BCT deep fight can successfully shape the conditions required for battalions to win the close fight. Finally, the targeting process should feed targets, high-payoff target lists (HPTLs), attack guidance matrix, and target selection standards.

The targeting process, directed by detailed guidance of fires and intelligence collection, allows the staff to establish the required connection of sensors to targets, shooters to targets, and triggers to targets. BCT staffs need to link the HPTL to named areas of interest and targeted areas of interest to delivery systems that will execute HPTLs.

BCTs have difficulty disseminating detailed fire support and intelligence collection plans and products. This includes dissemination of a detailed Annex D, Tasking Operation Orders; fragmentary orders; and brigade-consolidated graphics (maneuver, fires, and airspace). BCTs should utilize digital and analog methods to ensure subordinate units receive the required products. Finally, the BCT needs to establish a procedure to update the brigade-consolidated graphics (maneuver, fires, and airspace) as required through a daily battle rhythm event.

Many BCT staffs do not ensure the incorporation of commander's guidance for fires and intelligence (HPTL and collection priorities) from the targeting decision board into the operations process. Integration and synchronization of the commander's guidance for fires and intelligence into current operations (CUOPs) during a BCT operations synchronization (OPSYNC) meeting and detailed within a resulting tasking order (operation or fragmentary order) is essential to ensure the correct execution of the BCT fires plan. The synchronization of intelligence, reconnaissance, and fires assets during an OPSYNC meeting ensures effective collection and targeting of specific target sets from the HPTL and can identify any shortage of internal resources/assets. Finally, the effective transition of the fires and intelligence collection plan to the BCT CUOPs/chief of operations during an OPSYNC meeting is required for execution of those plans. The rehearsal of collection and fires plans through a fire support rehearsal and fire support technical rehearsal will ensure the proper sensor-to-shooter execution of targets.

A collective training program focusing on the brigade targeting and operations process and shaping the BCT deep fight will contribute to the refinement or creation of a BCT SOP for nesting targeting with the BCT commander's deep fight. Training will improve the brigade and battalion staff's knowledge of all targeting tasks throughout the operations process and the required linkage among intelligence, the targeting and operations process, and execution. The training program should utilize individual and collective targeting tasks, allowing for full repetitions of the targeting and operations cycle with each warfighting function providing input. One suggestion is for BCTs to train and work at home station with a set battle rhythm that includes a targeting working group, targeting decision brief, OPSYNC meeting, and a tasking order focused on the BCT fight, allowing battalions to focus on the close fight.

See the following doctrine publications for more information:

- Army Doctrine Reference Publication (ADRP) 3-09, *Fires* (31 AUG 2012)
- Army Techniques Publication (ATP) 3-60, *Targeting* (07 MAY 2015)
- Field Manual (FM) 3-09, *Field Artillery Operations and Fire Support* (04 APR 2014)

Firing units must establish and enforce standards for independent secondary checks. A method to fix this issue is to simply have a primary, alternate, contingency, and emergency (PACE) plan for conducting secondary checks in the FDC. The following is an example:

- **Primary:** AFATDS to PDFC
- **Alternate:** AFATDS to Centaur
- **Contingency:** AFATDS to AFATDS (if applicable)
- **Emergency:** Centaur to Centaur

FDCs must ensure they are keeping methods of computing fire missions up to date, not only with current software, but the current database to include the updated five requirements for accurate fires.<sup>1</sup> This will ensure there are multiple means of computing fire missions. During fire missions, there should always be a person on a tertiary means of computing fires and should be following along with the mission at all times.

Units must train and adhere to the established standards. Training events that force FDCs to employ alternate, contingency, and emergency means create familiarity with procedures and emphasize the importance of maintaining capability with these means.

See the following doctrine publications for more information:

- ATP 3-09.50, *The Field Artillery Cannon Battery*, Appendix B (04 MAY 2016)
- ATP 3-09.70, *Paladin Operations* (25 SEP 2015)
- Training Circular (TC) 3-09.81, *Field Artillery Manual Cannon Gunnery* (13 APR 2016)

Battalion and battery leadership, with recommendations from the unit's howitzer master gunner, should identify and train their M109A6 sections in specific degraded tasks to complement their digital systems in the event of a temporary failure. M109A6 battalions should develop an occupation SOP that includes establishing degraded fire mission capability during position improvement as a necessary measure to ensure firing unit capability of the howitzer sections. The increased proficiency in certain degraded tasks, leveraging the ability of the PDFCS to perform occupation, and utilizing analogue equipment would sustain fire mission capability in the event of a temporary PDFCS or other digital system failure.

The following are applicable Combined Arms Training Strategies (CATS)/Training and Evaluation Outlines (T&EOs):

- Process Fire Missions (06-BTRY-5424)
- Conduct Howitzer Fire Missions (06-SEC-5017)
- Perform Fire Missions in Degraded Mode on the M109A6 Paladin Howitzer (06-SEC-5027)

## Best Practices Recommended by Observer-Coach/Trainers

The OPSYNC meeting is one of the most critical and often overlooked meetings in a BCT battle rhythm

The OPSYNC meeting is one of the most critical and often overlooked meetings in a BCT battle rhythm in decisive action training environment (DATE) rotations. In accordance with FM 6-0, *Commander and Staff Organization and Operations* (05 May 2014),

the OPSYNC meeting is the key event in the battle rhythm in support of the current operation. Its primary purpose is to synchronize all warfighting functions and other activities in the short-term planning horizon. It is designed to ensure all staff members have a shared understanding of CUOPS, including upcoming and projected actions at decision points.

**War-gaming/course of action analysis.** Course of action (COA) analysis (or war-gaming) is the fourth step in the military decisionmaking process (MDMP) and is one of the most critical because it takes the BCT's plan from concept to detail and synchronizes all the BCT's efforts for the operation. Recent observations of multiple BCTs executing a DATE have shown that the brigade staffs do not conduct the war game effectively, which leads to an incomplete plan and product line provided to the subordinate units, a lack of shared understanding across the brigade warfighting functions, and poor synchronization of all maneuver and support elements in the operation.

**Battalion combined arms rehearsal.** Based on observations collected from DATE rotations at the Joint Readiness Training Center (JRTC), units have struggled to conduct combined arms rehearsals (CARs) that synchronize maneuver and support shared understanding. Units often arrive at the JRTC without having conducted a CAR in accordance with doctrine or their own SOPs. As a result, their CARs are used to validate unit SOPs and educate personnel rather than rehearse the concept of operation and determine how the warfighting functions are synchronized in support of the manoeuver concept.

**Targeting working group.** Based on observations of multiple BCTs executing a DATE rotation at JRTC, units have struggled implementing an effective targeting process. BCTs often do not arrive at the JRTC with a validated targeting SOP that identifies how their targeting process will be executed, who will participate in targeting working groups, and the timeframe meetings will be executed to ensure maximum participation.

**Brigade combat team fire support rehearsal.** Since reinstating DATE rotations, multiple BCTs have been observed executing their respective fires rehearsals in preparation for their joint fires element, defense, and deliberate attack. Some units have done an outstanding job while others have struggled in executing an effective fire support rehearsal.

**Fires technical rehearsal.** Based on observations of multiple BCTs and field artillery battalions executing a DATE rotation at JRTC, BCTs often get overwhelmed with planning and execution timelines and fail to properly conduct a field artillery technical rehearsal. This causes fires to become unsynchronized with the maneuver plan. One of the critical rehearsals that is often overlooked is the field artillery technical rehearsal led by the field artillery battalion. As the maneuver plan changes in the DATE, this rehearsal is necessary to provide successful fires that support the BCT. This rehearsal allows the fires battalion to practice and verify the technical execution of the field artillery tasks and ensures each member of the fires chain understands the field artillery tasks and commander's intent.

**Intelligence collection rehearsal.** The intelligence collection rehearsal conducted at the BCT level ensures the correct information is collected to support multiple information requirements therefore, allowing the commander to make informed decisions. The intelligence collection rehearsal also synchronizes the insertion and extraction of the collection assets prior to the brigade CAR and insertion of the cavalry troop or squadron.

### **B. Conduct Counterfire Operations**

An area where units have demonstrated proficiency is when using the effects management tool (EMT) in counterfire operations. During one rotation, a field artillery S-2 effectively incorporated the EMT into the counterfire section. This streamlined pattern analysis based on radar acquisitions facilitated communication between the field artillery battalion S-2 and the counterfire section at brigade, allowing for timely and accurate intelligence analysis of the enemy's indirect fire capabilities.

In another example, a field artillery battalion S-2 successfully used the EMT to have lethal effects on the enemy's artillery assets. The S-2 used the EMT to track the number and points of origin of radar acquisitions and the types of rounds fired at friendly units. The S-2 was able to use this information to conduct pattern analysis and accurately predict the size, type, and movement patterns of opposing force artillery assets. He used his templates to create named areas of interest with specific priority information requirements that could be collected against, using the brigade's Shadow platoon. Due to the S-2 accuracy, the Shadow unmanned aircraft system was able to quickly identify enemy position areas for artillery and enemy radar assets. These targets were passed instantaneously to the brigade's fires and effects coordination cell for prosecution. Over the course of the rotation, the S-2 repeatedly used this method to destroy four rocket launchers, six howitzers, and three radar systems.

### **Root Cause Analysis**

Using the EMT allows S-2s to gather and use essential information to execute effective counterfire plans. Familiarization and use of the EMT enhances visibility and analysis of enemy fires systems.

### **How to Reverse the Trend**

ATP 3-09.23, *Field Artillery Cannon Battalion* (24 SEP 2015), defines the field artillery battalion S-2 as an extension of the brigade S-2 section focused on the enemy's fire support plan.<sup>2</sup> The field artillery battalion S-2 is responsible for understanding, tracking, and predicting how the enemy will employ its artillery assets. Specifically, the field artillery S-2 must have a close relationship with the counterfire officer in order to capitalize on the collection obtained from the brigade's radar systems. Doctrinally, the counterfire operations section may be located at the brigade headquarters or at the fires battalion headquarters.

One method to ensure seamless integration of radar acquisitions into the S-2's analysis is to use the EMT, also known as AFATDS client, to mirror the AFATDS maintained at the brigade counterfire section. This allows the S-2 to instantly view acquisitions of points of origin as they are obtained, gather in-depth information on the type of munition acquired by radar, and monitor the location and azimuth of search of the radars. The battalion S-2 is enabled to be an active participant in the brigade's proactive counterfire fight by templating enemy positions and requesting additional collection or fires assets that are cross-cued from radar collection.

One method to ensure seamless integration of radar acquisitions into the S-2's analysis is to use the EMT.

Setting up the EMT in the S-2 section requires very little additional technical expertise as the battalion headquarters is authorized 13Js (fire control specialists) by the modified table of organization and equipment (MTOE) who are trained and experienced with AFATDS. The EMT connects via a local area network (LAN) to the counterfire AFATDS through the brigade Data Distribution Service server. Establishing the connection is simple, requiring only the battalion S-6 to run a LAN line to the AFATDS and add the EMT to the network. The battalion S-2 must simply input the proper internet protocol address of the brigade counterfire section's AFATDS and the EMT will mirror the counterfire box. In addition to mirroring the AFATDS at brigade, the EMT serves as an additional workstation for the analysts in the battalion S-2 section. The EMT comes loaded with Microsoft Office programs and has the capability to connect to any network drive the unit uses, giving the workstation access to all shared documents.

The nature of the operational tempo at NTC is such that brigades and battalions rarely remain in static positions for more than a few days. This means that upper tactical internet connectivity may be interrupted at times, disrupting the link between the EMT and AFATDS at the counterfire section. The unit must maintain a functional PACE plan that is understood and used by all participants to overcome degraded communications. One of the alternate methods to communicate radar acquisitions from the brigade to the battalion is through the use of a plain text message with the pertinent data from the brigade counterfire section to AFATDS at the battalion's FDC. Sending this information every few hours allows the battalion S-2 to maintain situational awareness on radar acquisitions even when the EMT and counterfire AFATDS are not linked. Furthermore, communicating via plain text messages uses a frequency modulation (FM) digital connection rather than another form of upper tactical internet, making it an actual redundant communication method. Continuing to update pattern analysis even in times of degraded communications allows the battalion S-2 to remain one step ahead of the enemy's decision-making cycle.

### **Best Practices Recommended by Observer-Coach/Trainers**

Field artillery battalions are authorized the EMT by the MTOE. While these tools are important to their assigned sections during training, they are not as useful during combat operations. The EMT is extraordinarily useful to the field artillery battalion S-2 for battle tracking and pattern analysis when linked to the AFATDS at the counterfire section. Technical Bulletin (TB) 11-7010-349-10, *Effects Management Tools (EMT) Users Manual* (03 JAN 2014), Sections 3001 and 3002, provide detailed instructions on linking an AFATDS server to an EMT to replicate the system described above.<sup>3</sup> This technique allows the field artillery battalion and the target acquisition platoon to accomplish what is described in ATP 3-09.23:

“The target acquisition platoon provides the field artillery battalion and the supported higher headquarters with the capability to ... provide target intelligence and information. This provides the field artillery battalion an organic counterfire mission processing capability... [The S-2] section with ... the target acquisition platoon, and access to tactical unmanned aircraft systems for target acquisition and battle damage assessment, constitutes a highly lethal reconnaissance-strike capability.”<sup>4</sup>

The following are applicable CATS/T&EOs:

- Coordinate Target Acquisition and Counterfire (06-6-5437)
- Provide Intelligence Support to Information Collection Planning (06-1-2010)
- Perform Intelligence Preparation of the Battlefield (71-8-2210)
- Provide Intelligence Support to Targeting (71-8-2410)

See the following doctrine publications for more information:

- ATP 2-01.3, *Intelligence Preparation of the Battlefield/Battlespace* (10 NOV 2014)
- ATP 2-33.4, *Intelligence Analysis* (18 AUG 2014)
- ATP 3-09.12, *Field Artillery Target Acquisition* (24 JUL 2015)
- ATP 3-09.23, *Field Artillery Cannon Battalion* (24 SEP 2015)
- ATP 3-09.24, *Techniques for the Fire Brigade* (21 NOV 2012)
- TB 11-7010-349-10, *Effects Management Tools (EMT) Users Manual* (03 JAN 2014), Section 3001, Prepare AFATDS Server for Client Use
- TB 11-7010-349-10, *Effects Management Tools (EMT) Users Manual* (03 JAN 2014), Section 3002, Start EMT

### **C. Conduct Suppression of Enemy Air Defenses**

Aviation task force (AVN TF) fire support elements (FSEs) at the NTC struggle with the planning and execution of SEAD in support of division and brigade missions.

#### **Root Cause Analysis**

Current aviation and field artillery doctrine does not address SEAD in enough detail to arm field artillerymen and aviators with the knowledge necessary to consistently plan and execute SEAD.

## How to Reverse the Trend

As defined by the *Department of Defense Dictionary of Military and Associated Terms*, SEAD can be accomplished through both destructive and disruptive means.<sup>5</sup> Destructive means seek the destruction of the target system or operating personnel. Though ideal, destructive means may place large demands on the available combat capabilities and forces. Lethal attacks can originate from field artillery cannon and rocket fires as well as rotary- and fixed-wing aircraft. Disruptive means seek to temporarily deny, degrade, deceive, delay, or neutralize through active (electronic attack, chaff) or passive (emission control, warning receivers) means to increase aircraft survivability. Electronic warfare can provide active nonlethal SEAD by jamming the enemy's command and control and radar capabilities using various air and ground-based platforms. Typically, known air defense artillery (ADA) targets should be attacked immediately utilizing destruction of enemy air defenses according to most HPTLs, attack guidance matrixes, and target selection standards. However, support for suppressing undetected, templated systems must be planned as well. Localized SEAD operations are those confined to geographic areas associated with specific targets or transit routes for a specific time with targets serviced primarily by organic means.

ATP 3-04.1, *Aviation Tactical Employment* (13 APR 2016), states the AVN TF FSO plans, controls, and synchronizes all fire support for operations to include coordinating Army and joint suppression of enemy air defenses.<sup>6</sup> To properly accomplish this task, the AVN TF FSO at a minimum must conduct the following:

- Maintain situational awareness of friendly scheme of fires through running estimates.
- Receive the AVN TF commander's intent for SEAD.
- Collaborate with the S-2 on the enemy situation template and targeting.
- Collaborate with the battalion/company/troop aviation mission survivability officer (AMSO) regarding route of flight and deconfliction.
- Develop a target area of interest and request collection assets to refine.
- Conduct fire planning and synchronize with H-hour sequence.
- Brief and rehearse scheme of fires to include go/no-go criteria as it relates to SEAD.
- Conduct a field artillery technical rehearsal with the division and/or BCT FSE.
- Monitor timing during execution and adjust fires as necessary.

Planning SEAD requires the FSO to coordinate with several components of the AVN TF staff in addition to representatives on brigade and division staffs.

Planning SEAD requires the FSO to coordinate with several components of the AVN TF staff in addition to representatives on brigade and division staffs. Additionally, the FSO must ensure the company/ troop leaders have a shared understanding of the scheme of fires. As multiple AVN TF FSOs can attest from their experiences in the DATE at the NTC,

planning SEAD without effective collaboration results in a lack of understanding by aircrews, an unsynchronized plan, and an inability to overcome friction during execution. Cooperative planning led by the AVN TF FSO is key to successful planning and execution of SEAD.

The importance of running estimates is universal across all warfighting functions at echelon; the AVN TF FSE is no exception. Creating and maintaining situational awareness through fires running estimates is difficult. This is due to the complexity of missions executed by the AVN TF spanning the entirety of the division area of operations in support of the close and deep fights. FSE running estimates include the fire support overlay, fire support coordination measure and airspace control measure trackers, the current air tasking order, and the air coordination order. To build and maintain an understanding of brigade operations, attendance at division and brigade rehearsals is key. The AVN TF FSO must ensure his FSE has effective representation at higher echelon rehearsals because this is critical to ensuring AVN TF operations are synchronized with the brigade scheme of fires.

Collaboration with the AVN TF S-2 is critical to SEAD planning. Doctrine assigns responsibility for enemy air defense target development to fires cells at the division and corps echelons. At the NTC, AVN TFs are typically reluctant to send requests for information to the appropriate echelon in order to leverage division and brigade capabilities to develop target areas of interests oriented toward SEAD operations. The timelines AVN TFs typically work on, in terms of crafting mission orders, whether self-induced or otherwise, exacerbates the issue as it makes submission of collection requests early enough to make the air tasking order difficult. However, at a minimum, the AVN TF S-2 and FSO must target using templating techniques.<sup>7</sup>

AVN TF FSOs at the NTC are often faced with overcoming an incomplete targeting cycle when planning SEAD. It is critical to understand that the goal of SEAD is to allow freedom of movement for friendly aircraft. To this end, all known or suspected threat air defense sites that cannot be avoided and are capable of engaging friendly air assets must be targeted.<sup>8</sup> During mission analysis, key enemy air defense systems should be identified by the S-2 as high-value targets and then nominated onto the HPTL due to their threat to friendly air assets. This staff function must be in concert with efforts by higher echelon staffs, particularly in deep area operations. According to Joint Publication (JP) 3-01, *Countering Air and Missile Threats* (21 APR 2017), the following are three primary objectives for planning SEAD in support of air operations:

It is critical to understand that the goal of SEAD is to allow freedom of movement for friendly aircraft.

- Accomplish an accurate appraisal of enemy air defenses and their ability to influence the outcome of overall air operations.
- Decide on the scope, magnitude, and duration of SEAD operations necessary to reduce enemy air defense capabilities to acceptable risk levels.

- Determine the capabilities of available suppression assets, as well as potential competing requirements for these forces.

SEAD fires are categorized as planned or immediate. Planned SEAD is conducted against targets developed during the targeting process and designated for attack. Planned SEAD is further broken down into three types:

- Scheduled SEAD is executed based on a time sequence. An artillery time on target mission is synchronized with route and timeline information.
- On-call SEAD is event-trigger based under positive control. The use of pro-words from an execution checklist simplifies this method of triggering SEAD fires.
- Deceptive SEAD is fired into an area to deceive the enemy or cause the enemy to reposition its air defense weapons away from where actual operations will take place.

Immediate SEAD is conducted against ADA targets of opportunity that are detected within the range of available weapon systems and not yet targeted. The execution of immediate SEAD should reflect priorities established on the HPTL and in accordance with the attack guidance matrix.

The AVN TF AMSO provides the expertise necessary to understand the mission set and associated airspace considerations. The AMSO and air mission commander are able to provide the flight ingress and egress routes necessary to calculate the precise time in the aircraft's flight that will be in range of the enemy's radar or direct-fire line of sight. The brigade aviation element, in conjunction with the AVN TF, will have approved air routes, air control points, and airspace coordination areas. Since SEAD can be either time or event based, having an exacting understanding of the route of flight is critical. However, the FSO often must work on assumptions in order to ensure submission deadlines for targets.

AVN TF staffs should plan primary, secondary, and tertiary air corridors for operations. Crafting multiple schemes of fires may be necessary as each schedule of fires must provide SEAD for each route to ensure enemy air defenses are suppressed any time aircraft are in the targeted weapons system's threat ring. A useful technique is to develop multiple COAs for SEAD and subsequently craft a schedule of fires that provides the necessary suppression in blocks of time that work for all air routes. The targets developed in conjunction with the S-2 are overlaid with airspace coordinating measures and synchronized with the operation through an H-hour sequence. A properly developed H-hour sequence — the specific hour on D-day at which an operation commences — is critical to the execution of SEAD because this sequence ties all events of an operation together on one timeline. AVN TF staffs that build an H-hour sequence reflected in a comprehensive execution checklist are generally successful at integrating SEAD into their operations here at the NTC.

To begin fire planning for SEAD, place an enemy situation template and friendly graphics on the fire support situation map. Obtain a time-distance heading card or route card from the appropriate AMSO. This provides the flight speed and direction information for the flight route. Using information from the air mission planning card, plot range fans depicting maximum effective enemy distances for acquisition and engagement for templated ADA systems along the route. Referencing appropriate running estimates, HPTL, and attack guidance matrix, the FSO can determine the likely friendly delivery assets available for providing SEAD.<sup>10</sup> With enemy range fans plotted, friendly delivery assets available, and the aviation flight speed and route, the FSO can now plan suppressive fires on enemy ADA systems.

During the planning process, ATP 3-09.42 states the following considerations must be addressed when planning SEAD:

- Ammunition
- Position of assets and azimuth of fire
- Counterfire radar azimuth of cueing
- Sensor-to-shooter architecture
- Clearance of fire procedures<sup>11</sup>

The AVN TF FSO must determine the duration and volume of fires required to protect friendly aircraft during vulnerable periods of flight; consider the vulnerability, resiliency, range, and method of acquisition of the targeted enemy air defense weapons, number, and type of friendly aircraft; aircraft flight tactics and the separation required between aircraft and SEAD fires; type of ordnance used for suppression; and vulnerability of the SEAD firing unit.

An additional aspect of SEAD planning is validating airspace deconfliction. Lethal SEAD fires can be deconflicted laterally, by altitude and time. Lateral separation is effective for coordinating SEAD fires against targets that are safely separated from airspace coordination measures. The minimum separation distance between SEAD targets and aircraft routes varies based on munitions used. Altitude separation requires aircraft to remain above or below indirect-fire trajectories at certain points along the ballistic flight path (ORD-X). Paragraph 10-10 of Department of the Army Pamphlet 385-63, *Range Safety* (16 APR 2014), provides a useful step-action drill for altitude deconfliction. Separation may be increased by firing high-angle or reduced charge. Establishing an airspace coordination area is a method of maintaining altitude and lateral separation through procedural control. A lateral offset in the form of a final attack heading or cone prevents premature crossing of the gun target line. Time separation requires the timing of SEAD to be coordinated with the routing of aircraft so that even though aircraft and SEAD may occupy the same airspace, they do not do so at the same time.<sup>12</sup>

Another means of computing the timing necessary for the synchronization of SEAD is to leverage the battalion AMSO and the Aviation Mission Planning System (AMPS). Within the AMPS software air corridors, waypoints, other pertinent airspace coordination measures, and air with associated threat rings can be quickly built. Once these geometries are built, AMPS can provide airspeed, route of flight, and time of flight data that can be leveraged to quickly and accurately arrange a schedule of fires tied to tactical triggers along the route of flight. Additionally, the AVN TF FSO can build applicable fire support coordination measures, targets, and other pertinent fire support data into AMPS so that aviators can reference this information on moving-map displays in the aircraft.

Once the AVN TF FSO has completed fire planning for SEAD and submitted the target list worksheet, fire support execution matrix, and schedule of fires to the appropriate FSE (could be the division or BCT depending on mission), the next step in ensuring conditions are set for successful execution is to brief and rehearse the plan. In accordance with unit SOPs, the fire support planning documents should be consolidated into a kneeboard product and uploaded into AMPS for aircrews to reference in flight. These aircrew products should utilize degrees rather than mils to express direction. Though the task force may not have an opportunity to conduct a task force fire support rehearsal, the FSO must ensure the outcome goals for a fire support rehearsal are still achieved prior to execution. At the NTC, AVN TF staffs often utilize the aircrew operations and intelligence brief to introduce and rehearse the SEAD plan. Aircrews are unable to gain a shared understanding of the plan and the AVN TF misses opportunities to establish decision points, go/no-go criteria, and rehearse contingencies such as the desynchronization of delivery assets or aircraft communication difficulties. For air assaults, SEAD planning must be addressed at the initial planning conference, air mission coordination meeting, air mission brief, operation order brief, rehearsals, and operations and intelligence forums.<sup>13</sup> Consistently addressing the SEAD plan ensures all entities have an understanding beyond superficiality and better enable the AVN TF to overcome friction during execution.

### **Best Practices Recommended by Observer-Coach/Trainers**

To be successful in the planning and execution of SEAD, brigade and AVN TF staffs must be coached to consider air defense threats during mission analysis and collaborate with the AVN TF AMSO, S-2, and FSO. Additionally, leaders must ensure the SEAD plan is rehearsed at echelon using proper fire support coordination measures and airspace coordination measures. Also needed is an update to ATP 3-04.1 that provides AVN TF FSOs the information and processes needed to successfully plan and execute SEAD. Finally, an updated training and evaluation outline report for the planning and execution of SEAD at the AVN TF level will assist coaching efforts at the NTC.

### Endnotes

1. Training Circular 3-09.81, *Field Artillery Manual Cannon Gunnery*, 13 APR 2016.
2. ATP 3-09.23, *Field Artillery Cannon Battalion*, 24 SEP 2015, page 2-5.
3. TB 11-7010-349-10, *Effects Management Tools (EMT) Users Manual*, Raytheon Company, 03 JAN 2014.
4. ATP 3-09.23, page 1-4.
5. *DOD Dictionary of Military and Associated Terms*, February 2018, page 222.
6. ATP 3-04.1, *Aviation Tactical Employment*, 13 APR 2016, page 1-16.
7. ATP 3-09.42, *Fire Support for the Brigade Combat Team*, 01 MAR 2016.
8. ATP 3-09.60, *Techniques for Multiple Launch Rocket System (MLRS) and High Mobility Artillery Rocket System (HIMARS) Operations*, 10 JAN 2014.
9. JP 3-01, *Countering Air and Missile Threats*, 21 APR 2017.
10. ATP 3-60, *Targeting*, 07 MAY 2015.
11. ATP 3-09.42, page 5-41.
12. For more information see ATP 3-09.32, *JFire Multi-Service Tactics, Techniques, and Procedures for the Joint Application of Firepower*, 21 JAN 2016. (CAC required)
13. ATP 3-04.1.

## Chapter 10

### Army Tactical Task 1.6 Conduct Mobility Operations

**Trend: Units are challenged to conduct mobility operations.**

- A. Conduct breaching operations.
- B. Conduct gap-crossing operations in support of combat maneuver.

There are eight observations pertaining to this task, seven of which relate to breaching. Gap-crossing operations in support of combat maneuver accounted for the last observation.

#### A. Conduct Breaching Operations

Maneuver is enabled by reducing obstacles through combined arms breaching and gap crossing, and employing obstacles through combined arms obstacle integration that are focused on isolating the battlefield and protecting against enemy counterattacks. Mobility missions in support of maneuver are primarily combat engineering tasks (although combat and general engineer units can perform them, especially when conducting deliberate gap crossings) conducted in close support of ground maneuver forces in close combat.

Units enable a force to maintain its mobility by reducing, bypassing, or clearing obstacles. An obstacle is any natural or man-made obstruction designed or employed to disrupt, fix, turn, or block the movement of an opposing force, and to impose additional losses in personnel, time, and equipment on the opposing force.<sup>1</sup> Naturally, existing obstacles can include rivers, mountains, barrier reefs, and cities. Man-made or reinforcing obstacles can include mine fields and anti-tank ditches. A complex obstacle is a combination of different types of individual obstacles that requires more than one reduction technique (explosive, mechanical, or manual) to create a lane through the obstacle. A reinforcing obstacle is an obstacle that is specifically constructed, emplaced, or detonated through military effort.

Mobility operations are those combined arms activities that mitigate the effects of natural and man-made obstacles to enable freedom of movement and maneuver. The primary purpose of mobility is to mitigate the effects of natural and man-made obstacles. Mobility operations include reducing, bypassing, or clearing obstacles (including gaps) and marking lanes and trails to enable friendly forces to move and maneuver freely. These tasks frequently occur under conditions that require combat engineer units and most frequently occur when conducted at the tactical level in support of maneuver. Support to early entry operations includes reconnaissance that would mitigate anti-access and area-denial mechanisms to clear and open aerial ports of debarkation and seaports of debarkation. These tasks are often considered combat engineering tasks, even though general engineer units can perform them when the conditions allow.

Combined arms breaching is one of the most complex operations brigade combat teams (BCTs) execute in a decisive action training environment. It requires the synchronized action of reconnaissance assets, multiple ground combat elements, indirect fires, and aerial combat platforms. When done correctly, it allows BCTs to mass combat power at the decisive point and leverage assets to achieve maximum effects. When done improperly, the BCT exposes its subordinate units and assets to a prepared enemy at the location of the enemy's choosing.

### Root Cause Analysis

Army breaching doctrine is clear, concise, and sound. The breaching tenets outlined in Field Manual (FM) 3-34, *Engineer Operations* (02 APR 2014) — intelligence, breaching fundamentals, breaching organization, mass, and synchronization — provide a conceptual framework that, when applied, produce positive results. So, why do units consistently struggle with combined arms breaching? The problem is not in the doctrine; it is the application of the breaching tenets in both planning and execution.

#### CALL Resource

For more information on breaching, see Center for Army Lessons Learned newsletter 01-19, *Trend Reversal: Combined Arms Obstacle Training*, available online at <https://call2.army.mil/toc.aspx?document=348>. (CAC required)



**Breaching tenets and fundamentals.** Units conduct a combined arms operation to project combat power to the far side of an obstacle. Breaching tenets include intelligence, synchronization, mass, breach fundamentals (suppress, obscure, secure, reduce, and assault [SOSRA]), and breach organization (support, assault, and breach forces). Army Tactical Task (ART) 1.6.1.1, Conduct Breaching Operations, includes the reduction of mine fields and other obstacles. Reduction is the creation of lanes through or over an obstacle to allow an attacking force to pass. The number and width of lanes created varies with the enemy situation, the assault force's size and composition, and the concept of operations. The lanes must allow the assault force to rapidly pass through the obstacle. The breach force will reduce, proof (if required), mark, and report lane locations and the land-marking method to higher headquarters. Follow-on units will further reduce or clear the obstacle when required.

Successful breaching missions are characterized by applying the following breaching tenets, which are integrated into the planning process:

- Intelligence
- Breaching fundamentals (SOSRA)
- Breaching organization
- Mass
- Synchronization

Breaching activities are conducted to allow maneuver despite the presence of enemy reinforcing obstacles that are covered by fire and used to shape engagement areas. Breaching is an inherent part of maneuver and is one of the most difficult combat tasks to perform. Breaching activities are characterized by thorough reconnaissance, detailed planning, extensive preparation and rehearsal, and a massing of combat power.

SOSRA is one of the most well-established drills in the Army. To effectively breach, the Army units must suppress to prevent the enemy from placing well-aimed fires on the breach site, obscure to limit enemy observation of breaching elements, secure to prevent the enemy from interfering with obstacle reduction, reduce to allow the passage of follow-on forces, and assault to destroy the enemy overwatching the passage point and secure terrain on the far side.

**Breach organization.** BCTs and battalion task forces are generally able to execute each of the breaching fundamentals independently. The issue is in the sequencing and timing of each distinct task to leverage the sum of the actors. The fundamentals are taught in order for a reason. Suppression and obscuration of the enemy is executed before secure, reduce, and assault. However, the most common fault seen at the National Training Center is commitment of the support, breach, and assault elements prior to the suppression and obscuration of the enemy overwatching the obstacle with indirect fire systems.

Breaching doctrine directs commanders to designate support, breach, and assault forces and organize them with required assets to accomplish their tasks. The support force's primary responsibility is to isolate the breach, suppress the enemy overwatching the obstacle, and control obscuring smoke. The breach force creates, proofs, and marks lanes to pass follow-on forces through the obstacle. The assault force's primary mission is to destroy the enemy and seize terrain on the far side of the obstacle to prevent the enemy from placing direct fires on the opened lanes.

Across the board, units demonstrate proficiency at task-organizing for the breach. There is some variation in units as to whether the breach element is led by engineers or a maneuver force. However, support, breach, and assault elements are designated and task-organized to accomplish their doctrinally directed tasks.

**Lack of synchronization.** As much as any military operation, combined arms breaching requires precise synchronization of the support, breach, and assault elements with indirect fire assets. To achieve synchronization, doctrine highlights the following four fundamentals:

- Detailed reverse planning
- Clear sub-unit instructions
- Effective mission command
- Well-rehearsed forces

Breaching activities require the precise synchronization of breaching fundamentals by support, breach, and assault forces. Failure to synchronize effective suppression and obscuration with obstacle reduction and assault can result in rapid, devastating losses of friendly troops at the obstacle or enemy engagement area. A combined arms breach is a complex mission by nature. Support, breach, and assault forces must apply breaching fundamentals (SOSRA) within a short time and distance, which is further complicated in complex or restrictive terrain.

### **How to Reverse the Trend**

An inability to synchronize forces and activities throughout the operation leads to the inability to execute the breaching fundamentals and mass forces and effects at the appropriate times. This is evidenced in the inability to execute SOSRA and mass effects when and where the commander directs. The limiting factor in a unit's ability to synchronize its efforts is a failure to transition from conceptual to detailed planning and execution. BCT and battalion-level planners fail to translate the conceptual framework described in doctrine and their commander's planning guidance into detailed plans for their subordinates. Further, they do not establish the requisite control measures that enable commanders to adjust the tempo of operations and control the commitment of subordinate elements as conditions change.

When multiple units operate in close proximity to each other, their actions must be coordinated. When these units' actions are related, they need to be synchronized. This responsibility lies with the higher headquarters (HHQ). Too frequently, under the guise of mission command, HHQ abdicates this responsibility to its subordinate commanders. As a result, subordinate commanders take the general guidance given in the order and develop their plans in isolation. The combined arms rehearsal is generally the first attempt made to synchronize the different units' actions, but even then, the plan lacks the detail and requisite control measures to achieve anything greater than an understanding of the sequencing of key events.

Mission command entails the conduct of military operations through decentralized execution based on mission orders for effective mission accomplishment. It has a place in offensive operations, but a combined arms breach is not meant for decentralized execution. It requires detailed planning, synchronized execution, and the deliberate commitment of combat power.

To accomplish synchronization, HHQ needs to be more directive and establish more comprehensive graphic control measures. Support by fire needs to be planned to ensure the support element can supplement the indirect fire suppression and facilitate the commitment of the breach and assault elements in their objectives. Routes to assault positions and breach sites need to be directed to ensure they maximize the cover provided by the suppression and obscuration of the indirect fire and support elements without masking them or violating minimum safe or risk estimate distances. Subordinate elements should retain the flexibility to adjust these positions and routes on the ground, but should not develop them in isolation.

## **B. Conduct Gap Crossing in Support of Combat Maneuver**

A gap-crossing operation is a mobility operation consisting of river crossing, brigade-level crossing, and special gap-crossing operations conducted to project combat power across a linear obstacle (wet or dry gap). The obstacle is linear in that it creates a line crossing all or a significant portion of the area of operations. The obstacle can be a wet gap (water obstacle) or dry gap that is too wide to overcome by self-bridging. The nature of the obstacle differentiates a gap crossing from a breaching operation. A wet-gap crossing (river crossing) is also unique because the water obstacle is significantly large enough to prevent normal ground maneuver.

A gap crossing generally requires special planning and support. Factors of mission, enemy, terrain and weather, troops and support available-time available and civil considerations (METT-TC) dictate the type of crossing (hasty, deliberate, or retrograde). Gap crossing generally includes preparing access and egress routes, completing a hydrographic survey (underwater obstacle detection or reduction), employing crossing means (bridging and rafts), and operating an engineer regulating point, if required. This task is measured against a river crossing, the most difficult standard of gap-crossing operations. Crossing fundamentals include surprise, extensive preparation, a flexible plan, traffic control, organization, and speed. Gap crossings may be conducted in support of combat maneuver or in support of lines of communications.

### **Root Cause Analysis**

BCTs are challenged to conduct river-crossing operations during multinational operations.

Conduct gap crossing in support of combat maneuver includes both hasty and deliberate gap crossings and the majority of river-crossing operations. It includes those operations conducted primarily at the level of BCT and those conducted by the division- or corps-

level organization. Those gap crossings conducted as a reduction method within a combined arms breaching operation are also included in this ART. However, since the primary focus of planning and preparation is on the breaching operation, they are typically discussed as a part of the breaching operation rather than as a separate gap-crossing operation in that context.<sup>2</sup> Few Army bases have access to an appropriate river or lake and there are only four multi-role bridge companies on active duty, one of which is in the Republic of South Korea. Due to these constraints and others, training for opposed wet-gap crossings is infrequent and resource intensive.

United States Army Europe conducted two opposed river crossings on Romania's Olt River during Saber Guardian 17 multinational exercise. Each operation consisted of two brigades — one maneuver and one maneuver support — with the Joint

River-crossing operations are one of the most complex maneuvers to successfully execute, failure of which can have operational-level consequences. Constraints make it difficult to train for deliberate river crossings: an available and appropriate body of water, a multi-role bridge company, and support from higher headquarters because deliberate river crossings are doctrinally conducted at the division level.

Multinational Readiness Center observer-coach/trainers filling the role of higher control and exercise control. Bridging assets were composed of a U.S. multi-role bridge company augmented with a Dutch bridge platoon, a German M3 bridging company, and a Romanian PR-71 pontoon bridging company. All three bridges were planned to be emplaced from the near shore to an island in the middle of the river with a ford site leading to the far side.

Both brigades failed to secure the far-side objectives during either river crossing. Lack of speed was a contributing factor. During the first wet-gap crossing, within 45 minutes of the initial boat assault, the assaulting battalion captured all but one opposing force (OPFOR) on the island. Nothing prevented the assault element from securing the ford site — a natural choke point — but they received orders to wait for additional combat power as the German M3 bridges began ferrying operations. It was several hours before the unit initiated maneuver from the island to the far side. The unit successfully prepared the ford site with accurate indirect fires that killed a majority of the OPFOR. However, failure to seize the initiative, as well as provide obscuration on OPFOR overwatch positions, allowed OPFOR indirect fire to inflict multiple casualties on the stationary training unit, which inhibited their ability to maneuver.

### How to Reverse the Trend

While planning a river-crossing operation, planners must adhere to the six fundamentals of gap-crossing operations: surprise, extensive preparation, flexible planning, traffic control, organization, and speed. The fundamentals are not rank ordered. However, Saber Guardian 17 showed that overlooking any one of the fundamentals can result in needless casualties and mission failure.

**Preparation bottom line.** During a river crossing, fire support officers need to set the conditions — target planning and logistical — to provide battlefield obscuration for hours, possibly days, in advance of friendly maneuver and until the unit is ready to assault the far-side objective. Smoke missions should not stop once the first bridge is erected.

**Speed bottom line:** Keep moving, eliminate or obscure OPFOR direct fires, eliminate all observers, seize the far-side objective, and set conditions for the bridgehead force. Commanders need to communicate clear intent and end state and allow subordinates to execute. Expect casualties and plan accordingly.

**Traffic management bottom line.** Traffic management must be planned in detail with contingencies to ensure the right equipment is at the right place at the right time. Traffic management is essential to cross units at the proper locations, in the sequence desired, and as quickly and efficiently as possible to maintain momentum. Traffic management prevents the formation of targets that are susceptible to destruction by artillery or air strikes.

### **Endnotes**

1. Joint Publication 3-15, *Barriers, Obstacles, and Mine Warfare for Joint Operations*, 06 SEP 2016.
2. Army Techniques Publication 3-90.4, *Combined Arms Mobility*, 08 MAR 2016.



## Chapter 11

### Conclusions

A rotation at a combat training center (CTC) is a capstone training event against a near-peer, free-thinking opposing force in a demanding environment to prepare a unit for combat operations. The trends in this newsletter are similar to trends from before the Global War on Terror started. Army units continue to improve with experience at the CTCs, but the higher the level of proficiency a unit can attain before a CTC rotation, the better trained it will be at the conclusion.

Some trends from fiscal year 2016 appeared to be worse, while some appeared to be better. Another year of data in fiscal year 2018 will better show long-term trends. CTC rotations are always challenging and are designed to be that way. CTCs can adjust the conditions to increase the complexity or the force ratios, if required.

The key to entering a CTC rotation at a higher level is having disciplined training management by units allowing them to conduct progressive levels of collective training at home station with more repetitions of tasks at multiple echelons. Conduct training with a train-as-you-fight mentality, augmented with professional development to the lowest level to enable mission command. When time is short, adaptive leaders with situational awareness and a solid understanding of the commander's intent can make timely decisions with disciplined initiative to accomplish the mission. Understanding enabler capabilities, staffs can help the commander synchronize operations and maneuver units to positions of advantage and mass effects against the enemy.

Staffs that deploy their command posts when their subordinate units are training and conduct the operations process with the full military decisionmaking process (MDMP), will be training themselves to plan for future operations while current operations track the training. They will also get more repetitions for planning and better understand their commander's information requirements to make timely decisions.

Finally, conducting home-station training with as many enablers as possible provides units and staffs with better understanding of enabler capabilities, mission sets, and support requirements. Exposure to other units and their capabilities in a training environment develops all levels of leaders and provides a train-as-you-fight environment to enable the Army to be a learning organization.



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#### **Military Review (MR)**

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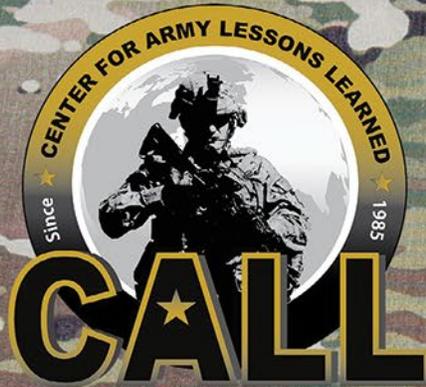
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