

TCM-ABCT IDENTIFIES GAPS IN BRADLEY TRAINING

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The TRADOC Capability Manager - Armored Brigade Combat Team (TCM-ABCT) identified Bradley individual and collective skills as a critical capability gap and unit deficiency during visits to ABCTs from 2010-2013. The ABCT priority over the past decade has not included repetitive and traditional Bradley gunnery, maintenance, and maneuver training due to repeat deployments on non-standard vehicles (mine-resistant ambush protected [MRAP] vehicles, etc.) Bradley crews and leaders have demonstrated the following trends at the National Training Center (NTC) at Fort Irwin, Calif., during the past five decisive action training environment (DATE) rotations. (Review TCM-ABCT observations, insights, and lessons learned reports for NTC rotations at [https://www.milsuite.mil/book/groups/t/content?filterID=contentstatus\[published\]~category\[decisive-action-ntc-reports\]](https://www.milsuite.mil/book/groups/t/content?filterID=contentstatus[published]~category[decisive-action-ntc-reports]).)

Live-Fire Training

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). Some

Bradley crews did not demonstrate an understanding of how to clear malfunctions on the M240C machine gun during the live-fire exercise (LFX) or fully understand that boresighting procedures require lengthy times to accomplish.

In addition, crews were not following or did not know appropriate live-fire preparation of their fire control systems, gun systems, or gunnery techniques. According to master gunners, this resulted in reduced time for the live fire and also increased weapons malfunctions. Crews did not have or use paper copies of pre-fire checks and relied solely on the Force XXI Battle Command Brigade and Below (FBCB2) Commander's Tactical Display digital pre-fire checklist. Master gunners expressed that paper copies are better than the digital checklist because they serve as a means to ensure vehicle commanders conduct the checks prior to live fire. The hard copy pre-fire checklists contain the vehicle commander's signature. Master gunners identified this issue and established a policy to require paper pre-fire checklists prior to drawing ammunition. After this policy was initiated, master gunners reported that malfunctions were significantly reduced. TCM-ABCT recommends that units laminate two pre-fire checklists and that one be maintained in the turret and one signed copy be turned into 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

Soldiers from the 2nd Armored Brigade Combat Team, 1st Infantry Division maneuver a Bradley Fighting Vehicle at the National Training Center in Fort Irwin, Calif., on 24 February 2013.

Photo by EJ Hersom



malfunctions. Sample pre-fire checklists can be located at our milsuite site at <https://www.milsuite.mil/book/docs/DOC-116350>.

TOW (Tube-launched, Optically-tracked, Wire command-link guided) Missile Proficiency

Master gunner observer coach/trainers (OC/Ts) at NTC expressed that one of the biggest challenges units have is with the TOW missile. Although the 25mm is the main gun for the Bradley, the TOW 2B Aero missile provides an added capability to destroy armored vehicles at ranges comparable with the Abrams. Without the TOW missile, Bradley crews have a reduced armor defeat capability and reduced standoff to provide lethality overmatch. The TOW missile is the longest range direct-fire weapon system available for the ABCT rifle company. The TOW 2B provides units the capability to engage fortified targets at a stand-off distance without being required to use dismounted Infantry or indirect fires.

Bradley crews commonly demonstrate limited or no knowledge of loading, unloading, misfire, or firing procedures for the missile. During first-time live-fire engagements with the TOW at NTC, they were only successfully fired about 20 percent of the time. Of those that did successfully fire, only about 50 percent hit the target. This means that only one of 10 TOW missile engagements were successful. This issue's root cause is a combination of doctrine, material, and training. Doctrinal changes in gunnery manuals between 1996 and 2009 gradually rescinded TOW training requirements for the Gunnery Skills Test (GST) and also deleted 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. TOW tasks in current gunnery doctrine are limited to ST 3-20.21-1 (Live-Fire Prerequisites) which includes "Perform Misfire on TOW" and "Remove a Misfired TOW Missile" as gunnery Table I tasks. The lack of doctrinal references and training requirements has led to degraded TOW proficiency in Bradley crews.

Note: The Direct Fire Gunnery manual scheduled for release in 2014 will address this training gap by incorporating TOW tasks back into GST. In addition, there will be anti-tank guided missile (ATGM)/TOW tasks during Tables III, IV, V, and VI to augment the training aids, devices, simulators and simulations (TADSS) training requirement. This includes the requirement to raise the TOW launcher for all defensive and short halt engagements; failure to do so will result in an automatic score of zero for the engagement. Units can still find Skill Level 1-4 TOW tasks in Soldiers Training Publications (STP) 7-11B1-SM-TG and STP 7-11B24-SM-TG. TCM-ABCT recommends that units train these critical TOW tasks now, prior to the release of the Direct Fire Gunnery manual next year to ensure Bradley crews understand how to operate the TOW missile.

TOW Training Aids

The reduced use of TOW training aids is a contributing factor to reduced TOW proficiency. The missile simulation round (MSR)

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is used to train all non-fire TOW-related tasks. During unit visits, TCM-ABCT identified that many units no longer have adequate MSRs to conduct TOW training. Historically, two dummy TOW missiles per platoon were used for this purpose, which allowed sergeants to conduct opportunity training without having to draw resources from the Training Support Center (TSC). Also, the Multiple Integrated Laser Engagement System (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. TCM-ABCT recommends units train on the Skill Level 1-4 TOW tasks listed in the Infantry STPs as a required task prior to gunnery. In addition to STP tasks, there are work packages (WPs) in M2/M3A3 technical manuals. WPs contain detailed instructions for crews and maintainers to operate and maintain equipment. Crews can reference Technical Manual (TM) 9-2350-294-10-2-1 and TM 9-2350-294-10-2-2 for TOW WPs at <https://www.logsa.army.mil/etms/online.cfm>.

Combat Vehicle Identification

During the past three DATE rotations, units have demonstrated atrophy in the identification of friendly and threat vehicles with mounted day and thermal sights. Vehicle identification is currently trained during simulation in the Bradley Advanced Training System (BATS) and as a common task conducted by crews during the GST. The new Direct Fire Gunnery manual will address this training gap through an improved combat vehicle recognition training requirement and improved software. Recognition of Combat Vehicles (ROC-V) software is currently available to conduct individual training for a single crew member. Units have expressed that it takes too much time to train and test one person at a time with limited computers on hand. To remedy this issue, the ROC-V team will produce an application that unit master gunners will be able to use to test multiple Soldiers at one time with a common standard. Units will still have the capability to conduct individual ROC-V training and testing. 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. Tests will consist of a number of artillery, aircraft, tracked vehicles, wheeled vehicles, and no more than five friendly vehicles for a total of 25 vehicles for the specific threat region. Master gunners will be able to choose whether or not the vehicles are presented as daylight or thermal images and will be able to choose the target distance. Until the new manual is released, TCM-ABCT recommends units add ROC-V and vehicle identification training as part of their training strategy.

Action, Crew, and Battle Drills

Battle, crew, and action drills conducted by Bradley crews and sections have also atrophied. Unit leaders exercise different tactics, techniques, and procedures, and sometimes use common Warrior Battle Drills for executing operational tasks. However, platoons and below either do not conduct the drills to standard or do not understand how to execute the drills. A battle drill is a

collective action executed by a platoon or smaller element without the application of a deliberate decision-making process. The action is vital to success in combat or critical to preserve life. The drill is initiated on a cue, such as an enemy action or simply a leader's order, and is a trained response to the given stimulus. A crew drill is a collective action that a crew of a weapons system or a piece of equipment must perform to use the weapon or equipment successfully in combat or to preserve life. This action is a trained response to a given stimulus such as a leader's simple order or the status of the weapon or equipment. Both require minimum leader orders to accomplish are the standard throughout the Army.

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 during previous NTC rotations that they didn't know where or how to find Army Training and Evaluation Program (ARTEP) or battle drill manuals from the Army Publishing Directorate (APD). They either did not know or did not understand that the ARTEP manuals have been replaced by Combined Arms Training Strategies (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. As the Maneuver Center of Excellence (MCoE) Directorate of Training and Doctrine's (DOTD) Doctrine and Collective Training Division rewrites or revises platoon and squad manuals, they are placing most battle, crew, and action drills back into the manuals. Units at all levels can find all battle drills with required actions for their unit in CATS. ABCT CATs can be found at https://atn.army.mil/dsp_CATSviewer01.aspx.

Movement and Maneuver

In the last decade, combat arms formations have commonly used two different movement techniques (traveling and bounding overwatch) due to unsuspected near ambushes that have occurred during route security and other missions. A technique units have not been using is traveling overwatch. During DATE rotations at 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 overwatch. This means the unit may not have support-by-fire positions established when they make contact, which results in not making contact with the smallest element possible. In cases where units did occupy support-by-fire positions, Bradley crews did not perform survivability moves. Vehicle crews conducted berm drills but continued to expose themselves at the same location instead of moving behind concealed terrain to alternate positions to increase survivability.

platoons are also not transitioning to the appropriate movement formation based upon mission, enemy, terrain and weather, troops and support available - time available, civilians (METT-TC). In cases where platoons transitioned to the wedge formation, they were positioned too close in the open desert terrain. Bradley platoons can increase force protection and observation by opening up their formations in desert terrain.

TCM-ABCT recommends that units conduct detailed mission analysis, resulting in plotting and rehearsing graphical control

measures that serve as triggers for transitioning from movement to maneuver, and train crews and squads on the three movement techniques and when to transition. Units should rehearse movement formations and techniques under conditions that are as close as possible to those expected to the upcoming operation.

Maintenance Management

In the past decade, ABCTs have not routinely planned or executed maintenance on Bradleys in garrison or in a 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. 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 four previous NTC rotations, OC/Ts said vehicle crews turned in 5988Es, but that units need improvement on having a sound maintenance plan that includes proper quality assurance and quality control. During several NTC rotations, maintenance collection points (MCP) had too many combat platforms disabled or non-mission capable (NMC) by -10 standards and could have been X'd by the commander to participate in the fight. Some units did not understand the difference between NMC by -10 standards verses combat power.

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 percent of unit personnel are available and focused on command maintenance with a strong leadership presence. Commanders should develop a unit culture where preventive maintenance and parts ordering is conducted throughout the year as soon as faults are identified to reduce requirements during services. 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.) Recommended tips for improving maintenance management in ABCTs include:

- 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 percent of their vehicles, weapons, and other assigned equipment.
- Conduct PMCS certification classes as part of the driver's training program and also certify NCOs and officers through a one- or two-day PMCS certification course.
- Cross-train alternate drivers.
- Teach leaders supervision tasks and processes for maintenance from the initial fault identification all the way through delivery of



Photo by EJ Hersom

Vehicles from the 2nd Armored Brigade Combat Team, 1st Infantry Division maneuver through the desert at Fort Irwin, Calif., on 24 February 2013.

the part to the user that includes vehicles, arms room equipment, and items issued by the supply room.

- Conduct leader professional development (LPD) maintenance classes led by senior mechanics and supply process classes led by supply sergeants, etc.
- Standardize pre-combat inspections (PCIs) for leaders to use as a guide in preparation for training and events (include recovery tasks). Leaders at all levels conduct PCIs and spot check maintenance.
- The command supply discipline program (CSDP) and property accountability also need to be addressed during scheduled maintenance activities.
- Ensure crews are present and conduct operator-level tasks when mechanics conduct services on their vehicles.

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

Rifle Platoon Collective Task Proficiency

Every ABCT that conducted a DATE rotation at NTC in the past year needed 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 dismounted Infantry for missions. The root cause is a combination of reduced operational and institutional training requirements over the past decade and reduced operations of Bradleys supporting dismounted 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 specific decisive action experience enabled NCOs to advise platoon leaders and company commanders who were new to the mechanized formation. Having NCOs with this experience is no longer as common in the formation. Infantry NCOs assigned to ABCTs for the first time have a broad range of Infantry skills but lack many of the specific tactical and technical skills needed to support ABCT mission essential task list (METL) tasks. The result is a steep learning curve for leaders when planning and conducting operations requiring the simultaneous application of both crews and squads. This task becomes even more challenging for leaders at NTC when placed in a time-constrained environment requiring planning for both mounted and dismounted operations. 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.

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. After reviewing *Infantry Magazine* articles from about 1985 to 1994 — and from speaking with OC/Ts and ABCT leaders who were in ABCTs in the 1990s — leaders have had this same problem since the arrival of the Bradley Infantry Fighting Vehicle (IFV). 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," which appeared in the January-February 1991 issue (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 experiences by leaders resulted in an increased understanding of the importance of how to train and employ crews and squads simultaneously in a decisive action fight.

Commanders must schedule consecutive tough and realistic training events for both dismounts and crews, and ensure company and platoon leadership understand how to maximize the benefits of synchronizing all elements in ABCT rifle platoons. Command sergeants major and first sergeants should manage NCO careers to include a mix of Bradley section and squad leader time in order to produce the most qualified platoon sergeants. Leadership climate and culture must adapt to focus 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.

The Bradley was designed to replace the M113 Infantry Carrier Vehicle (ICV). There is a distinct difference between the two in that the IFV is designed to support ABCT operations in support of dismounted Infantry and support direct

Soldiers with the 1st Battalion, 15th Infantry Regiment, 3rd Armored Brigade Combat Team, 3rd Infantry Division, pull security while setting up camp for the day at the National Training Center, Fort Irwin, Calif., on 13 March 2012.

Photo by SSG Renae Saylock

fire engagements in coordination with tank platoons. The IFV provides superior firepower to the ICV through a complex digital fire control system. The M2A3 Bradley Fighting Vehicle requires a much higher level of crew proficiency than the ICV or the baseline Bradley fielded in 1983.

Platoons that master both mounted and dismounted proficiency can enhance lethality, mobility, and survivability. An understanding of how to effectively employ both elements is vital to the success of the rifle platoon. The ABCT rifle platoon requires skills beyond that of rest of the Infantry force due the additional Bradley tasks. ABCT rifle platoons require a holistic training effort that includes progressive institutional and operational training opportunities to develop competent Soldiers, NCOs, and officers capable of maximizing the deployment of squads and crews.

MILES XXI

Bradley crews have experienced challenges with MILES XXI during DATE rotations at NTC. 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. Recommended tips for improving this skill set include:

- Inspect locking levers and safe switches prior to installation.
- Crews need to understand that silent watch continues to drain vehicle batteries. At a certain point, the vehicle will have warnings pop up and the system may not function correctly. Maintaining a watchful eye on voltage is a key to success.
- Crews should review installation and operating instructions prior to use of MILES XXI systems and understand basic troubleshooting procedures.
- Crews should know proper power up procedures.
- Inspect MILES XXI upon receipt for broken pins and/or dirty connections.
- Enforce strict cleanliness and maintenance inspections.
- Continue to conduct MILES XXI train-the-trainer events at home station to include installation, maintenance, operation, and troubleshooting procedures.
- Do not tighten connections with pliers. Repeated tightening with pliers has caused connectors to wear making it difficult to install. If all cables are not fully tightened and clean, the MILES will not function properly.

Institutional Training

The Henry Caro NCO Academy at Fort Benning, Ga., has instituted program of instruction (POI) changes that include a field training exercise (FTX). Although the FTX does not include training on the Bradley, NCOs will receive hands-on instruction on critical tasks that are common to all Infantrymen. In order for NCOs to acquire Bradley-specific NCO skills, they need to attend the functional courses at the MCoE that train Bradley technical and tactical tasks. Current courses include the Bradley Leader Course and the Bradley Master Gunner Course.

ABCTs have not maximized NCO attendance to the Bradley Leader Course. During Fiscal Year 2013, a very small percentage of the overall student attendance at the course consisted of NCOs assigned or en route to ABCTs. A shortage of assigned Bradley master gunners also contributes to the problem. Rifle companies

TRADOC Capability Manager - Armored Brigade Combat Team

TCM-ABCT serves as TRADOC's centralized manager for all activities related to the ABCT. The office serves as the ABCT Soldier's user representative to the Program Executive Office (PEO) Ground Systems, Program Manager (PM) ABCT, Department of the Army, TRADOC, and the MCoE. In the past year, TCM-ABCT has completed trend analysis from five separate DATE rotations at NTC/JRTC, seven unit visits/umbrella week data collection efforts, and multiple leader engagement sessions with ABCT officer and NCO leaders attending training at Fort Benning to develop an observations, insights, and lessons (OIL)-based doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) integration action plan. Since 2010, TCM-ABCT has conducted 31 unit visits to identify trends and assist the Army with improving ABCT capabilities.



commonly only contain one of four qualified Bradley master gunners. The only opportunity for Infantry Soldiers to receive institutional Bradley training is through the Bradley Leader Course or the Master Gunner Course. The combined result is a lack of internal expertise to sustain Bradley skills when new equipment training (NET) concludes in March 2014.

ABCTs can make the largest impact now by sending more NCOs to these two Bradley courses. TCM-ABCT recommends that all Infantry NCOs attend the Bradley Leader Course en route to assignments with ABCTs for the first time; units should try to schedule the course in conjunction with already scheduled NCO Education System courses. Units should also send NCOs to the Bradley Master Gunner Course to attain 100 percent of their required master gunners at the platoon and company levels and forecast manning requirements to retain this skill set.

Future *Armor* and *Infantry* Magazine articles by TCM-ABCT will address recommendations for units to order required training aids that support GST requirements. Follow TCM-ABCT on MilBook at <https://www.milsuite.mil/book/groups/t>.

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