Unit Visit Report
NTC Rotation 13-08

3 September 2013

Report produced by
TRADOC Capability Manager-Armored Brigade Combat Team and Recon (TCM-ABCT/Recon),
Capability Development and Integration Directorate (CDID),
Maneuver Center of Excellence

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REPLY TO
ATTENTION OF

ATZB-CIA

1 September 2013

MEMORANDUM FOR RECORD

SUBJECT: TCM-ABCT Observations, Insights and Lessons Learned (OIL) for National Training Center (NTC) Rotation 13-08

1. TRADOC Capability Manager-Armored Brigade Combat Team (TCM-ABCT) personnel visited NTC Rotation 13-08 to conduct observations, insights and lessons learned in order to collect and identify trends and mitigate DOTMLPF issues.

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

3. **Summary:** NTC Rotation 13-08 demonstrated BCT CDRs ability to tailor training at the NTC to start where home station training leaves off. The unit's aggressive home station training strategy enabled the ABCT to initiate the deployment with BN level STX lanes and focus collective training efforts at higher echelons earlier than previous ABCTs we have observed. The biggest challenge the unit experienced was sustainment of ABCT organic platforms. TCM-ABCT has observed the past four Armored Brigade Combat Team rotations to the National Training Center and there is common 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 forces on the battlefield. Our observations, insights and lessons learned and recommendations to improve DOTMLPF issues are included in this report.

4. POCs for this report are the undersigned at william.t.nuckols.mil@mail.mil, 706-545-7487, or members listed on the collection team page.

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Chapter 1
Doctrine

1. **Combined Arms Battalion (CAB) Tactical Operations Center (TOC) Battle Drills.** The BN and BCT TOC had a very good grasp on battle drills. The Operations Sergeants Major and the Chief of Operations were observed constantly coaching and briefing subordinates. The systems exercised by this unit were in published TOCSOPs that were trained at home station. During previous NTC rotations TCM-ABCT has observed that units need improvement on use of TACSOPs/TOCSOPs. We have developed an SOP Repository with sample SOPs for download at https://www.milsuite.mil/book/groups/t/content#filterID=contentstatus%5Bpublished%5D~category%5Btacsop-repository%5D

2. **Solid Foundation of Doctrinal Concepts**: Leaders have been deploying to the NTC without a solid foundation of doctrinal knowledge related to decisive actions. Leaders are not communicating with an understanding of doctrinal terminology and are not demonstrating an understanding of doctrine. Junior leaders are not accustomed to planning or fighting an enemy that is a near peer threat, and therefore have not had to exercise the full doctrinal capabilities for each of the warfighting functions. Since the unit is only in the box for 14 days this places the leaders into a situation with a very steep learning curve. Senior leaders (LTC/CSM) more commonly use appropriate terminology and demonstrate an understanding of decisive actions doctrine, but younger leaders have a challenge grasping the concept in such a short time.

Actions to Date: The top leader development priority of the MCoE Commanding General is to implement the Maneuver Leader Development Strategy (MLDS). The Maneuver Center of Excellence (MCoE) will implement a MLDS to train and educate agile and adaptive maneuver leaders capable of leading Soldiers and accomplishing the mission while confronting complex environments and adaptive enemies. The MLDS provides the vision and guidance for developing maneuver leaders across the force. The MLDS is currently on Draft version 5.5 and can be found under the Leader Development tab of the Army Training Network (ATN) at https://atn.army.mil/index.aspx

Recommendation: Continue efforts by TRADOC and FORSCOM to educate leaders on doctrine. TRADOC Centers of Excellence train and certify instructors to understand doctrine and how to best teach Army leaders. Commanders can access the Doctrine Division of the MCoE. DOTD is your conduit to other doctrine producing organizations within the Army and Joint community. DOTD will accept any comments you may have on any doctrinal publication, ensuring that it gets to the proper organization for action as required. Doctrinal revisions are ongoing and current manuals are at available for download at https://armypubs.us.army.mil/doctrine/Active_FM.html

Recommended Reading: The Infantry School published an article in the January 1994 issue of Infantry Magazine titled "*A Task Force Commander's Personal Preparation for the NTC"* https://www.benning.army.mil/magazine/1994/1994_1/fa02.pdf The article is

one BN CDR's story of how he applied doctrinal concepts to theory and execution at the NTC in 1994. Recommend leaders scheduled to train at the NTC read "*66 Stories of Battle Command"* http://www.au.af.mil/au/awc/awcgate/army/66stories.pdf
written in 1998 by General Officers who had previously served as commanders of rotational units. NTC is working on a follow up to this product with 66 new stories based upon the operational environment of today, due for release in FY 14.

3. **Armor and Infantry Action, Crew, and Battle Drills**. Battle, crew and action drills conducted by Armor and Infantry platoons, squads and crews have atrophied. Unit leaders exercise different techniques and procedures, and sometimes use common Warrior Battle Drills for executing operational tasks. However, platoons and below are not conducting the drills to standard, or do not understand how to execute the drills. Units should be able to conduct their specific battle, crew or action drills without applying a deliberate decision making process and with minimal leader orders. Leaders should train and rehearse drills at every opportunity. While observing training, leaders at the platoon level have expressed that they didn't know where or how to find ARTEP or battle drill manuals on the Army Publishing Directorate (APD). They either did not know or understand that the ARTEP manuals had been replaced by Combined Arms Training Strategy (CATS) and are located on the Army Training Network (ATN), or that battle drills were removed from platoon and squad manuals and placed in CATS and on ATN.

Actions to Date. As the MCoE DOTD Doctrine and Collective Training Division rewrite or revise platoon and squad manuals, they are placing most battle, crew, and action drills back into the manuals. Units at all levels must understand that they can find all battle drills with required actions for their unit in the CATS. ABCT CATs can be found at https://atn.army.mil/dsp_CATSviewer01.aspx

Recommendation: Reintroduce and publish Tactical Decision Exercises for use in developing battle drill responses from leaders given a certain situation requiring action. Eventually build to individual level and collective situational training exercise (STX) lanes.

Chapter 2
Organization/Personnel

1. **Battalion Motor Sergeant:** Warrant Officers and Battalion Motor Sergeants recommended that the two SFC positions in the FSC maintenance platoon are combined into one MSG MToE position. There is no longer a MSG position authorized by MToE to serve as a Battalion Motor Sergeant and Maintenance Platoon Sergeant in the FSC. Currently two SFC perform the duty that one MSG performed under the Army of Excellence (AoE) structure that ended a decade ago. The SFC Platoon Sergeant in the FSC has responsibilities involving the mentoring of six SFC NCOs assigned to Company Teams. He serves as the senior sustainment NCO for maintenance operations, and leads six company field maintenance teams. Being the senior NCO in the maintenance platoon he is also responsible for the MCP set up and security in the field.

Recommendation: Recommend CASCOM consider replacing two SFC 91X40s positions with one MSG 91Z50 position to serve as the Battalion Motor Sergeant and Maintenance Platoon Sergeant.

2. **Support Operations Shop Personnel:** The BSB Support Operations (SPO) shop is assigned four Captains, one senior Warrant Officer and nine senior NCOs. There are no junior enlisted Soldiers assigned to the SPO. The SPO shop has eleven different computer/software programs to manage. The NCOs and officers assigned to the SPO interviewed recommended the addition of junior enlisted personnel.

Recommendation: Recommend CASCOM consider MTOE changes; one possibility could be to pull two 92A (Automated Logistical Specialist) from the supply PLT HQ (line # 204) or from the general supply section (line #205). The 92A20 would be able to manage the SAMS-2E and the other logistical software programs. Additionally add two 88M20 (Heavy Vehicle Driver) to assist in monitoring the Movement Tracking System (MTS). This would free up the Captains and senior NCOs to concentrate on BDE level logistical concerns.

3. **FSC Maintenance Control Officer MOS:** The BDE used the FSC Maintenance Control Officer (MCO) as the maneuver Battalion Maintenance Officer (BMO). Under the Army of Excellence (AOE) personnel structure, the BMO was a combat arms officer and had the working knowledge of combat platforms, repair part knowledge, and DA Form 5988 management and could easily communicate with the BN XO/CO on NMC equipment. Today the MCO is a logistical officer, and in most cases is a 2LT with little to no working knowledge on combat platforms, maneuver operations or repair part knowledge. This results in the MCO having a very difficult time trying to explain to the BN XO/CO why combat platforms are Non-Mission Capable (NMC).

Recommendation: Recommend CASCOM consider changing the FSC MTOE and make the company commander or the company XO a combat arms officer; or change both to a combat arms officer position. If that approach is unfeasible, recommend logistics lieutenants are cross trained on ABCT tracked platforms and maneuver doctrine to be better prepared to serve the needs of the unit.

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Chapter 3
Training/Leader Development

During the past five NTC rotations and unit visits to ABCTs, 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 and ABCTs identify strategies and conduct Leader Training Programs (LTPs) to improve the following identified training gaps:

1. **Live Fire**. During the live fire phase of this rotation, maintenance issues reduced the combat power available for the live fire exercise (LFX). Abrams and Bradley crews experienced challenges when preparing fire control systems.

a. Bradley crews have recently experienced challenges with fire control systems induced by crew error. Common errors have included: improper loading and unloading, failure to time the feeder, bolts and tracks not locked in, tension not released from ammunition, ghost rounds not cycled, excessive links not swept out from the plenum chamber, expended round casings not cleared out of the ejection port during clearing operations, and lack of awareness of sectors and surface danger zones (SDZ) including the implications and risk associated.

b. Some Bradley crews did not demonstrate an understanding of how to clear malfunctions on the M240C machine gun during the LFX.

c. Fire control systems for Bradley and Abrams unavailable due to electronic and hydraulic failures.

d. Manually charging the hydraulic system to prevent gun tube drop on the Abrams Tank was not accomplished.

e. Bradley and Abrams crews did not fully understand boresighting procedures which required lengthy times to accomplish. Increased times to boresight had negative impacts on times available for the LFX.

f. Two Abrams systems encountered a major fracture to their main gun due to obstructions in the tubes when fired. Below are risk reduction measures being taken to mitigate future gun tube fractures:

(1) PM ABCT Safety will update the Gun Tube Strike Safety of Use Message (SOUM) to highlight the importance of ensuring crews check and clear obstructions in the event of a gun tube strike.

(2) NTC Dragon Live Fire team will revise their live fire pre-brief to highlight terrain awareness during live fire.

(3) Review tank TMs to ensure they provide proper crew procedures after a gun tube strike.

(4) MCoE needs to ensure these procedures are properly addressed in 19K OSUT, Abrams Master Gunner Course, M-SLC, ABOLC and MCCC.

(5) Crews were not following or did not know appropriate live fire preparation of their fire control systems, gun systems or gunnery techniques.

(6) Several tanks did not have operational individual Muzzle Boresight Devices (MBD's) and were required to borrow MBD's.

(7) Crews did not have or use paper copies of pre-fire checks. They relied solely on the FBCB2 Commander's Tactical Display (CTD) digital pre-fire checklist. Hot bed crews assumed vehicles were ready and did not conduct their own pre-fire checks. The advantage of paper pre-fire checklists is they assign responsibility by requiring the vehicle commander's signature and they also serve as a means to ensure critical tasks are accomplished before crews load the Bradley weapons systems. Unit master gunners identified this deficiency and initiated a policy with signed paper pre-fire checklists to be turned in before crews could receive their ammunition. Master gunners stated after they incorporated this standard crew induced malfunctions were reduced.

(8) Armor and Infantry Company Commanders are not using all military occupational specialty (MOS) Soldiers and vehicles for the LFX. There has been a general lack of unstabilized weapons gunnery conducted during the past year at the NTC LFX. Units can incorporate mounted unstabilized weapons systems into the scheduled fight and can also request a Convoy Live Fire Exercise for sustainment platforms. During previous unit visits ABCT leaders have expressed a need for Unstablized Gunnery SMEs to reside in formations that lack Abrams and Bradley Master Gunners.

Recommendations: Recommend the following tips to improve crew proficiency:

i. Laminate two pre fire checks and maintain one in the turret and turn one signed copy in to the master gunner or Range NCOIC prior to firing. This technique is a way to ensure vehicle commanders have an established process for checking the turret functionality prior to live fires and should produce repetitive training to reduce turret malfunctions. Sample pre-fire checklists can be located at our milsuite location at https://www.milsuite.mil/book/docs/DOC-116350

ii. Units are required to conduct GST twice per year. Two weeks of consolidated GST twice per year IAW doctrine meets the training standard, however, units need to conduct refresher and opportunity training at crew and platoon level in

iii. between scheduled GST events to maintain proficiency. A consolidated company or battalion GST should not be the first time crews train on GST.

iv. Maintain training aids for GST at company level for NCOs to conduct unscheduled opportunity training on Abrams and Bradley tasks.

v. Schedule NCOs to attend the Bradley Leader Course, Army Reconnaissance Course, and Abrams/Bradley Master Gunner Courses. Rifle companies are authorized four Bradley master gunners, one at company level and one for each platoon. TCM-ABCT has observed that many companies do not have platoon master gunners. Rifle platoon master gunners are a vital tool to attain Bradley crew proficiency.

vi. Train Bradley crews on the 25mm cycles of function and common causes for malfunctions. An increased understanding of how the gun operates will produce better crews.

vii. Train crews on step by step 25mm disassembly and assembly. The current 25mm disassembly and assembly task listed in Gunnery Table (GT) I contains incomplete performance measures for Bradley crews to conduct the “remove feeder” portion of this task. The MCoE Directorate of Training and Doctrine (DOTD) is revising the task to re-add the first ten steps of 25 D&A. Until doctrine is released in 2014 to address this issue recommend crews refer to the turret TM for the first ten steps of removing the feeder. The GST and GT I performance measures are a checklist for evaluating the crew and should not serve as the only reference that crews require to fully understand the operation and function of the turret. Recommend section leaders train tasks listed in the Soldiers Training Publication and the appropriate technical manual to reach a better understanding and produce more lethal crews.

viii. NTC Master Gunners will address the above issues at the upcoming Abrams and Bradley Master Gunner Conference. Units are invited to participate in the Abrams and Bradley Master Gunner Conference, 2013. Day/Date: Sept 11, 1400-1800 hrs. Sept 12, 0800-1200 hrs Location McGinnis-Wickham Hall, Fort Benning, GA. VTC link up for units not able to attend. Chair will be MSG Mabrey, FORSCOM MG. For more details contact TCM-ABCT.

ix. The ARNG has the "Senior Gunner Course" available at the Warrior Training Center (WTC) for units to train unstabilized weapons system SMEs. The course is open to E5(P)-E8 and all MOS. The course is taught by MTT, 2-3

instructors, 10 to 14 days, with TDY paid by the supported unit. Students are trained to assist commanders at all echelons in planning, executing, and evaluating crew and collective unstabilized direct-fire platform gunnery. Instruction includes gunnery skills testing on M249, M240B, M2 and MK19 crew served weapons, weapons' capabilities, ammunition, optics, training devices, engagement process, live fire prerequisites, unstabilized crew evaluation, range operations and gunnery training management. For full details visit http://www.benning.army.mil/tenant/wtc/sgc.html

2. **TOW Missile Proficiency**. Master Gunner OC/Ts at NTC expressed that one of the biggest challenges units have is with the TOW missile. Bradley crews commonly demonstrate limited or no knowledge on loading, unloading, misfire procedures, or firing procedures for the missile. First time live fire engagements with the TOW have been ~20% successful and of those that do successfully fire, only ~50% hit the target. This issue's root cause is a combination of doctrine, material and training.

a. **Background.** Doctrinal changes in gunnery manuals over time from 1996-2009 rescinded TOW training during Gunnery Skills Test (GST) and also the "Tow Training Program." The current Heavy Brigade Combat Team manual (2009) does not have Bradley Crew TOW tasks, conditions or standards listed under GST or a "Tow Training Program" section.

b. **TOW Training Today**. TOW tasks in current gunnery doctrine are limited to ST 3-20.21-1 (Live Fire Prerequisites) that includes "Perform Misfire on TOW" and "Remove a Misfired TOW Missile" as Gunnery Table I Tasks. Units can still find SL 1-4 TOW tasks in STP 7-11B1-SM-TG and STP 7-11B24-SM-TG.

c. **TOW Training Aids**. Reduced use of TOW training aids is a contributing factor to reduced TOW proficiency. The missile simulation round (MSR) is used to train all non-fire TOW-related tasks. Recommend units determine the number of MSRs on hand, and if more are needed contact the Installation TASC. If TASC does not have the MSR or an alternative training aid, as an interim solution, units can request expended and properly weighted TOW Missiles from the installation ammunition supply point. Two dummy TOW missiles per platoon have been used for this purpose in the past and this provided all platoons the capability for Sergeants to conduct opportunity training without having to draw resources from TASC. Also, the MILES XXI system does not contain MILES TOWs like previous systems, so crews may not get experience handling and loading TOW Missiles when conducting force on force training.

d. **TOW Missile Launcher Maintenance**. The M2A3 when first fielded had a capability to self-test the TOW system, however, it did not have the capability to test electrical connections that occur when an actual TOW missile mates with the launcher. The TOW System Evaluation Missile (TSEM) was developed to provide A3 Bradleys the capability to conduct launcher to missile tube functionality. The test procedures didn't

make the first cut of the Common IETM Verification but they will be part of the revision package. TSEM's have been issued and maintainers have been trained, and the test procedures are being incorporated into the IETM. Although TMs have not been issued for this equipment units are required to conduct semi-annual TOW Test. The Brigade combat team receives 1 per Company / Troop Maintenance Support Team.

Actions to Date: TCM-ABCT/Recon hosted an MCoE TOW Working Group and members unanimously agreed that TOW skills have significant atrophy due to loss of doctrinal requirements. All members expressed that ABCT, IBCTs and SBCTs need to have required TOW tasks reintroduced in GST as Live Fire Prerequisites. The DOTD Gunnery Doctrine Branch agreed to incorporate these tasks in the upcoming Direct Fire Gunnery Manual scheduled for release in 2014. In addition, there will be ATGM/TOW tasks during Tables III, IV, V, and VI to augment the TADSS training requirement. This includes the requirement to raise the TOW launcher for all defensive and short halt engagements. 194th Armor Brigade has requested 10 TOW Missile System Evaluation Missiles (TSEM) to train tracked vehicle maintainers on the system during 91M AIT.

Recommendations: DOTD continue to review what TOW tasks need to be re-added to doctrine (GST). TCM-ABCT follow-up with PM ABCT on material solutions available for training aids. Units ensure crews understand and conduct proper PMCS procedures and training for the TOW missile. Recommend the below tasks are incorporated in gunnery doctrine revisions and trained at crew level during Individual and Crew Live Fire Prerequisite Training (GST / Tow Training Program):

(1) STP 7-11B1-SM-TG (Skill Level 1): Load the TOW Launcher on a BFV; Unload the TOW Launcher on a BFV; Remove a Misfired TOW Missile from the TOW Launcher

(2) STP 7-11B24-SM-TG (Skill Level 2-4): Perform Immediate-Action Procedures on the TOW System on BFV; Operate the TOW Launcher on an M2A3/M3A3 BFV; Perform Misfire Procedures on the TOW System on a BFV; Engage Targets with the TOW System on a BFV

(3) In addition to STP tasks, there are work packages (WP) in the M2/M3A3 TMs. Crews can reference TM 9-2350-294-10-2-1 and TM 9-2350-294-10-2-2 for the following work packages: Operate the Tow Missile Launcher (TML) in power mode under usual conditions; Fire Tow Missile under usual conditions; Load/Reload TML under usual conditions; Unload TML under usual conditions; Immediate actions when TOW missile hang fires/misfires; Operate turret under unusual conditions (manually). TM 9-2350-294-10-2-2: Clean/Inspect TML includes standards for preventative work that can be done at the crew level during Command Maintenance.

3. **Rifle Platoon Collective Task Proficiency.** Every ABCT that has conducted a decisive action rotation at NTC in the past year needs improvement on maximizing the use of Infantry squads in unison with Bradley crews. Units experience challenges finding the right balance of training and synchronizing Bradley crews and dismount Infantry for missions. The root cause is a combination of reduced operational and institutional training requirements over the past decade and reduced operations on Bradleys supporting dismount Infantry in traditional roles. It is common for Infantry leaders to be assigned to ABCT Company Teams the first time as company commanders, first sergeants or platoon sergeants. In the 1990s, NCOs assigned to the ABCT company team were prepared through repetitive experiences in education and assignments to plan and conduct decisive action tasks for Bradley crews and squads. This ABCT specific decisive action experience enabled NCOs to advise platoon leaders and company commanders who were new to the mechanized formation. NCO experience to advise officers on ABCT decisive action tasks is no longer as common in the formation.

Infantry NCOs assigned to ABCTs the first time have a broad range of Infantry skills, but lack all of the specific tactical and technical skills required to support ABCT Mission Essential Task Lists (METL) tasks. The result is a steep learning curve for all leaders when planning and conducting operations requiring the simultaneous application of both crews and squads. This task becomes even more challenging for leaders at the NTC when placed in a time-constrained environment requiring planning for both mounted and dismounted operations.

Leaders need improvement on combining crews and squads to provide the most lethal combination of firepower in the DATE fight. History has told us the importance of qualified lethal crews and Infantry squads Following reviews of Infantry Magazine articles from ~1985-1994, and from speaking with OC/Ts and ABCT leaders who were in ABCTs in the 1990s, leaders had this same problem with the arrival of the Bradley Infantry Fighting Vehicle. The Bradley required an additional training requirement for Infantry Soldiers. One Infantry Magazine article from a platoon leader's perspective at the time is *The Bradley Challenge, dtd JAN-FEB 1991,* available for download at https://www.benning.army.mil/magazine/1991/1991_1/fa01.pdf Even in the 1990s it took repetitive training against a near-peer threat, and institutional and operational training to result in a shift where ABCT rifle platoons applied lessons learned. Repetitive experience by leaders resulted in an increased understanding of the importance of how to train and employ both in a decisive actions fight.

The brigade commander expressed that all MOS need time back on platforms but the problem is significant for 11B NCOs and Captains stating, "we need functional training if we cannot modify existing POIs and Soldiers, especially Officers and NCOs, must attend Bradley Leader Course before reporting to ABCTs."

Recommendations:

a. HRC schedule Infantry NCOs en route to ABCTs the first time to attend the Bradley Leader Course (BLC) TDY en route.

b. TRADOC consider policies that ensure SSGs and SFC attend the BLC if they are scheduled to be assigned to ABCTs for the first time to enable NCOs to arrive more prepared to lead and train Bradley platoons. Evaluate ways to increase NCO attendance to functional courses for NCOs in conjunction with already scheduled NCOES courses (preferably in conjunction with ALC). Identify Infantry LT-MAJ assigned to ABCTs and schedule them for BLC.

c. Review lessons learned in Infantry Magazine that show how previous leaders addressed this same challenge from 1982 to present. Infantry Magazine articles at https://www.benning.army.mil/magazine/content/past_years.htm

d. Functional and PME course managers need to review content to ensure leaders are trained on planning and executing mounted and dismounted operations required under the ABCT METL. ABCTs refer to Figure 12-3 (Mechanized Infantry Training Strategy) FM 3-20.21 Heavy Brigade Combat Team Gunnery when scheduling training, and conduct training IAW the ABCT Rifle Company Combined Arms Training Strategy (CATS).

e. Recommend leaders ensure both mounted and dismounted forces are planned for employment during missions at home station and the NTC.

f. Commanders must schedule consecutive, tough and realistic training events for Infantry squads and crews and ensure company and platoon leadership understand how to maximize the benefits of synchronizing all elements in ABCT rifle platoons.

g. Command Sergeants Major and First Sergeants manage NCO careers assigned to ABCTs that includes a mix of Bradley section and squad leader time in order to produce the most qualified platoon sergeants.

h. Leadership climate and culture must adapt to focus on combined and simultaneous efforts to improve both crews and squads. It will take time, energy and resources to rebuild the knowledge and capability for Soldiers, crews, squads and leaders in ABCT rifle platoons to reach mastery of METL tasks related to decisive actions.

4. **Infantry Squads.** Some examples of how Infantry squads could be better incorporated in the overall ABCT fight, and areas needing improvement during this rotation are below:

a. **Dismounts Under-utilized:** Although there were times that dismount Infantrymen have been employed during recent NTC rotations, both Observer Coach Trainers and Soldiers say they have been under-utilized. Soldiers stated they would like to be dismounted more often to take advantage of the great training opportunity while at the NTC. Many dismounts were accessed as casualties while still riding in the back of the Bradley when the vehicle was accessed, and most dismounts accompanied disabled vehicles to Maintenance Collection Points (MCPs).

b. **Observation Posts:** Dismounts could be better utilized in observation posts (OPs) to develop the situation through reconnaissance. Many Senior NCO Observer Coach Trainers pointed out there have been many occasions where a dismount with a map, graphics, radio and compass could inflict major OPFOR losses with reporting and calls for indirect fire. When Infantrymen occupied OPs they did not always have all of the required equipment to be the most successful. Common equipment missing included spare batteries, compass, and graphics. Although squads carried a Defense Advanced GPS Receiver (DAGR) for navigation, when the batteries died the element was unable to rapidly identify and report enemy locations. When dismounted OPs had great intelligence on enemy positions, units did not share that information with the S2 and other companies in the battalion. The Operations and Intelligence (O&I) Net is one way that the unit could provide this information.

Recommendation: Platoon TACSOPs should include Pre-Combat Checks (PCCs) for missions enforced by Pre-Combat Inspections (PCIs) conducted by leaders.

c. **Individual and Crew Served Defensive Fighting Positions:** Individual and crew-served weapons positions were not prepared for the defense. The BCTs High Mobility Engineer Excavator (HMEE) was not used to dig positions during the defense. When part of the defensive fire plans, properly prepared individual fighting position can provide increased protection for Soldiers from direct and indirect fires. The ABCT has 6 HMEEs. A fighting position that normally takes hours for Soldiers to dig can be dug in minutes with the HMEE.

d. **Infantry Squad Communications:** Dismount Infantry squads could not communicate with the Bradley sections with voice and data in the terrain at the NTC. Although the rifle platoon MToE allocates 9 total AN/VRC-48 MBITR radios to communicate voice, mission command was still a challenge in the restrictive terrain. Dismounted squads have no capability to provide data in support of the network. The current squad capability gap states “SQD lacks the capability to link to the network to send/receive secure data, voice and streaming video with a high percentage of message completion in near real time during dismounted and dispersed operations.”

Actions to Date: Fielding of NETT Warrior and Rifleman Radio is projected for ABCTs in Capability Set 17 between FY 17-18. NETT Warrior and Rifleman Radio will mitigate this gap and provide increased range utilizing the Networking Soldier Radio Wave Form (SRW), and also provide a path for dismounted Infantrymen to share limited data and personal location information (PLI).

e. **Dismount Squad use in Defense Operations.** Some dismounted Infantrymen were utilized in the defense but most were under employed. During the defense the Infantry squad carries Javelins to support direct fire engagements of armored targets. The dismount weapons need to be better tied in with the direct fire plan during EA development, or employed to cover dead space, obstacles or flank avenues of approach. OC/Ts stated dismounts could be better used for unit defense operations in depth.

f. **Javelin.** Rifle squads in ABCTs need improvement on knowledge of the Javelin. During recent NTC rotations OC/Ts have expressed squads do not have qualified Soldiers to perform this duty in all squads. Every Infantry squad is authorized an anti-armor specialist by MTOE. During recent rotations OC/Ts have certified anti-armor specialists to fire the Javelin at the NTC. The Javelin ASI producing course was cancelled in 2009. It is responsibility of the unit to train this skill-set.

Recommendations:

(1) Commanders should conduct an assessment to determine the initial and sustainment training required to maintain the proficiency of assigned Javelin gunners. Unit training programs should include Javelin gunner training; the unit's battle focus and mission-essential task list (METL), and the supporting Soldier, leader and collective tasks.

(2) IAW DA PAM 350-38 FY 13 Guidance, all JAVELIN Gunners and Assistant Gunners will meet the GST qualification standards IAW TC 3-22.37 every three months. The GST consists of BST qualification exercises, FTT qualification exercises, and a range card exercise. There are a total of 40 exercises.

(3) TC 3-22.37 Javelin, Close Combat Missile System, Medium (AUG 13), outlines the Javelin Training Program. The Javelin training program integrates the Javelin into the overall unit training program to increase combat readiness and ensure that trainers and gunners are proficient in operating and maintaining the Javelin.

Note: Prior to 2009 the Infantry School offered a two week resident course that produced the 2C ASI and in 2009 initiated the Javelin Train the Trainer (T3) Course. The T3 Course was eliminated in 2010 based upon the Total Army Analysis (TAA). The ASI was never intended to identify "qualified gunners", only document the requirement to have a qualified gunner in the position. USAIS is addressing actions to eliminate the ASI and to eliminate the apparent confusion between possessing the ASI and being a qualified Javelin Gunner.

g. **Infantry Clearing Natural Obstacles/Danger Areas.** Combat platforms are at a disadvantage if they enter a natural obstacle observed by enemy equipped with anti-armor weapons, but sometimes units have no choice but to negotiate this terrain. Units could have used dismount Infantrymen better when moving vehicles through restrictive terrain, specifically defiles. If time and terrain permit, the platoon should dismount Infantry to reconnoiter the movement route and secure the far side.

h. **Recommendation**: A technique is to deploy Infantrymen forward through the defile and at each turn in the defile, mark support by fire positions, and then pull the vehicle crews forward in support incrementally until the entire defile has been secured (think bounding over watch with Infantry and armor). This process can be very slow and strenuous for the Infantry. CPT John W. Miller III published an article in the Dec 94 issue of Armor Magazine titled *Clearing the Defile – A Doctrinal Discussion* that can be downloaded at http://www.benning.army.mil/armor/eARMOR/content/issues/1994/NOV_DEC/ArmorNovemberDecember1994web.pdf

i. **Squad Dismount during Vehicle Halts.** Platoons were not dismounting Infantry during periodic halts. When the Bradley is going to be stationary more than a couple of minutes, platoons can increase security and survivability by dismounting Infantry. There may be times where the Bradley provides additional protection; one example could be when the unit is receiving indirect during a short halt. Vehicles were engaged while squads were still mounted. This caused the entire crew and squad to be assessed as casualties.

j. **Infantry Dismount Points and Assault Positions Unplanned.** Units conducted the action on contact drill when they made contact and dismounted Infantrymen at the point. Units did not plan for dismounts points or remount points at the last covered and concealed position prior to the known objective.

k. **Recommendation**: Platoons and Companies should conduct reconnaissance of the objective to determine dismount points and those locations should be depicted on the graphics. Units should rehearse dismounting at dismount points. In some cases the assault position may be the dismount point.

l. **9 Line MEDEVAC.** Infantry squad members need improvement on knowledge of the 9 line MEDEVAC. Units have become accustomed to non-standard CASEVAC back to FOBs in Iraq and Afghanistan. There were occasions where the fight ceased when there was a casualty instead of the Combat Life Saver (CLS) and a buddy rendering aid while the remainder of the element continued to fight.

m. **Operational Graphics.** Infantry squads did not have operational graphics to enable mission command. Analog graphics were not disseminated to the lowest level to ensure a common operating picture (COP) was shared throughout the formation. On

some occasions only digital orders made it to the platoon level, and since the rifle squads did not have FBCB2s they did not receive graphics. OPORDs were also only provided by FBCB2 in some cases. In some instances operational graphics at the platoon level would be so minimal that if leader was required to assume the responsibilities of the next higher element they would be unable to. Many times the Infantry are in positions where they could be of great benefit to the battalion effort if they had additional graphics and could understand the higher commander's intent. It is also important that changes to graphics are relayed to Infantry squad leaders. All unit maps need locations of dismount Infantry and Scouts.

Note. *The platoon and squad leaders must understand the situation and commander's intent two levels higher than their own and the locations and the missions of neighboring friendly units. However, they must know the real time battlefield situation in detail for his immediate higher level. (ATTP 3_21.71)*

Recommendation: Train squad leaders to conduct mission command from operational graphics including control measures that depict maneuver, fires, enemy situation, sustainment, CBRNE, and obstacles. Squads must be able to understand and contribute to operations at two levels higher (company level).

n. **Dismount Infantry Rehearsals.** Platoons and squads did not maximize available time with detailed timelines to accomplish priorities of work including rehearsals. In cases where priorities of work were not established, NCOs could do a better job at conducting rehearsals following receipt of the warning order (WARNO).

o. **Employ Hand Grenades.** The unit had to be certified to employ hand grenades during the LFX. The unit did not bring blue training hand grenade bodies to conduct opportunity training or for the Force on Force portion of NTC. The unit finally received blue bodies from NTC, but the late request caused significant delays in their time to train and certify the task for the live fire. With more time for the unit to conduct the dry run for this event Infantry Soldiers would have demonstrated more proficiency. Units or the ADVON can request blue bodies and fuses from NTC.

p. **Dismount Infantry Patrols and Reconnaissance in Depth.** Dismount Infantry were not incorporated into the overall CAB reconnaissance plan or scheme of maneuver. Dismount Infantry can greatly increase CABs reconnaissance combat power if employed with a clearly defined task and purpose. Dismount Infantry will fail if emplaced too far forward outside of the Bradley direct fire range if not properly planned and coordinated. Units must also consider risks, combat loads and resupply requirements for Infantry that are emplaced outside of the forward edge of the battle area (FEBA).

Recommendation: The platoon and company should be prepared to conduct a reconnaissance of the objective to confirm, modify, or deny their tentative plan. Platoons should not conduct reconnaissance unless specifically tasked to do so in a consolidated reconnaissance plan. If possible, the company determines the enemy's size, location, disposition, most vulnerable point, and most probable COA. At this point, with permission from CAB, the company should direct the platoon to conduct a reconnaissance patrol. If feasible, the mechanized platoon can conduct mounted reconnaissance patrols and use the vehicles systems to identify enemy positions and obstacles. Otherwise the platoon may conduct dismounted reconnaissance patrols.

q. **Use of Infantry dismounts when Bradleys are at the MCP**. TCM-ABCT has observed dismount Infantry Soldiers with vehicle crews with disabled Bradleys at Maintenance Collection Points (MCPs). When we asked them why they were there the answer was always the same, "we do not have anywhere else to ride." Recommend units identify contingency plans for when Bradleys are deemed non-mission capable for Infantry Soldiers to have an alternate means of transport to contribute to the fight.

5. **Fires Warfighting Function Fundamentals.** ABCT fires elements have been performing well in COIN environments in Afghanistan and Iraq for the past decade; however ABCTs have been experiencing challenges adapting fires for decisive actions at the NTC. Lack of fire experience was significant. During this rotation, the BN CDR was the only individual in the entire BCT that had executed BDE level fires. Section chiefs had not shot howitzers in the past 5 years; gunners only live fire experience was in AIT. A combination of the above has resulted in attrition in traditional ABCT fires core competencies for Soldiers, staff and leaders at all levels. Specific observations during this rotation are below:

a. Howitzer crews need improvement on conducting crew drills, specifically TLABSPAP (trails, lay, aiming points, boresight, safe, pre-fire checks, ammunition preparation and position improvement). Recommend units conduct home station training and qualify gun sections IAW FM 3-09.8 (Field Artillery Gunnery).

b. Units did not effectively incorporate leaders from the fires battery to synchronize fires during planning or during Combined Arms Rehearsals (CARs). Units relied upon internal FSOs to plan the utilization and brief roles of the attachments; however the attachment's capabilities and limitations were not represented well in CARs. When a fires platoon from the battery was attached in support of a maneuver company the platoon leader did not attend the company rehearsals or OPORD.

Recommendation: Integrate fires attachments during CARs and Company OPORDs to brief the support they can provide by phase to include combat power, ammunition load, and ammunition capabilities. Recommend a checklist in TACSOPs to incorporate the

battery leadership during the CAR and a matrix that shows the capabilities they provide for use in planning.

c. One CAB did not receive priorities of fire during planning and targets were not well planned for this CAB as a result. After contact was made the plan changed where this CAB was in the best position with observation of enemy forces to have priority of fires. Priority of fires was not shifted to the CAB on the fires net and the net became too busy for the unit in contact to rapidly conduct calls for fire. Units should rehearse targets for contingencies during the CAR to save time and synchronize massing of fires.

d. The Scouts were unable to support the overall fires plan because they were not provided with the most current target worksheet prior to mission execution. Units must have a cutoff time for target worksheets. FSOs must conduct thorough initial lethal planning and understand the ramifications of producing a product late in the planning process.

e. Fires Support Officers do not have a sound understanding of how BN/COs maneuver. An increased understanding of the scheme of maneuver would increase their ability to incorporate fires into the overall plan. TF Commanders should strive to conduct OPDs on maneuver that include scenario driven exercises with the involvement of fires so the FSOs get a better understanding of maneuver doctrine.

f. During RSOI week, Observer Coach Trainers (OC/Ts) conducted a training event for fires Soldiers. Based upon their observations during this class all units need improvement on individual fires tasks. Units must develop and conduct a FIST certification program at home station. FM 3-09.8 contains the FIST certification.

g. During the defense the unit did not include all control measures for indirect fire including final protective fire (FPF) and obstacles were not tied in with planned targets.

h. Call for fire on pre-planned and moving targets using total mission processing time calculations with time-distance analysis is a lost art. Observer Coach Trainers mentioned this has been a trend for every decisive action rotation in the past year. Units are not proficient at identifying triggers to call for fire in order for indirect to arrive at the target when enemy forces are moving at doctrinal movement rates. Units also need improvement on triggers to call for fire on enemy defense objectives. On several occasions fires had to be cancelled to prevent fratricide when friendly forces arrived on the objective prior to the fires.

Recommendation: FM 6-30, Tactics, Techniques, and Procedures Observed Fire, discusses the planning and execution of engaging of moving targets. The calculations include using the time of flight of the round, the transmission time for the call for fire, the

intercept point, and the target speed to determine the distance from the intercept point to the trigger point. The preferred method of training this task is classroom instruction followed a practical exercise in the Guard FIST Call for Fire Trainer and hands on in a field environment.

6. **Reporting.** Units are not proficient at reporting data over both digital and analog systems. Brigades need improvement on standardized report formats and defined nets to ensure brevity and communicate quickly in the operational environment. FM and FBCB2 are the two means by which the BCT relayed information from CO-BN. On many occasions the FBCB2 digital capability would go down and the unit would need to rely on analog systems.

a. **Analog Graphics.** During the first five days of the rotation one CAB operated entirely with analog when their digital capabilities failed. Although the unit was successful using analog, the operational graphic overlays in some cases were missing data. Unit locations were always noted in the graphics but the overlays did not depict all required graphics needed for the TOC to be able to wargame, visualize or track the battle. Common items absent from overlays included template enemy graphics, obstacles, sustainment and detailed fires graphics. In some cases when company commanders arrived for the Operations Order (OPORD) they received 8 ½ x 11 standard size Power Point presentations that included the map and graphics. There are several disadvantages to using this technique:

(1) Since the grid lines will be much smaller than the actual map when Soldiers transfer the symbols they will not be in accurate locations.

(2) Only so many graphics can fit on an 8 ½ x 11 piece of paper. Units may be able to use this technique at home station or during COIN when they have a short duration mission, but at the NTC the mission area is too large to effectively portray all necessary symbols. One unit stated that they would have TOC Soldiers hand copy graphics in the plans tent to the actual scale of the unit maps. These Soldiers stated that it took too long to make copies for all Commanders and it took away from other tasks that needed to be performed in a time constrained environment. Between the OIF I - III timeframe we decreased the time necessary to produce graphics to scale by using a large plotter that scanned the original graphics set and then printed that set on white paper to scale. This was done using a DIAZO machine in unit CAB TOCs that was maintained and transported by the plans truck. At that time the BCT level used the topography team to produce their internal graphics, but CABs did not have this capacity. Units need to rehearse timing of graphics creation and identify if material solutions are necessary for reproduction.

b. **Use of Operations and Intelligence Net (O&I).** The Brigade was one of only a few to develop and use an O&I Net at the NTC in recent DATE rotations. O&I

Nets are critical for the unit to share and update the enemy situation. An O&I Net provides a communication venue that can prevent overcrowding on the Command Net. The BCT could use improvement in sharing information from dismount Infantry OPs.

Recommendation: Recommend TACSOPs address reports from companies to the O&I that include dismounted Infantry observations. During one CAB AAR an Observer Controller Trainer pointed out that he did not hear a single Company Executive Officer (XO) on the O&I Net. One technique is for the XOs to handle the O&I Nets to allow the commander to focus on the fight.

c. **Use of Administrative and Logistics (A&L) Net.** Radio discipline caused issues on the A&L Net. When CASEVAC should have had the priority on the Net units called in requests for road wheels, etc. The A&L Net is important to prevent sustainment information from flooding the Command or O&I Nets.

d. **Digital Graphics.** When the FBCB2 in CABs were operational, units created digital graphics and they were disseminated from CAB to PLT level. All platoon Abrams and Bradley crews did not receive graphics and dismounted Infantrymen did not receive these graphics since they have no digital capability. Dismounts did not have full sets of graphics that enabled them to operate or report when separated from their units. In some cases analog graphics from higher came in the form of an 8 ½ x 11 Power Point slide. On one occasion Scouts drove into the FASCAM minefield. FASCAM minefields may not be visible on the ground and units must be informed and acknowledge they understand when FASCAM is incorporated in the engagement area.

e. **CPOF/FBCB2 Operator/Staff Reporting.** The unit had primary and alternate operators trained on the CPOF, but needed improvement when reporting and sharing data from analog to digital and vice versa. Operators would receive icons on the CPOF and FBCB2 but would not conduct any action or analysis with the data. On other occasions operators were receiving locations on the radio and would not share that data through the CPOF/FBCB2. OC/Ts stated Captains and Majors know how to operate the CPOF but need improvement on integrating the systems in the MDMP and further stated “No class in MCCC or ILE shows you how to run a good TOC; you have to experienced a good TOC to build one.” Operator knowledge on adding graphics to the FBCB2 and CPOF needs improvement; too few operators demonstrated this skill.

Recommendation: Recommend MCCC and ILE consider training officers not only how to use the systems but also how to incorporate them to better inform commanders. ABCTs need to send more NCOs to the Battle Staff NCO Course. Current 2S ASI manning in ABCTs is below 50%.

f. **Casualty Reporting/Marking.** The unit established a TTP using the green, yellow and red range flags on top of vehicles to mark casualties that ensured the most severe casualties were evacuated and treated first. The technique provided a visual

signal that could be observed across the breadth of the battle and could be used for marking individual crews or Casualty Collection Points (CCPs).

7. **Military Decision Making Process (MDMP) and Troop Leading Procedures (TLP).**

a. **Combined Arms Rehearsal (CAR).** The complexity of a decisive action CAR is a task few leaders below battalion command teams have experienced. The CAR requires extensive planning across all warfighting functions in a time constrained environment. Units are not effectively war gaming courses of action (COAs) prior to CARs, resulting in the CARs serving as war gaming sessions where only tentative planning occurs. During a combined arms rehearsal (CAR), the unit did not rehearse actions at the breach. The CAR seemed more like a back-brief from the commanders and staff than a rehearsal. The rehearsal did not cover what actions to take at the breach if the unit received indirect fires, casualties, disabled vehicles, or discuss alternatives including bypassing. Sustainment and fires were not well rehearsed during each phase of the operation. This resulted in incomplete graphic control measures during the attack. The Forward Support Company (FSC) commanders in most cases were not part of the supported battalion operations order process.

b. **Sustainment Rehearsal/CASEVAC Rehearsal.** The sustainment plan was not synchronized with the ground tactical plan during rehearsals. The battalions and companies did not always conduct sustainment and CASEVAC rehearsals. Since the CARs did not go into the details of sustainment it made a need for the rehearsals even more vital. Even if the CAR does include sustainment, the duration of the CAR does not provide enough time for sustainment planners to synchronize the details. The BN S1, FSC commander and casualty evacuation rehearsal were not part of the BDE sustainment rehearsal.

c. **Rehearsal of the Engagement Area (EA).** During the defense the unit arrived at 1700 the day prior to the defense but did not maximize time management during the remaining daylight hours to rehearse the EA. The unit did not complete the first step of Engagement Area Development, a thorough reconnaissance of the area, specifically from the enemy's perspective. This is important to determine likely avenues of approach (AoA) and dead space when developing the plan and ensure weapons systems are able to cover the EA. Units did not rehearse primary, alternate and supplementary defense positions. Units can take advantage of the engagement area rehearsal and emplace day and night target reference points (TRPs).

d. **Enablers not tied in with Synch Matrix**. Training in decisive action stresses the staff's ability to maximize use of all enablers throughout the rotation. All units who have deployed to NTC in the past year have had difficulties managing enablers. Common enablers that have been underutilized and uninformed include: Medics, Fires

Battery, Electronic Warfare Officers/NCOs, and disabled vehicle crews in MCPs. Attachments must be well in-briefed upon arrival and incorporated into unit rehearsals and the orders process. It is critical for units to understand the capabilities of their enablers and identify triggers for when those enablers will be used during operations.

Recommendation: Establish a detailed execution matrix for tracking the status and use of enablers by the staff, thorough in-briefs, and incorporation throughout the MDMP. The matrix should also include the location of the enablers and trigger an action to bring them into the plan when they are attached or detached.

e. **Priorities of Work**. Between missions squads and platoons were not maximizing time available with an established priority of work and enforced timeline. Tasks that should have been executed more commonly were individual weapon and vehicle maintenance, rehearsals, security, and reconnaissance.

Recommendation: Units establish priorities of work in SOPs that address each METL task for units to use as a guideline to include sample timelines. Commanders should provide priorities of work during the delivery of the WARNO.

f. **Intelligence Preparation of the Battlefield (IPB).** Company commanders are commonly rehashing the Battalion order instead of conducting their own level of the IPB. Control measures are not being added at Company level and below to graphics. Commanders need to bring in the expertise of the FSOs for the IPB portion of the Fires paragraph and the experience of their 1SGs and master gunners when developing orders. Dismount Infantry organic to the company can aid in gathering additional information on the enemy to further refine the plan. The company can share information with the S2 through the O&I Net and aid in further identifying and clarifying the enemy locations and intent.

g. **Primary, Alternate, Contingency and Emergency (PACE) Plan.** Leaders across multiple warfighting functions in the BNs and the BCT stressed that units must train on all elements of the PACE plan, not just the Primary (P). Leaders expressed there is a science to planning PACE material and training requirements across the formation. SOPs must establish PACE plans that include establishment and sustainment of both analog and digital communications.

8. **Movement and Maneuver.** It has been common in the last decade for combat arms formations to use two different movement techniques (traveling and bounding over watch) due to unsuspected near ambushes that have occurred during route security missions. The technique units have not been using is traveling over watch. In the decisive action training environment at the NTC, units are not planning for transitions at the appropriate time based upon the known or suspected enemy situation or the terrain.

Units are staying in the traveling formation regardless of the enemy situation until contact is made, and then they are conducting bounding over watch. This is resulting in the unit not having support by fire positions established when they make contact and resulting in units not making contact with the smallest element possible. In cases where units did occupy support by fire positions Abrams and Bradley's did not perform survivability moves. Vehicle crews did conduct berm drills, but continued to expose themselves at the same location instead of moving behind the IV line to alternate positions to increase survivability.

Some platoons did not transition to the appropriate movement formation based upon the Mission, Enemy, Terrain and weather, Troops and support available—Time available, Civilians (METT-TC). In cases where platoons have transitioned to the wedge formation in some cases they have been positioned too close in the open desert terrain. Bradley platoons can increase force protection and observation by opening up their formations in desert terrain.

Recommendation: Recommend detailed mission analysis resulting in plotting and rehearsing graphical control measures that serve as triggers for transitioning from movement to maneuver. Train platoon officers and NCOs on the three movement techniques and when to transition.

9. **Sustainment.** In the past decade ABCTs have not routinely planned or executed maintenance on unit MToE equipment in garrison or in a decisive action training environment (DATE). Units have performed maintenance and services at Forward Operating Base (FOB) hard stands at fixed sites with sustainment support provided mostly by contractors on site. In cases where units did perform maintenance when deployed many times it was conducted on non-standard vehicles (MRAPs) vice Abrams and Bradleys. NCOs and officers of all MOS have degraded skills required to plan, execute and supervise maintenance activities in garrison or in DATE.

a. **Maintenance Management and Knowledge of Sustainment**. Command maintenance, Preventive Maintenance Checks and Services (PMCS), semi-annual services and single equipment services are required to be placed on the unit's training schedule. During this past rotation OC/Ts said that vehicle crews turned in 5988Es, but units need improvement on having a sound maintenance plan that includes proper QAQC. During several NTC rotations Maintenance Collection Points (MCP) at the NTC have had too many combat platforms disabled. Many combat platforms were NMC by -10 standard but could be circled X'd by the commander to participate in the fight. Some units did not understand NMC by -10 standards verses combat power.

We have observed that units can streamline maintenance procedures by better outlining maintenance responsibilities. On many occasions mechanics have reported they have performed maintenance tasks that are listed as operator tasks in vehicle technical

manuals and this has reduced time available for mechanics to conduct -20 level maintenance tasks. Operators and leaders in some cases have demonstrated a basic knowledge of the vehicle, but no knowledge of required crew responsibilities for vehicle services and/or lubrication order requirements. For example, if it is a mechanic task to replace an engine part, the crew may be required to drain the oil in order for the mechanic to conduct the primary task, etc (see technical manuals and lube orders for specifics).

The commander expressed that he believes the organizational structure of his sustainment units is sound and that the training shortfalls for the BCT fall primarily in the sustainment category. He also made a conscience effort to concentrate on training management, property accountability and maintenance. Although sustainment was a major focus the unit was unable to reach proficiency. BN CDRs reiterated this issue as well. Junior leaders expressed very little understanding of sustainment. LTs and CPTs "hear it" but have no experience and cannot readily execute. Leader opinion was that the unit needs institutional instruction, POI adjustments, and more time for leaders to gain experience.

Actions to Date: Following this observation TCM-ABCT participated in the 11Z Critical Task Site Selection Board (CTSSB) with the Infantry School and CSMs from represented BCTs. The CTSSB convened to determine what critical individual tasks Skill Level 5 Infantry NCOs are required to perform their duties. During the board 100% voted to add new tasks that address sustainment tasks that previous were not available for 11Zs.

Recommendation: TCM-ABCT recommends ABCTs look at a holistic strategy for command maintenance that includes all equipment assigned. Command maintenance should include weapons, vehicles, radios, classes of supply, class IX parts status, etc. Units should ensure 100% of unit personnel are available and focused on command maintenance with a strong leadership presence. Commanders should develop unit culture where preventive maintenance and parts ordering is conducted throughout the year when faults are identified to reduce requirements during services. Tips for improving unit maintenance management are below:

(1) Ensure timelines account for all required milestones with detailed services and maintenance plans that maximize the unit's ability to conduct training events with 100% of their vehicles, weapons, and other assigned equipment.

(2) Conduct PMCS Certification classes not only as part of the Driver's Training program for drivers, but also certify NCOs and Officers through a 1-2 day PMCS Certification course. Cross train alternate drivers.

(3) Teach leaders supervision tasks and processes for maintenance from the initial fault identification all the way through delivery of the part to the user that includes vehicles, arms room equipment, and items issued by the supply room.

(4) Conduct Leader Professional Development (LPD) maintenance classes led by senior mechanics, supply process classes led by Supply Sergeants, etc.

(5) Standardize pre-combat inspections for leaders to use as a guide in preparation for training and events to include and recovery tasks. Leaders at all levels conduct PCIs and spot check maintenance.

(6) The command supply discipline program (CSDP) and property accountability also need to be addressed during scheduled maintenance activities.

(7) Recommend all TRADOC Centers of Excellence review officer and NCO Professional Military Education (PME), functional course programs of instruction (POIs), and doctrine to ensure we have the right leader critical tasks incorporated to re-blue maintenance management, Class IX processes, property accountability, and command supply discipline skills. Recommend TRADOC develop and share training products with ABCTs to improve this skill-set.

(8) The Army Training Network (ATN) contains lessons plans for the Company Commander & First Sergeant Pre-Command Course (CCFSPCC). The Purpose of the CCFSPCC is to provide company command teams knowledge in key areas leading to effective leadership in garrison operations. Module 11, Command Supply Discipline (CSDP) & Unit Maintenance Organizational Inspection Program (OIP), is a tool for units to train maintenance leader tasks and the slides for this class are located in ATN at https://atn.army.mil/media/docs/CCFSC_Unit_Maintenance&OIP.pptx

(9) Train the formation on the 5988-E process, ensure all SAMS-E Clerks are aware and understand advice codes as well as RDDs, teach leaders to inspect these items on the DCR. Force the use of the required Commander's Exception Report and other SAMS-E reports that are designed to increase visibility and maintenance awareness.

b. **Logistics Resupply Point (LRP) Operations**. LRP Operations from company to battalion level needs improvement. LOGPACs and LRPs were poorly executed. During the last four NTC Rotations this is a reoccurring challenge. LRP is more than just a resupply; it is a means to communicate (5988 distro, LOGSTAT, Combat Power). Units need to do a better job at consumption reporting that will enable emergency resupply operations to occur more rapidly. It is too late once a platoon is black on ammunition to ask for more.

Recommendation: First Sergeants, Command Sergeants Major, and executive officers need to work as a team to ensure that LOGPACs and LRPs are planned and executed effectively to support unit classes of supply. Units SOPs should address LOGPAC and LRP procedures. LOGPAC and LRP operations should be rehearsed by sustainment planners at all levels.

c. **Class I Sustainment Load**. The Class I sustainment load for water during the rotation was inadequate when the unit transitioned from the Live Fire Exercise (LFX) to the Defense Force on Force exercise. The observed companies M149 Potable Water Trailer "Water Buffalo" was NMC and unable to travel with the unit. Platoons were black on water during the initial phase of the defense. Bradley Fighting Vehicles and Abrams tanks have two external locations to store 5-gallon water cans but none of the platforms observed were carrying these 5 gallon water cans. Even with the addition of the 5 gallon water cans the extreme heat (Over 100 degrees) required a significant larger quantity of water for Soldier to remain hydrated.

d. **Ammunition Forecasting:** Ammo is not being scheduled to arrive at the right place at the right time. When units first arrive at NTC for the LFX they are not prepared to forecast ammunition. To replicate combat conditions, if a unit does not accurately forecast requirements then they will not receive the ammunition required. Once the lanes begin the routes become locked and units can no longer deliver ammunition. Backwards planning is critical to ensure the units have the ammunition they need for the LFX.

e. **Ordering Non-Mission Capable Repair Parts:** The BDE ordered about 70% of needed non-mission capable repair parts on a 02 request, without a required delivery date. The required delivery date should have been "N" representing a Non-Mission Capable Supply Request (NMCS) and "01" representing the required delivery date (01=NOW). From that point on all NMCS submitted should have been "02N01," per DA Regulation 710-2-1. Once units arrive at NTC their SAMS programs must be loaded with the NTCs DODDACs for repair parts to be processed.

f. **Self Recovery**. In one CAB the FSC evacuated all disabled track vehicles with the M88. Vehicle crews did not conduct self recovery of Abrams and Bradleys. By the end of the rotation the unit M88s were all NMC. Before the rotation the unit ensured that each platoon had a self recovery capability. Abrams and Bradley crews missed a training opportunity by not conducting self recovery.

g. **Authorized Stockage List (ASL):** The brigade's ASL had not been reviewed for over a year. Per AR 710-2 each Supply Support Activity (SSA) will develop a distinct ASL to support customer units. An ASL review and analysis board will be conducted at least once every year. The unit will conduct an ASL review board per AR 710-2 by the end of August 2013.

h. **Battle Command Support and Sustainment System (BCS3) and LOGSTAT Reporting.** According to operators BCS3 is hard to understand and operate. Leaders expressed the Army needs to implement one common logistical LOGSTAT reporting tool that is easy to understand and operate. LOGSTAT reporting improved towards the end of the rotation. Leaders do understand that BCS3 operation is a perishable skill and BCS3 skills are lost in garrison.

Recommendation: Train personnel and use BCS3 in garrison. Web link: http://cgsc.contentdm.oclc.org/cdm/ref/collection/p4013coll2/id/2642

i. **Sustainment Forecasting**. Units conducted emergency resupply on several occasions due to improper forecasting of classes of supply. This is a common trend amongst all ABCTs that have conducted decisive actions at the NTC. Logistical understanding and execution at company and below in CABs was minimal. Classes of supply forecasting and ordering were nonexistent. During this rotation the unit maintained a FOB mentality and the impact was readily apparent in sustainment operations with no forecasting, poor maintenance and a Garrison mindset when it comes to bringing vehicles back to FMC rapidly. Unit leaders need improvement sustaining the force with no secure base to return to and refit every night. This skill has not been exercised regularly in the past decade of COIN while units received contract support on static Forward Operating Bases (FOBs).

10. **Combined Arms Breach**. LTCs, 1SGs and higher were familiar with conducting a combined arms breach, however junior NCOs and officers did not have an understanding of the synchronization and execution of breaching fundamentals. Junior leaders automatically assume upon discovery of an obstacle that they “must” conduct a breach. They do not first attempt to bypass the obstacle based off of METT-TC. Time and distance analysis for SOSR-A also needs improvement. Smoke could have been emplaced earlier. The Fires could have been better rehearsed during the CAR including a trigger in space or time for when to call for smoke and then how long the smoke would last. EN CDRs need to be more involved and synchronized with the maneuver company commander that is conducting the beach.

11. **Mission Command Training: HF and TACSAT**. HF and TACSAT are foreign concepts to the user outside of the Signal community. Signal Soldiers have only basic knowledge of these systems, but most other users have no knowledge. There is a reliance on FSRs to use and fix these systems. There are no TMs on these commercial off the shelf radios so units lack quick troubleshooting procedures.

12. **Administrative Evacuation Procedures.** Units need improvement on evacuation procedures to the Personnel and Equipment Holding Area (PEHA).

a. Soldiers arrived to the PEHA without DA Forms 1156 annotated by the unit/witnesses. The DA Form 1156 must be accurate to ensure efficient tracking for the casualty and serves as a vital record for preparing next of kin (NOK) notifications and also capturing data from witnesses on the scene for KIA/MIA.

b. Soldiers arrived at the PEHA without ACH, protective masks, or CL I. There were cases where casualties could not be transported back to their units since they did not have their ACH. In some cases Soldiers' injuries could have been increased if they encountered a CBRN environment unprotected.

c. Soldiers need improvement on processing casualties through the DCIPS. Human Resource Specialists in the BN and BCT recommended Officer and NCO Professional Military Education (PME) Courses consider addition of training related to the PEHA, DCIPS and DTAS.

Recommendation: Recommend units capture administrative evacuation procedures in SOPs. Soldiers and leaders should be trained on the procedures for filling out the forms and the importance of accurate and timely reporting. Recommend SOPs address items that accompany casualties including personal protective equipment, classes of supply, CBRNE protection, sleeping bag, extreme weather gear. Units need to outline sensitive items accountability for casualties. DCIPS training is available online at the Soldier Support Research Center at http://ssiedtech.com/. For full details on the Army Casualty Program refer to http://www.apd.army.mil/pdffiles/r600_8_1.pdf

13. **Vehicle Identification**. During the past three decisive actions rotations, units have demonstrated atrophy in identification of friendly and threat vehicles with mounted daylight and thermal sights. Vehicle identification is currently trained during simulation in the BATS and as a common task conducted by Abrams and Bradley crews during the GST.

Actions to Date: TCM-ABCT attended a Range Development Workgroup following this observation. The Direct Fire Gunnery manual scheduled for release in FY 14 will address this gap with an improved combat vehicle recognition training requirement and improved software. The Recognition of Combat Vehicles (ROC-V) team will produce an application that units will be able to use to test multiple Soldiers at one time with a common standard. Testing criteria will be based off of a specific threat region consisting of up to 50 specific enemy vehicle types to include friendly recognition requirements.

Recommendation: Until the Direct Fire Gunnery manual is released, recommend units add ROC-V and vehicle identification training as part of their training strategy. ROC-V 9.3 is available for download from https://rocv.army.mil/rocv/-private/ROCV_desc.php. Government users who are unable to use the downloadable version may order the three

CD set from http://dodimagery.afis.osd.mil/davis/ searching on: ROC-V (CD 22-109). Select the “add to shopping cart” button and fill in shipping details.

14. **Deployed Theatre Accountability System (DTAS).** The Brigade was able to report approximately 70% on the DTAS, however it was a challenge. The BNs were not able to exercise the system. BN and BCT S1s recommended units get started earlier with preparing to use the DTAS at NTC.

15. **Land Navigation**. Land navigation across cross country terrain continues to be an issue at the NTC for all MOS. During this rotation, sustainment unit moves turned from 3 hour planned events to 16-18 hour trips because convoy leaders become misoriented.

Recommendations: Recommend all units ensure Soldiers are trained on analog and digital land navigation training skills. Rifle companies need to schedule Expert Infantry Badge training. Training guidance needs to include land navigation skills training. TRADOC Centers of Excellence need to review institutional courses to ensure Soldiers and leaders are trained on critical analog and digital land navigation skills.

16. **Security**. Security has been a tremendous problem for every ABCT DATE rotation to the NTC in the past year. During this rotation the unit’s inability to secure itself in the BSA due to lack of wire, failure to properly incorporate combat power and Soldiers in the BSA for maintenance, and failure to have an evolving security plan that made adjustments to available personnel strength had catastrophic effects. FOB mentality has been a huge problem. The unit had issues with convoy security and relied on non MTOE vehicles to provide gun truck escorts that created an extra burden from a manning perspective. Other battalions used non authorized wheeled vehicles to augment convoy security operations as well. MATVs and 1151s were drawn from an equipment pool at Ft. Carson.

17. **Fratricide Risk Reduction**. The commander noticed a complete lack of SDZ awareness as leaders maneuvered Abrams, Bradley’s and Infantry. For leadership development the unit built a static display using engineer tape and small flags to show GT line and SDZ for each vehicle to demonstrate blast and petal damage zone.

18**. Airspace Management**. De-conflicting air is a real challenge with Shadows altitude (6.3K); mortars and other UAS. The unit had a lack of rigor in home station training. They did not comprehend difficulty in clearing airspace with DIV HQ (NTC specific). Ground clearance happened very quickly. Units need doctrinal guidance and training.

Chapter 4
Material

1. **CAB TOC and BSB Weapons for Security.** The CAB TOCs were unable to provide security when the Commander/S3 Bradley's deployed forward with the TAC. The CAB TOCs lacked mounted crew served weapons systems for their wheeled and tracked platforms. Although the CAB can select to assign external combat platforms to provide security for the TOC, the TOC can provide their own security if weapons mounts were provided for and mounted with crew served weapons.

There were significant issues in the BSB with security in both static positions and for convoys. The reliance on non MTOE vehicles to provide gun truck escorts created an extra burden from a manning perspective. Other battalions used non authorized wheeled vehicles to augment convoy security operations as well. MATVs and 1151s were drawn from an equipment pool at Ft. Carson. The BSB did not employ ring mounts. The commander stated this would not be a mounted solution for security while moving due to the lack of gunner restraints. The BSB Commander believes gun trucks and additional crew manning are essential.

This same trend has also been observed consistently among other units. Past units have mitigated the lack of mounted weapons systems by assigning a gun truck platoon to BSBs and TOCs. This option requires additional Soldiers, vehicles and an additional sustainment requirement that would be unnecessary if the MToE assigned platforms were outfitted with crew served weapons.

2. **M9 ACE**. The unit experienced maintenance challenges with the M9 Armored Combat Earthmover (ACE) causing reductions in the ability to prepare fighting positions. In less than a 1 km move from the Heavy Equipment Transporter (HET) drop off to the Forward Operating Base (FOB), 4 out of 5 ACEs became non mission capable when a total of 22 suspension actuator bolts sheared. This unit, like the previous ABCT, was able to receive M7 Dozers from an ARNG unit. If not for the M7 Dozers the unit would had very limited capability to prepare positions for the defense.

Observer Coach Trainers recommended mechanics double check M9 actuator bolt torque prior to loading the platforms on rail at home station, and further said the issue could have been caused by improper torque combined with vibrations during the move by rail. Mechanics recommended having extra actuator bolts on hand.

Unit Engineers stated that the ACE was unable penetrate the rocky soil for the Abrams two tier defensive positions. The ACE were used to level spoil removed from the fighting positions created by the M7s. Engineers stated that even if the 6 ACE assigned

were fully mission capable that 6 ACE are insufficient to prepare vehicle positions for an entire BCT.

Actions to Date: The Engineer School and ACE Product Manager are aware of the reported reliability issues with the vehicle and are reviewing several courses of action to address this issue.

3. **Abrams Gun Tube Maintenance.** Master gunners reported they replaced three Abrams main gun tubes at home station following a long period of non-use. They attributed the replacement due to pits caused by sitting for extended periods. The technical manual does not require the main gun tube to be punched other than after being fired. Rust left unattended in gun tubes can cause increased wearing and pits resulting in the barrels falling out of tolerance. TCM-ABCT is recommending to the PM that units be required to conduct monthly gun tube checks. Recommend units punch their Abrams gun tubes monthly to control corrosion.

4. **Mission Command Material.**

a. **C2R**. NTC OC/Ts stated that this ABCT is the first unit to deploy to the NTC and use the C2R which enables the CPOF and MCS to operate on the same machine. This action resulted in the TOC maximizing use of TOC kits for mission command tasks. The C2R provides a means for messaging from a CPOF to an FBCB2 terminal.

b. **Data sharing between EPLARS and BFT**. Although the unit may operate primarily on one type of FBCB2 software, either EPLARS or BFT, in some cases attachments have the other system. EPLARS is a classified system and BFT is unclassified. For attachments with the alternate software to be able to receive data the TOC had to add data to both systems. TCM-ABCT reported a similar issue in NTC Rotation 13-03 where the same unit had multiple versions of the FBCB2 software that caused communication challenges. For details on this report view our milsuite site at https://www.milsuite.mil/book/groups/t

c. **Command Post Platform at BCT Unarmored**. Light skinned vehicles have to be incorporated in the BCT TAC to provide upper TI. Since the BCT TAC is generally located more forward than the TOC the level of protection may need to be greater than the TOC to counter the enemy direct fire weapons threat. During this rotation the upper TI was brought in to the TAC by transit cases.

Actions to Date: The Armored Multi Purpose Vehicle (AMPV) Mission Command (MC) variant will address Upper TI connectivity and improved protection. The AMPV fielding will possibly occur as late as ~2021-2030.

5. **Abrams and Bradley Dummy Training Ammunition**. Master Gunners expressed they have a lack of training ammunition for Abrams/Bradley crews to effectively conduct Gunners Skills Tasks (GST) in accordance with the Individual and Crew Live-Fire Prerequisite Testing (TC 3-20.21.1). Master gunners stated they only have enough 25mm dummy ammunition for one Bradley feed chute in the BCT. Master gunners reported similar shortages with 7.62, .50 cal, TOW Missile Simulator Rounds (MSR), and 120mm dummy ammunition. Training Support Centers (TSC) don't stock .50 cal, 7.62mm or 25mm Dummy Drill & Inerts (DDI), however some TSCs do carry 120 mm dummy training ammunition. One set of training ammunition is not enough for an entire BCT to attain and retain proficiency on GST.

Recommendations:

a. Units conduct inventories to identify available/serviceable training dummy rounds in all Rifle/Armor companies and Scout platoons. Dummy rounds generally outlast links and links can be requested from the Ammunition Supply Point (ASP) to reduce the total Army requirement needing ordered. Order quantities necessary to support unit GST requirements IAW TC 3-20.21.1.

b. Following inventories, master gunners or BSTB Ammunition Managers order DDI through TAMIS and the BCT Ammunition Technician IAW the procedures outlined in Appendix B, Training Aids, Devices, Simulators and Simulations (TADSS), in DA Pamphlet 350-38, Standards in Training Commission available at http://www.atsc.army.mil/tcmlive/strac/firspage.asp. The POC for DDI is MAJ Lovelady, debbie.c.lovelady2.mil@mail.mil

c. Units request Abrams 120mm dummy training ammunition shortages through their installation TSCs. TSCs can submit 120mm training aid requests through the fabrication module and request TADSS once per year. The POC at the Army Training Support Center (ATSC) is Darryl Powell, Darryl.l.Powell.civ@mail.mil

d. Order missile simulator rounds (MSRs) through the supply system. The MSR is a non-expendable major end item that is requisitioned through the supply system (NSN 1440-010104-9834).As an immediate remedy, units should request TOW missile weighted rounds with concrete inserts through the ASP. Ensure weighted TOWs match actual missile weights.

e. Recommend companies assume responsibility of maintaining GST training aids.

f. The below breakdown provides enough dummy rounds to run a company level event with one vehicle per station, or a battalion consolidated GST with two vehicles per station and one vehicle for retraining. Minimum dummy ammunition

recommendations below are just enough for each company to operate one vehicle per GST station and does not include retraining ammunition:

Bradley Training Dummy Rounds Breakdown
25mm-470 total rounds/CAB; 7.62-40 total rounds/CAB (math below)
25mm Ammo (DODIC A967): 235 ea M794 rds x 2 = 470 rds/CAB (1/Rifle Company)
70 M794 Dummy rds for Load AP Ready Box
75 M794 Dummy rds for Load HE Ready Box
45 M794 Dummy rds for Load AP in Feeder
45 M794 Dummy rds for Load HE in Feeder
7.62 Coax Linked Ammo (M172): 20 ea rds x 3 = 40 rounds per CAB for M240C GST
Note: Scouts and HHC can use the company ammunition for training.

Abrams Training Dummy Rounds Breakdown
M240 Linked Ammo: 10 ea x 2 = 20 rds/CAB for M240 GST
.50 CAL Linked Ammo: 5 ea x 2 = 10 rds/CAB for .50 CAL GST
120mm: Sabot, 1 MPAT, 1 HEAT, 1 canister per Armor Company.

6. **NBCRV:** The JBPDS is the first automated, joint biological warfare agent (BWA) detection system. The JBPDS can only be repaired or changed out by contractor support. Currently the Chemical School dedicates 13 training days of operator training on the JBPDS.

Recommendation: At this time maintenance above the operator level will continue to be contractor supported and the longer tow bar NSN is 2540-01-517-9227 and is an Additional Authorizations List (AAL) item.

END OF REPORT