DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MANEUVER CENTER OF EXCELLENCE
7533 HOLTZ STREET
FORT BENNING, GEORGIA 31905-4500

REPLY TO
ATTENTION OF:

ATZB-CIH

03 April 2013

MEMORANDUM FOR RECORD

SUBJECT: Executive Summary of National Training Center (NTC) Rotation 13-04.

1. TRADOC Capability Manager-Armored Brigade Combat Team (TCM-ABCT) personnel visited NTC Rotation 13-04 to collect unit feedback on DOTMLPF issues.

2. The purpose of this memorandum is to highlight key observations presented by members of the brigade and observer controller-trainers during the visit. The comments in this executive summary reflect an area of focus on decisive action trends observed during the rotation.

3. **Summary:** TCM-ABCT has observed the past three Armored Brigade Combat Team rotations to the National Training Center and there is a common trend in atrophy in movement and maneuver, sustainment and mission command skills. The past eight years of global operations have required Armor, Infantry and Artillery Soldiers to conduct dismounted or motorized missions on non-standard Modified Tables of Organization and Equipment (MTOE). The result has led to an atrophy of ABCTs ability to effectively move and maneuver amassed forces on the battlefield. The below includes discussion and recommendations to improve DOTMLPF issues identified.

4. **Doctrine:**

a) **Digital versus Printed Doctrine**. Many NCOs stated they maintained doctrinal references on various mobile devices but did not have them in the box due to the dusty climate. There is no common way for all leaders to refer to doctrinal references digitally when conducting training in a field environment. We were told that garrison platoon offices have limited network capability for leaders to refer to digital doctrine to prepare training, and lack enough printers to provide production capabilities.

Recommend all echelons maintain printed libraries in garrison and transport appropriate references for assessments during training. The Army Publishing Directorate (APD) has doctrine that can be printed and also ordered in hard copy. Units can create publications accounts through the APD at http://www.apd.army.mil/ Once on the APD portal, navigate to the "order subscriptions" page and then to "category browse." On the left column references can be browsed. If an item has an EA (unit issue) code the publication can be ordered in hard copy. If the item has an EMO (Electronic Media Only) code the reference needs to be printed by the unit. One example: ATTP 3-21.71 Mechanized Infantry Platoon and Squad (Bradley) is listed as EA, so the manual can be ordered through an APD unit publications account versus units being required to print this reference.

b) **Knowledge of Combined Arms Training Strategies (CATS).** Leaders expressed that Infantry Squad and Bradley Platoon Vehicle and Squad Battle Drills previously contained in ARTEP 7-

8 MTP/ARTEP 7-7J MTP is no longer contained in references on the Army Pubs portal at http://armypubs.army.mil Leaders also expressed that Armored Brigade Combat Team Tactical Assembly Area procedures are not contained in the Brigade Combat Team Collective Task Publication (TC 3-90.6) available for download on the Army Pubs portal. Leaders interviewed were unaware that the reference material for these tasks has been moved to the Combined Arms Training Strategy (CATS) at https://atn.army.mil/dsp_CATSviewer01.aspx# . For a leader to locate required online reference material they are required to look both at the Army Pubs portal and under their specific unit under the CATS.

Recommend generating and operating force units continue to educate the force on the use of CATS. Possible forums to build this knowledge are: NTC Leader Training Program (LTP), NCOES, OES, OPD/NCOPD. In the past few years, the Army has developed several key, web-based tools that are now integral to the training management processes including the Digital Training Management System (DTMS), the CATS and the HQDA Standardized METLs. To ensure that these web-based tools are current and accurately representative of the doctrine, they are updated and improved continuously. One Observer Controller/Trainer (OC/T) at the NTC used an effective technique to have his doctrine from CATs handy. He carried a 5 x 7 inch laminated 2 inch thick binder that contained all collective task standards printed from the ATN relevant to the unit he was evaluating.

Actions to Date: This issue is a common trend that has been observed during previous NTC rotations and Umbrella Week visits to ABCTs. TCM-ABCT has shared the identified issue with the Maneuver Center of Excellence (MCoE) Non-Commissioned Officer Academy (NCOA) and during annual Critical Task Site Selection Boards. MCoE POIs for NCOES are being revised to incorporate the latest training management doctrine and the ATN and CATS are topics to be covered. TCM-ABCT has posted this observation on the Mounted Maneuver Forum, Maneuver Net, Heavy Net, and Leader Net, and has submitted the content for future publication consideration in PS Magazine and the Thunderbolt Blast Magazine. TCM-ABCT provided this training gap to training developers during the annual POI review for the Training Requirements Analysis System (TRAS) process through the Training Development Capability (TDC). This new initiative enables TCM-ABCT to provide recommendations to mitigate identified ABCT training gaps with training developers at the MCoE through a formalized process.

c) **Sustainment Modularity.** Leaders interviewed agreed that sustainment modularity (plug and play) does not work for the ABCT and that sustainment needs to be reestablished in the maneuver battalion HHC, or the Forward Support Company (FSC) needs to be assigned to the maneuver battalion TOE and removed from the BSB TOE. Roles and responsibilities need to be better defined in ATP 4-90, Brigade Support Battalion. FSC personnel working for two commanders cause confusion in command relationships and responsibilities. All personnel interviewed agreed that the Force XXI sustainment structure with a Main Support Battalion (MSB), DISCOM and DMMC was more effective.

Actions to Date: TCM-ABCT is recommending several courses of action (COA) to improve sustainment in the ABCT.

- Currently TCM-ABCT is reviewing ATP 4-90, Brigade Support Battalion with the recommendation that roles and responsibilities for leaders be better defined.
- Recommend once the FSC is attached to the maneuver unit (garrison and field) the maneuver commander has complete responsibility for FSC personnel and operations.

- Recommend the brigade conduct logistical Command Post Exercises (CPX) in garrison. The CPX should include modularity units for training and include CSSB and sustainment BDE leadership.
- The brigade, BSB, and supported units need to establish and use SOPs. Every Soldier in the brigade should be familiar with logistical internal and external SOPs.
- Discussions with SCoE and MCoE need to address if current sustainment operations are being presented at OES/NCOES.
- Recommend MCoE examine if Programs of Instruction (POI) for ABCT sustainment operations are being trained in the Infantry Basic Officer Leadership Course (IBOLC) and the Maneuver Captain Career Course (MC3).
- Recommend opening a dialog with the SCoE leadership to ensure the following leadership courses train sustainment at the micro and macro level: Army Logistic University, Combined Logistic Captains Career Course, CSS Senior Leader Course, Logistic Pre-Command Course and the Basic Officer Leader Course.

d) **Combat Arms Battalion Support Area (CABSA).** The brigade established a "Combat Arms Battalion Support Area," (CABSA). The CABSA was composed of all Combined Arms Battalions (CABs) Forward Support Companies (FSCs) and Combat Trains Command Posts (CTCPs). When TCM-ABCT observed the CABSA it was evident each unit maintained separate battalion integrity with little or no security plans or reaction force. The FSC commander was responsible for their respective area, however the CAB HHC commanders were responsible for security. During the past four decisive action (DA) rotations all FSCs and CTCPs have been established differently, and none were fully efficient or effective.

Actions to Date: ATP 4-90, Brigade Support Battalion states "The FSC commander/XO can be located in a variety of locations based on operational and mission variables." The BDE/BSB commanders can establish their logistic node as mission dictates. ATP 4-90 is currently in the process of being reviewed. The final release is scheduled for October 2013. As part of ATP 4-90 review, TCM-ABCT plans on recommending a standard plan on how a FSC should be employed with the understanding the BDE/BSB commander have the final say on how their FSCs will be established.

5. **Training/Leader Development:** During the past four NTC rotations and unit visits to ABCT, units have demonstrated an atrophy in movement and maneuver, sustainment and mission command skills required for conducting decisive action operations. Recommend TRADOC review institutional training POIs for content to improve the following identified training gaps:

a) **Land Navigation Skills**. One battalion staff officer stated, "we had a successful CASEVAC rehearsal, however after the defensive engagement, 100% of wounded personnel died of wounds during Role 2 evacuation. Two major contributing factors were none of the ambulance crews could navigate and were at the wrong place at the wrong time." Many vehicle crews from platoon to brigade level were skilled at digital FBCB2 navigation, but very few exhibited map and overlay skills. Land navigation and use of analog graphics go hand in hand; many leaders lacked maps with graphics. Vehicle crews reported that the POSNAV system provided on the Driver's Tactical Display was very useful in aiding land navigation. Abrams and Bradley crews can also plug in waypoints to the POSNAV to select covered and concealed routes vice traveling cross country in a straight line. The 2012 Annual report provided by the Capabilities Development and Integration Directorate (CDID) Test and Evaluation Office identified the same trend stating "Soldiers rating land navigation training effective has significantly dropped. Land navigation requires sustainment training and should be a qualification event at professional development schools." Currently successful

completion of a graded land navigation course is not a graduation requirement for IMT graduates. Recommend an increase in land navigation training for the generating and operating force to rebuild this skill in the force. As units have had reduced training time available in ARFORGEN they have conducted fewer training events that train and test this skill.

Actions to Date: The Warrior Leader Course at the MCoE initiated a 1 day land navigation course in JAN 2013 to improve this training gap. The Infantry Advanced Leader Course (ALC) is now conducting an FTX that includes a day and night land navigation exercise. The NCOA is identifying ways to add land navigation content to the Maneuver Senior Leader Course for Armor and Infantry NCOs.

b) **Pre Combat Checks (PCC) / Pre Combat Inspections (PCI).** OC/Ts expressed a common trend has been a lack of tactical standard operating procedures (TACSOPs) that outline PCCs and PCIs for equipment assigned to the ABCT. PCCs with Abrams and Bradleys that were routinely conducted a decade ago have not been practiced, and the perception is that small unit leaders do not understand the PCC/PCI process for these armored combat platforms. In the past decade units have been assigned new equipment and received vehicle platform upgrades. The addition of this new technology requires legacy TACSOP revision of PCCs and PCIs to reflect inspections of all current assigned equipment. CSM OC/T comment: "The Infantry dismounted squads are great at PCCs and PCIs. It is the rest of the ABCT personnel that need improvement." Officers and NCOs train PCC/PCIs during BOLC and NCOES, but tracked vehicles and their equipment sets are not provided.

Actions to Date: TCM-ABCT addressed this training gap in NCOES POI working groups and in a recent meeting with the NCOA Commandant. Currently the NCOA is addressing ways to replace classroom hours with training in a field environment. Earlier Advanced Leader Course (ALC) POIs had 8 hours of Troop Leading Procedures (TLP) content in the classroom. New POI revisions are planning for 1 hour in the classroom and 7 hours in the field. In future classes with TLPs trained in the field, NCOs will have additional exposure with PCCs/PCIs. When Abrams and Bradley tasks were removed from NCOES POIs, so was the training on PCCs and PCIs.

c) **Mission Command Training.** Armor, Infantry and Signal leaders assigned to Combined Arms Battalion (CAB) TOCs are not trained on all assigned mission command equipment. ABCTs do not have the internal expertise to train all mission command systems assigned. In order to receive training on all systems the institution only has one option, the Signal Digital Master Gunner Course (S-DMGC), and units need improvement on sending 25U NCOs to this course. In order to support new initiatives from the Army Learning Model (ALM) in 2013 mission command content was removed from Armor and Infantry NCOES courses. One CAB TOC displayed a dry erase board that tracked mission command equipment status for 20 different mission command systems and the BN S6 stated that the leaders in the TOC are not trained on all systems assigned. According to one BN S6, 25U NCOs are only trained on BFT and FM. The systems listed on the dry erase board were: FM, TACSAT, BFT JCR, BFT TOC, CPOF, Ventrillo, Jabber, DCGS-A. BATS, OSVRT, GBS, AFATDS, SIPR WKS, SIPR VOIP, NIPR WKS, NIPR VOIP, BCS3, MC4, CPN, STT.

Unit leaders said there is a reliance on FSR support to train/sustain all current MC systems. Units stressed that their NCOs and officers need the ability to train their Soldiers on whatever systems are provided to their units.

Leadership expressed that if there were fewer MC systems that contained all required capabilities it would be much easier to retain trained leaders to operate the equipment. Units do not have enough Signal Digital Master Gunners; of four BNs interviewed in the past two DA rotations, none had 25U NCOs who had graduated from the Signal Digital Master Gunner Course (S-DMGC).

One BN stated that: "We only have one 25U SSG; zero 25U SGT, and zero 25U SFC. It is hard for us to send our only 25U to the S-DMGC."

Recommendations:

- HRC ensure 25U NCOs attend the S-DMGC at Ft Gordon TDY en route to an ABCT and/or ABCTs schedule attendance to the course in conjunction with NCOES. For full details visit https://s6.army.mil/portal/main.php?page=sdmg.html
- Recommend units conduct C4 sustainment training for Signal officers and NCOs, and Battle Staff through the LandWarNet e-University (LWNeU). LWNeU is the U.S. Army's on-line presence for C4 Sustainment Training. LWNeU provides Information Technology, Communications Systems, Battle Command and other related training and information products for Soldiers, Units, Army Network Enterprise Centers and the Sustaining Base. For full details visit https://lwn.army.mil/home/
- All units recommended establishing a FBCB2 network permanently in their unit CPs in garrison. One unit has setup a permanent FBCB2 in their S3 for training.
- ABCTs practice establishing a Brigade-wide FM network to exercise operations such as FM RETRANS. Recommend conducting these exercises far enough in advance that a Brigade can order mission Class II and IX necessary to ensure proper function of all their systems. The simultaneous demands of decisive action generally stress a unit's capacity to conduct traditional FM operations.
- ABCTs explore the use of and develop proficiencies in the use of HF and TACSAT systems.
- TRADOC support TDY en route for 25U NCOs and TDY in conjunction with NCOES.
- TCM-ABCT will continue to review ways to add relevant mission command training in all IMT, NCOES and OES courses.

Actions to Date:

- TCM-ABCT posted this observation on the Mounted Maneuver Forum, Maneuver Net, and Leader Net, and has submitted the content for future publication in the Thunderbolt Blast Magazine.
- TCM-ABCT has coordinated with the PM and requested the new FBCB2 software training to be available on Blackboard for NCOES to include as a homework assignment in NCOES prior to the FTX. Once at the FTX the skill could be a performance measure during the troop leading procedures requirement and this option could require no growth to the course.
- To improve mission command at company level, one of the current FDUs includes a 2-man COIST in every company.

d) **ABCT Sustainment Operations Leader Skills.** TCM-ABCT observed weaknesses in sustainment operations skills required for decisive action. According to senior OC/Ts, many NCOs do not understand decisive action required sustainment processes required from the initial planning phase all the way until the final phase of consolidation and reorganization. Armor and Infantry NCOs assigned to the ABCT have not performed decisive action sustainment tasks in the past eight years due to the mission in theatre on non-MTOE equipment.

e) **Use of Operational Graphics.** Units throughout the BCT lacked consistent and effective use of analog graphics. This is a common trend from previous ABCT rotations to the NTC. The perception from several rotations is there appears to be an analog graphic reproduction problem, either due to limited time, manpower, or lack of priorities of work issued for this task. In one CTCP there were no BN maneuver graphics posted, however by doctrine the CTCP must be prepared to

operate as the BN TOC if the BN TOC goes down. IAW FM 3-21.20, "the CTCP functions as the alternate battalion tactical operations center (TOC) and monitors the current fight."

f) **Engineer (EN) use in Decisive Actions**. According to senior Engineer OC/Ts Armor, Infantry, and Engineer leader's skills regarding the application of Engineer assets for decisive actions in ABCTs has atrophied. This loss of skills can be attributed to the way Engineers have been employed over the past 8 years. In OIF and OEF, Engineers have focused most of their efforts on Route Clearance and Reconstruction operations. Not a single minefield was emplaced in OIF or OEF, which is one of the primary means of shaping and canalizing the enemy. Additionally, US forces were almost always on the offensive therefore defilade defensive positions weren't necessary nor did the manner in which we fought require the use of them in complex terrain. We need to maintain lessons learned over the past decade, study potential adversaries, their weapon systems/capabilities, and the probable terrain we will fight. We must ensure engineers are well prepared, and ABCT leaders must be competent in employing available engineer assets to fight any adversary we encounter in the operational environment.

Trends have shown there is a gap in Armor and Infantry leaders understanding planning requirements for Engineers in support of defensive operations and there is also a knowledge gap in EN leader skills required for decisive actions. Units are not shaping the battlefield maximizing use of engineer assets. Examples needing improvement include: triggers for transition from offense to defense, prioritization and control of survivability assets, planning and use of Class IV in support of defensive positions, use of EN estimates, EN Synch Matrix, Synch Dozer, emplacing and integration of obstacles, war gaming enemy courses of action prior to obstacle emplacement.

Engineer platforms can be used as an extra Infantry platoon for the mission, but were not incorporated into the direct fire plan. A few Engineer Soldier skills that were mentioned include: Bangalore, breach, MCLIC, defensive position digging. In one BN the engineer supply point for dropping off Class IV supplies to build the defense were located miles behind the engagement area vice in the center where units have more rapid access. This caused delays in building obstacles in the engagement area.

For rotation 13-04, commanders rehearsed the engagement area (EA) by having vehicles approach the EA along the most likely enemy avenues of approach, but some did not plan indirect fires on terrain not covered by direct fire weapons. One commander had vehicle crews lie down in a prone position with binoculars to determine the proper positioning of Abrams and Bradley two tiered fighting positions. Other areas needing improvement include: direct and indirect fire control measures (ie day and night target reference points- TRPs), sharing of company graphics up to battalion to improve situation awareness, and coordinating mutual direct and indirect fire support between all units. The 2012 Annual report provided by the Capabilities Development and Integration Directorate (CDID) Test and Evaluation Office identified the same trend stating, "Only slightly more than half of Leaders (56%) agreed the Army properly trains platoons to conduct defensive operations."

Actions to Date: Following return from NTC 13-04, TCM-ABCT shared the identified training gap with the Engineer School Chief, Individual Training Division. TCM-ABCT briefed the NCOA Commandant recently and NCOES course managers are reviewing strategies to improve NCO knowledge of using all enablers in the defense.

g) **Engineer Soldier Proficiency on the Bradley Fighting Vehicle.** Engineer units in the ABCT receive Soldiers, NCOs and Officers with no experience on the Bradley Fighting Vehicle. Prior to the Bradley NET, only two Soldiers in the EN company had Bradley experience. During the unit's

gunnery in SEP 12, only 4/17 EN crews qualified on Gunnery Table VI, Crew Qualification, however the unit conducted a second gunnery in DEC 12 to qualify the remaining crews. Engineers are also required to conduct Engineer qualification tables in addition to Bradley gunnery tables. The USAES currently does not have Bradleys or resources available to train this skill set and the Engineer School Chief of Individual Training Division stated they prefer to send Soldiers to the MCoE after IMT prior to assignment to ABCTs through the Bradley Basic Transition Course. Lack of proficiency on the Bradley Fighting Vehicle is also common among Infantrymen assigned to ABCTs, and full details on the Infantryman skill gap can be found in the TCM-ABCT EXSUM for NTC Rotation 13-03.

Actions to Date: TCM-ABCT has been in contact with the Engineer School Chief of Individual Training Division since JAN 2012, and the Chief still recommends EN Soldiers, NCOs and Officers receive Bradley training at the MCoE prior to assignment to Engineer platoons in ABCTs.

h) **Area of Concentration (AOC) and Career Management Field (CMF) 19 series NCO and Officer Skills need improvement.** ABCT Scout leader maneuver skills have atrophied and the operational force is not effectively scheduling NCOs and officers for the Army Reconnaissance Course (ARC) to improve the skill set. The ARS Commander recommended that 19 series officers and NCOs arrive with prerequisite training through ARC. This course would provide required Scout leader skills needed to be more successful in the ABCT. SSG-SFC 19Ds arrive to the Scout Platoon without training through the ARC. ARC graduates earn the R7 ASI/SI that is required for 19 series officers and NCOs to more effectively serve leadership positions in Scout platoons.

ARC is available for 19D SSG-SFC who have completed ALC and AOC 19 officers. ARC is a physically and mentally demanding course designed to develop platoon-level reconnaissance leaders from scout squad leaders to platoon sergeants and platoon leaders. It is a 27-day course, with 17 days spent in a tactical environment. The course's mission is to develop confident and agile reconnaissance leaders who can operate within their commander's intent in unpredictable combat and training environments. Graduates understand the fundamentals of reconnaissance operations, reconnaissance platoon capabilities and limitations, and the application of reconnaissance and security doctrine. For more information, visit http://www.benning.army.mil/armor/316thCav/

According to DA Pamphlet 600-3, all Cavalry officers must complete either the Army Reconnaissance Course or the Cavalry Leader Course prior to serving in a reconnaissance position. This same regulatory requirement does not apply to 19D NCOs, although DA PAM 600-25 is being revised to recommend attendance to the course. The 19 series officer generating force quota sources are well managed by HRC to ensure all officers en route to Scout platoons attend ARC. 316th CAV BDE has over a 90 percent success rate in ensuring all Active Component (AC) lieutenants attend a follow-on Assignment Oriented Training (AOT) course at Fort Benning. However, once officers are assigned to the operational force and change assignments attendance rates need improvement. Quota source management in support of the operational force needs improvement for 19 series officers and 19D NCOs. NCOs have historically not attended ARC in sufficient numbers.

Currently the MCoE NCOA is addressing ways to replace classroom time with training in a field environment to improve field craft for NCOs, however, NCOES does not plan to incorporate training on the M3A3 Cavalry Fighting Vehicle. The only courses a 19D NCO can continue self development on the M3A3 is ARC or the Bradley Master Gunner Course.

Recommend improved management of ARC quota sources by the operational force to ensure officers and NCOs assigned to Scout platoons earn the R7 ASI through ARC attendance. Recommend HRC send leaders to ARC when TDY en route to ABCTs or in conjunction with scheduled NCOES/OES courses. Units should coordinate with FORSCOM to forecast seats for 19D SSG-SFC and officers assigned to Scout platoons.

Actions to Date: The Army released a message on 1 Nov 2012 approving the officer Skill Identifier (SI) and enlisted Additional Skill Identifier (ASI) R7, Army Reconnaissance. Refer to ALARACT 268/2012 for all the details. TCM-ABCT has addressed this training gap in NCOES POI working groups at the MCoE. The NCOA Commandant supports 19D NCO attendance to ARC in conjunction with scheduled NCOES and will work with units to support requests. The Office Chief of Armor (OCOA) is updating DA PAM 600-25 to include recommended attendance to ARC by 19D NCOs. When TCM-ABCT briefed the CSM, MCoE one of his priorities is to improve institutional training for NCOs on armored platforms. We will continue to recommend solutions through working groups as the ABCT user representative for the MCoE Maneuver Leader Development Strategy (MLDS). The MLDS outlines maneuver leader competencies that maneuver officers and NCOs most possess and will serve as a guideline for future leader development. The MCoE is currently developing options to:

- Increase coding and attendance to the Army Reconnaissance Course (ARC), and Reconnaissance and Surveillance Leaders Course (RSLC) of Scout Platoon positions across all formations (ABCT, IBCT and SBCT).
- Integrate security force assistance (SFA) and network development training into ALC, MSLC, BOLC, and MCCC.

i) **Maintenance Proficiency.** One battalion commander pointed out that Platoon Leaders coming out of BOLC do not know how to properly complete a DA Form 5988 (Equipment Inspection and Maintenance Worksheet) for equipment assigned to the ABCT. TCM-ABCT will continue to share identified trends with Professional Military Education (PME) Course managers.

j) **CROWS Maintainers**. The 91A (Abrams Maintainer) does not receive any training on the CROWS, except to remove the CROWS so the Abrams GPS housing cover can be removed. The 91B (Wheel Maintainer) receives CROWS training. The Forward Support Company is assigned 91As and 91Bs on their MTOE, however based upon distribution of mechanics an Armor Company may only receive the 91A Abrams Maintainer. This results in CROWS maintenance issues requiring repair in the MCP vice on the front line. The Ordnance Center and School has determined that a 91A should receive a familiarization on the CROWs. The Abrams Master Gunner Course and the Maneuver Center of Excellence (MCoE) are aware of this training gap and are in the process of a Program of Instruction (POI) revision to include CROWS training for Abrams Master Gunners. TCM-ABCT recommends that 91As receive the training necessary to maintain the CROWS on Abrams platforms. Until this training concern is resolved it is TCM-ABCT recommendation that a minimum of two 91B should be located in the Maintenance Collection Point (MCP) to perform CROWS maintenance.

k) **Bradley TOW MILES XXI**. ABCTs have not performed training with MILES on Bradleys consistently over the past decade. The result is a lack of proficiency on the installation, use, and troubleshooting of the system. Units also train on one MILES system at home station and then deploy to the NTC and utilize MILES XXI. MILES XXI operating procedures are uniquely different from home station MILES. During the past two NTC rotations we observed very few TOW launchers in the raised position. When asked why leaders reported that when crews raised their TOW launchers they received a cheat kill with a code of "missing module". This resulted in a reduced ability for the M2A3/M3A3 to conduct direct fire engagements at targets beyond 3,000 meters and also reduced the available direct fire weapons systems to engage tank targets.

Actions to Date: TCM-ABCT addressed the issue and the Warrior Training Alliance (WTA) management performed a query of the MILES Contact Team (MCT) members to determine if they have encountered the issue. The teams have encountered some TOW issues, but, mostly this was

due to dead batteries in the BAFFs and mechanical issues related to the turret. The team checked the below items:

- Ask each crew if they experienced any problems with MILES while the TOW was in the raised position?
- Ask each crew if they know the correct power up and power down procedures for MILES?
- Next WTA would have the crew raise and lower the TOW while observing for any faults/issues with the MILES and the TOW system.

WTA was able to look at 102 Bradleys and below are the results:

- When ask if they experienced any problems with MILES while the TOW was in raised position.
  - ~60% of crews stated they did not experience any issues
  - ~20% of crews stated they had problems with firing the TOW (4 of these crews stated they had a "cheat kill" while using the TOW)
  - ~10% of crews stated they experience turret malfunctions with TOW not related to MILES (4 of these had TOW problems prior to MILES XXI install)
- When asked to explain the MILES power up and power down procedures.
  - ~40% of crews could not explain the proper way to power up or power down the MILES system

MILES XXI like most software based systems has to be powered up (and down) in the proper sequence to avoid damage and to allow the software to recognize components.

TCM-ABCT will continue to follow up on this issue during future rotations to the NTC. Units need to ensure crews are trained on MILES XXI and track and report problems. Recommend unit Master Gunners and NTC track and investigate issues related to MILES XXI to further identify if this issue is a training issue or if there is a material concern that needs to be addressed.

l) **Formal Orders Process.** Over the past 10 years, ABCTs have generally drifted away from producing formal written orders and relied on executing operations by utilizing the Concept of Operations (CONOPS) portion of the 5 paragraph OPORD. The CONOP was originally developed to streamline and expedite the orders process, however it leaves out critical steps in mission planning. The CONOP provides only the concept of the operation paragraph and does not provide sufficient information to a conduct a mission. During NTC Rotation 13-04, staffs did not exercise the full Military Decision Making Process (MDMP) when preparing for missions. With complex, large scale operations, well written orders contain the required detail to address complex contingencies that arise. One CAB Commander addressed that his staff needed to improve on conducting all steps of the MDMP without taking shortcuts, and commented that his staff did not war game in a time constrained environment. He informed his staff during the AAR that a good solid mission analysis and COA refinement is vital, and the staff still needs to back brief the Commander to ensure they are on track with the intent.

6. Material:

a) **BSB wheeled platforms lacked ring mounts for convoy security requirements.** The unit did not deploy wheeled platforms. The wheeled platforms the unit signed for did not have the ability to

mount ring mounts and did not have an opening in the top of cabs to allow a gunner to mount a weapons system. This resulted in the BSB lacking internal assets for convoy protection platforms for securing their own Tactical Assembly Area (TAA) or providing security during convoy protection. Example: All distribution HEMTTs at home station have ring mounts and would provide self convoy security, however the ring mounts on home station HEMTTs do not fit the HEMTTs drawn at the NTC. TCM-ABCT recommends that the Combat Training Centers provide serviceable ring mounts mounted on all wheeled platforms.

b) **Mission Command Equipment Requirements.** Current mission command (MC) systems within separate Warfighting Functions (WfFs) force commanders and leaders to interact with and view multiple data sources across several viewers in order to fuse relevant data into a single mental model. BCT and BN TOCs have multiple uncoordinated systems that have a negative impact on operations, training and sustainment operations in the decisive action operating environment. Leadership from CO-BCT expressed:

- They have too many Mission Command systems that do not share data.
- There is a need to reduce systems to a manageable and common level with one or a few systems that have all required capabilities (NIPR and SIPR, BLOS data and voice).
- Beyond line of sight voice is becoming more important to commanders as they are required to navigate cross country terrain and rely on voice for communications due to FBCB2 location, time to type while moving, etc.
- Reliance on multiple system field service representatives is a requirement due to non-program of record systems and systems operational complexity requiring system expertise outside the abilities of unit technical and maintenance personnel. This hinders unit self-reliance to troubleshoot and resolve technical issues within existing sustainment support infrastructure and ASL.
- Combined Arms Battalions (CABs) have limited or no access to Upper TI while maneuvering and the BCT must establish procedures to establish mission command.

Current mission command equipment is identified as a military problem in the Command Post Computing Environment (CP CE) Concept of Operations (CONOPS) paper, dated 22 FEB 13. "Current capability is characterized by a loosely coordinated set of disparate systems, applications, services, and transport networks. These systems and applications were designed to provide specific WfF capabilities. When combined these systems lack the ability to effectively and rapidly fuse operations and intelligence information at the tactical edge CP. Since all of these systems as components of the CP CE have been designed, built, and are fielded separately, there is additional overhead and risk associated with integration, interoperability, and sustainment support. These conditions present significant challenges in terms of cost, fielding, and training. The current complexity of establishing a command post requires software/network engineers (Field Service Reps-FSR) in the field."

Actions to Date: TRADOC Capability Managers and Program Managers are involved in developing applications and services supporting operations and intelligence (Ops-Intel) convergence. The operational significance of this technical effort begins with reducing duplicative system functions and providing a unified system/view to enable the commander and leaders, through a common workspace, to more readily consider multiple factors and variables informed by contextual details, to efficiently direct operational adaptation.

c) **Mission Command (MC) Equipment Fielding.** The timing of fielding of different mission command software to vehicle platforms, TOCs, and adjacent battalions caused gaps in

communication for the BCT. One unit could not send overlays and messages from a JCR TOC Kit or JCR system (Wheeled vehicles and 1068 Track vehicles) to a BFT Version 6.5 platform in their Abrams and Bradleys since they received JCR upgrades. BNs within the BCT had a different mix of FBCB2 software and could not share data. Fratricide could have been avoided when one BN engaged another BNs recon forces due to lack of clearing fires, common graphics and situation awareness shared through FBCB2 data transfer. The unit was advised by the FSR that it shouldn't constitute a problem but after troubleshooting we discovered that there is software bug/glitch that prevents declassification of messages.

Actions to Date: The PM is currently in the process of developing a permanent solution to this issue. TCM-ABCT contacted the PM JBC-P LNO to TCM BCT MC and units are recommended to report FBCB2 concerns to the PM at https://fbcb2.army.mil/fbcb2/menu.cfm A technical bulletin has been released and the details are below:

Create/Send an Overlay: Technical Bulletin

Caution: The cause of this work around has been identified as a JCR software design issue rather than any particular process conducted or managed at the NOC.

Issue: Overlay messages sent from a JCR with KGV-72 platform to either a JCR without KGV-72 or 6.5 L-band system will be dropped at the NOC if the sender enters any lowercase or alphanumeric values into the Unique Symbol Designation field.

Work-Around: A near-term work around has been identified. The user must use upper case characters in the Unique Symbol Designation Field. If additional comments or descriptors are necessary, the user may also use the "Staff Comments" field, allowing the message to pass successfully.

e) **Company Maintenance Team Vehicle.** The M88 is the one survivable platform that can go to tactical locations with the maneuver company. The HMMWV contact truck with shop equipment (S25681) and the Forward Repair System (FRS) (F64544) replaced the M113A3. All maintainers TCM-ABCT interviewed stated a more survivable platform is required to go forward with the supported company. The contact truck does not provide adequate protection, firepower, or maintain pace with other combat platforms in the formation in all terrain.

f) **Bradley Double Pin Track End Cap Connectors**. In one platoon ten end cap connectors fell off the M2A3 double pin track. The M2A3 double pin track (T-151) life is 6,500 miles, and with proper maintenance procedures track should not fail since the unit only received the vehicles in March 2012. M2A3 crews with single pin track have not reported this issue as the single pin track does not contain end cap connectors as part of the hardware. In the crew's opinion, the bolts vibrated off and in some cases bolts were sheered while traveling over restrictive terrain. This resulted in Bradleys throwing track. When the vehicles threw track, the only option available was to short-track since the unit lacked space track shoes. Historically units have mitigated this issue by storing extra track on the exterior load plan. Since the units received the M2A3 in MAR 12, they did not have excess track to store on the exterior of the vehicle. The platoon Soldiers stated their tracks had been short tracked as much as they can without requiring new track shoes to be installed for proper length. Crews stated they have ordered end cap connectors for their track on their 5988Es, however, they believed current budget constraints have prevented non deadline requests for parts from being processed.

Since the double pin track is a new upgrade for M2A3s, and has had limited operational use at the NTC, TCM-ABCT will continue to monitor the issue and determine the cause. Bradley crews can carry two extra double pin track shoes on each vehicle exterior load plan, and research ways for unit maintenance/or crews to carry spare end cap connector hardware to reconnect track when equipment failures occur. Recommend crews monitor track tension as improper track tension can cause premature track failures. Also recommend units ensure that the track bolts are torqued in accordance with technical manuals. If units still have issues with the double pin track while following prescribed maintenance procedures please report the details to TCM-ABCT or PM-ABCT. The exact cause of the issue is presently unknown, and TCM-ABCT will continue to monitor future NTC rotational use of the double pin track on the Bradley Fighting Vehicle.

g) **Armored Recon Squadron (ARS) Equipment**. The Armored Recon Squadron (ARS) Commander made several equipment recommendations to provide increased reconnaissance maneuver, protection and intelligence capabilities. Currently, the ABCTs' R&S assets have limited mobility and survivability. The Movement & Maneuver Formation Based Assessment (M&M FbA) conducted by the MCoE's Concepts Development Division (CDD) in September 2012 highlighted the fact that our Scouts did not survive after initial contact with the enemy. This reduces the R&S Organization's effectiveness in the execution of tactical missions such as the screen, delay, guard, and movement to contact.

- He recommended Pumas in the ARS instead of the Raven. The reasons stated included the Puma could increase air-ground integration and intelligence collection efforts for the ABCT through greater range, greater altitude, twice the flying duration, and a better picture. The ARS was not equipped with the upgraded RAVEN. Units deploying to Afghanistan are now receiving RAVENs with a 360 degree infinite spin camera. The camera enables the operator to fly the RAVEN through the camera, where previously the operator flew the aircraft visually. Feedback from RAVEN operators in theatre has been very positive.
- The commander was very pleased with the added capability the Armored Knight provides for the ARS, and stated the platform increased flexibility by providing HF and improved reconnaissance capabilities with the Fire Support Sensor System (FS3). The Armored Knight crew stated the disadvantages are the vehicle only transports three personnel and has no space for CASEVAC.
- For Scout operations the commander expressed that the M1151 HMMWV platform has become overburdened with equipment and armor. One commander stated, "HMMWVs are too light to survive first contact and too heavy for off-road mobility in mud and sand with up-armor and loaded with LRAS, Mark 19, .50 cal MGs and allocated ammo.

The current organization of an ABCT reconnaissance platoon (5 HMMWVs and 3 M3A3 Bradley Fighting Vehicles) hinders its ability to effectively conduct reconnaissance and security. Combat experience, combat training center lessons learned, and models and simulation have shown that ABCT reconnaissance platoons must be capable of fighting for information and developing the situation in contact.

Actions to Date:

- The MCoE has identified actions we can take immediately to improve Army forces ability to conduct reconnaissance and security operations. A recently submitted MCoE Force Design Update (FDU) requesting Scout Platoon vehicles change from 3 CFV/5HMMWVs to 6 BFoV variants and specifically requests M2 BFVs be prioritized for Scout Platoons. The BFV provides mobile protected firepower to the entire

platoon and organizing the ABCT reconnaissance platoon into a six BFV formation will close the reconnaissance capability gaps of the current formation. Additionally, TCM-ABCT is discussing options with PM-Bradley to include LRAS capabilities in the three Bradleys that would be assigned to platoons under this FDU.

- The Army is addressing air-ground integration improvements in the Ruck Sack Portable Unmanned Aircraft Systems (UAS) Capability Production Document (CPD). The CPD includes three types of UAS to meet the needs of the force: micro size/short range (dismount friendly), medium range (mounted friendly), and long range (reconnaissance/surveillance). The anticipated date that units should start receiving the UAS sets is 2017. Planned improvements for the RAVEN include an improved battery life from 90 to 120 minutes. Planned improvements for the PUMA include a four hour battery and a laser marker. TCM-ABCT will stay engaged with the Soldier Requirements Division UAS lead during this process.

l) **Orders Production Equipment.** Leaders in BN TOCs stated the printers they carried to NTC could not hold up in the dusty environment during decisive actions and recommended future units look at purchasing durable printers, or providing storage capabilities that would protect the printers when not in use or traveling. Units also had no mass production capabilities for printing large format graphics where they could scan one common unit graphic and then print duplicates. A decade ago, it was common to find Diazzo printers at Battalion and Brigade TOCs on plans trucks capable of scanning large format acetate overlays and printing large format copies onto white paper. A capability similar to what the Diazzo used to offer would save time instead of Soldiers copying a dozen or more sets of graphics from one set which also tends to create inaccuracies when more copies are made. In the past, unit commanders would arrive at OPORD briefs and receive their set of BN graphics. There is not enough time to hand copy enough sets without delaying the battalion commander's issuance of the order. The result has been company commanders departing the order with no graphics and relying on digital FBCB2 instead of analog and digital graphics or commanders delaying issuance of orders.

7. POCs for this memorandum are Mr. Derek McCrea and Mr. Mark Granen (Operations) or Mr. Stephen Harper (Sustainment) at TCM ABCT, 706.545.2684/ 706.626.1148.

JOHN W. MILLER III
Acting Director
TRADOC Capability Manager
Armored Brigade Combat Team