

Unit-Maintained Equipment Lessons Learned

Leaders of a unit-maintained equipment pilot program for an armored brigade combat team describe what is needed and lessons learned.

By Lieutenant Colonel J. Bradley Swift, Chief Warrant Officer 2 Luis V. Cartagena, and Captain Sabrina A. Gibson

The unit-maintained equipment (UME) pilot program is probably best understood as a necessary transition between the left-behind equipment program (LBE), in which the Army Materiel Command (AMC) maintains equipment that does not deploy with the unit, and steady-state maintenance operations at home station. The goal of the UME program is to reduce home-station maintenance costs while improving equipment readiness immediately following redeployment.

This article outlines what was needed to conduct a UME program in the 1st Armored Brigade Combat Team (ABCT), 1st Cavalry Division, and provides lessons learned from the experience.

The UME program in the 1st ABCT was administered through a memorandum of agreement among the key shareholders: the Army Forces Command G-4, the III Corps G-4, the Directorate of Logistics at Fort Hood, Texas, the 1st Cavalry Division commanding general, the Army field support brigade commander, and the 1st ABCT commander. This degree of governance is sufficient under the current construct because these agencies are the ones that will conduct and fund the UME effort. Involvement outside these shareholders, from a policy perspective, would unnecessarily complicate the UME program. Should the need to make refinements arise, the memorandum of agreement could be modified to include performance outcomes and standards for UME operations.

Five distinct phases can be identified within the UME program: resource preparation, joint technical inspection and inventory, induction, steady-state operations, and return to unit. Bear in mind that the UME phases must account for “road to war” activities, including block leave, gunneries, and rear-detachment inventories.

UME Program Manning

Developing a unit’s UME manning, which happens during the resource preparation phase, is the first critical step in establishing the program. Commanders must identify the right number of personnel with the correct skill sets and skill levels no later than 90 days prior to

deployment. This planning helps commanders establish a rear-detachment chain of responsibility that facilitates maintenance of the nondeployed fleet throughout the deployment.

In recent contingency operations, commanders typically deployed with a portion of their home-station equipment and signed for various theater-provided equipment (TPE) fleets. Commanders must split their supply and maintenance assets to handle the competing requirements of servicing large amounts of deployed TPE and nondeployed equipment.

UME supply operations. The rear detachment brigade S-4 oversees the property book officer (PBO) and all UME supply operations. The rear detachment unit commanders are hand receipt holders for all of the companies within their battalions.

Each company commander should assign a property team consisting of one noncommissioned officer (NCO) and three Soldiers. (These numbers can be adjusted depending on the density of equipment.) The primary functions of the property team are to ensure the security and storage of all property and to conduct monthly sensitive item and cyclic inventories. Normal functions of command supply discipline, such as lateral transfers, turn-in of excess equipment, and maintaining shortage annexes, must still be completed as part of the UME program. (See chart on page 20 for a sample UME task organization.)

UME maintenance operations. The UME maintenance program should consist of the unit maintenance team, the brigade maintenance support team, and access to direct support-level maintenance.

The unit maintenance team should consist of one NCO and a number of Soldiers proportionate to—and in military occupational specialties (MOSs) corresponding with—the equipment in each battalion. This team is responsible for all preventive maintenance checks and services (PMCS); hanging parts; test, measurement, and diagnostic equipment (TMDE) calibrations; Army Oil Analysis Program (AOAP) sampling; and pre- and post-service road tests.

The brigade maintenance support team is led by the brigade maintenance officer, one sergeant first class as the brigade maintenance sergeant (BMS), and one warrant officer as the brigade maintenance technician (BMT). For ABCT operations, one of these three leaders should have a background in a heavy combined arms battalion.

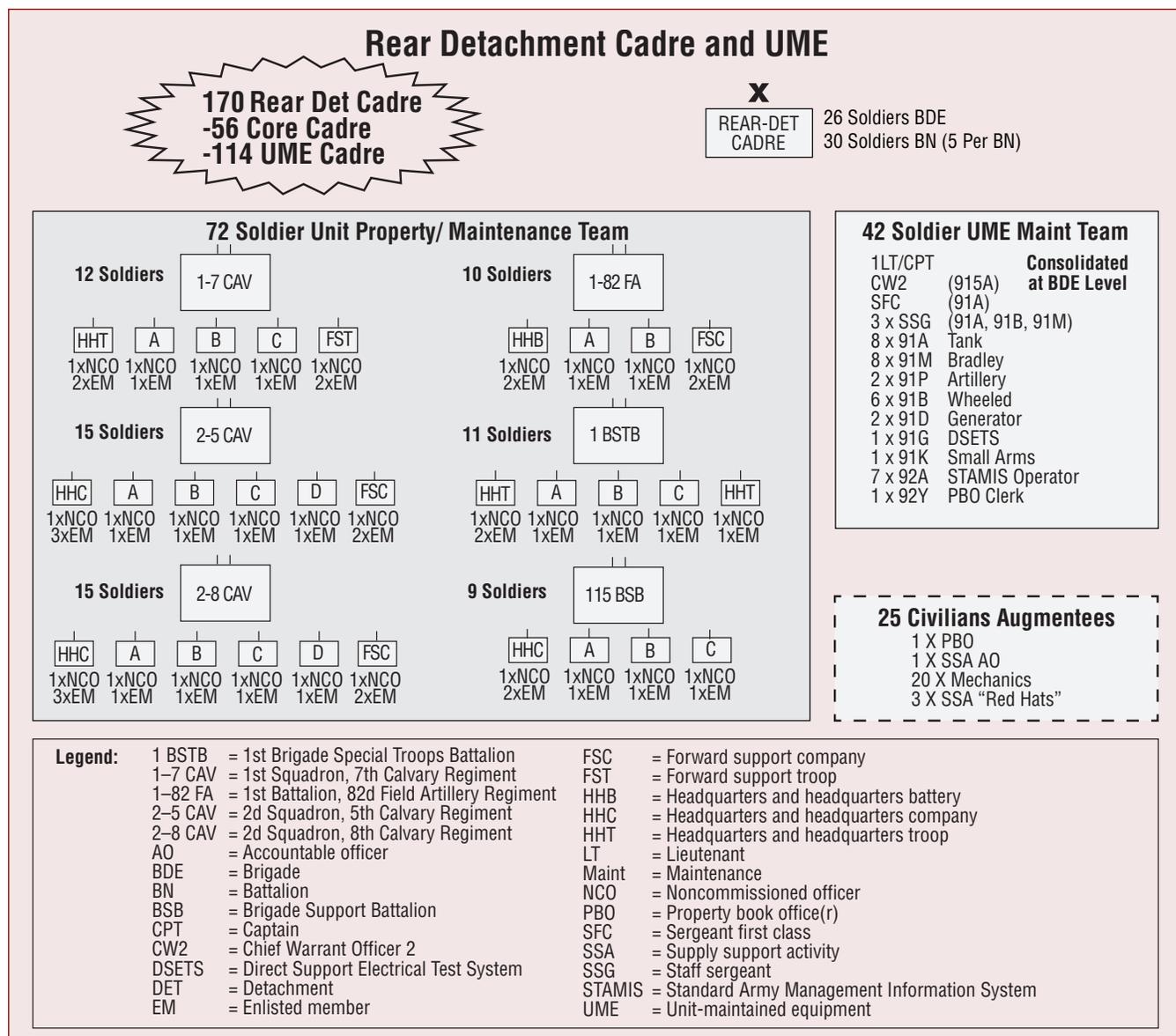
The brigade maintenance support team will troubleshoot and install all parts, conduct tracked and wheeled vehicle services, and assist with all combat vehicle services. The Soldiers assigned to the team should again be MOS proportionate to the amount of equipment inducted into the UME program.

The UME maintenance program should also be able to provide additional –30-level maintenance assets in order to further reduce the cost of the UME program and

increase throughput for all services and unscheduled maintenance. Direct Support Electrical Test System and armament shops are critical to servicing M1A2 Abrams main battle tanks and M2 and M3 Bradley fighting vehicles. Ground support equipment and service and recovery shops for generators, batteries, recovery, and welding are also necessary to support scheduled and unscheduled maintenance on low-density equipment.

Civilian augmentation. Civilian augmentation is necessary to provide low-density skill sets required on both the UME property team and maintenance team. The rear detachment must have civilians acting as the property book officer, the supply support activity accountability officer, and mechanics to conduct UME operations. All civilian augmentees should be governed by a specific memorandum of agreement that clearly defines the

This chart depicts a sample task organization for an armored brigade combat team unit-maintained equipment program.



number of personnel to be provided and the beginning and ending dates for work.

The UME program is ultimately a brigade-level operation. The planning of UME operations will coincide with various predeployment activities, including block leave, Soldier Readiness Program activities, and qualification gunneries. Therefore, brigade leaders must ensure that sufficient time and resources are allocated to ensure the successful setup of the UME operations.

Phase I: Resource Preparation

Resource preparation is conducted from 120 days before deployment until 75 days before deployment. During this time, it is essential to identify the personnel that will be manning the UME program after the brigade deploys. Those selected to man the UME program should focus solely on UME preparation. Civilian augmentees should be requested no later 110 days prior to deployment and should be available for planning operations as soon as possible. All Soldiers selected as a part of the UME maintenance team must be vetted by either the BMS or the BMT.

The logistics information system (LIS) architecture for the UME program should be developed and exercised to ensure connectivity no later than 75 days before deployment. During the same timeframe, all special tools needed by the UME program should be identified, inventoried, and assigned to the UME maintenance and property teams.

For the maintenance assets, special attention should be given to the very small aperture terminal, Standard Army Maintenance Systems, Direct Support Electrical Test System, Automated Reset Management Tool, service and recovery shop equipment, and vehicle ground hop kits and test stands. [A hop kit includes the vehicle components needed to inspect an engine for malfunctions while the engine is outside the vehicle.]

The units should begin to conduct initial technical inspections of equipment in order to bring all equipment to a -10/-20 standard. All services conducted by the unit before deployment should be biennial services for wheeled vehicles to facilitate a more realistic workload for the UME maintenance team.

Phase II: Joint Technical Inspection and Inventory

Joint technical inspection and inventory is intended to bring all equipment to -10/-20 standard before handing it over to the UME maintenance and property teams. Not-mission-capable equipment left to UME assets will ultimately reduce readiness rates during the UME program and delay the return of usable equipment after deployment. As the joint technical inspections are conducted, all equipment should be transferred from the battalion LIS to the UME LIS. The BMO or BMT should review and correct all LIS data before it is accepted.

During this phase, unit commanders should set priorities for work within their formations and the UME maintenance team should set a service schedule for the deployment period.

Phase III: Induction

Induction is the period where all equipment is transferred from forward to rear detachment unit identification codes. The joint technical inspections should be validated by a team of senior mechanics. Department of the Army Form 2404, Equipment Inspection and Maintenance Worksheet, forms that are generated as a final record of the inspections should be validated and filed by UME maintenance leaders. The brigade leaders must also determine the extent to which the UME program will use the low usage program and the expectations and policies they will put in place regarding the conduct or suspension of semi-annual services for systems not eligible for low usage.

Phase IV: Steady-State Operations

Steady-state operations begin 15 days before deployment and continue for the length of the deployment. It is essential to have the service schedule finalized before steady state operations begin. The schedule must be based on the realistic man-hours available and required for each service to be conducted to standard. (The goal of the 1st ABCT was to service all pacing items within the brigade formation and to create a combat service support package of 50 percent of the remaining fleet. Pacing items are the most important pieces of equipment in the unit, as noted on its modified table of equipment.)

The unit also must develop a PMCS plan to be conducted throughout UME. Because of personnel shortages, weekly PMCS of the entire fleet is not sustainable. However, monthly PMCS is more than possible with the caveat that all pacing items are started and run for at least 2 hours weekly.

Phase V: Return to Unit

The return to the unit should begin 45 days after redeployment and be complete no more than 15 days later. In order to facilitate this, all LISs should be hand-carried back to home station. The brigade S-4 and support operations officer should develop a written and explicit timeline for the deactivation of UME unit identification codes and Department of Defense activity address codes, and the return of LIS data. The S-4 will also determine who will provide data for Logistics Support Activity reports and accept vehicles handed over by the returning unit commanders.

Lessons Learned

The UME pilot at the 1st ABCT, 1st Cavalry Division, has provided a number of lessons learned that can be

applied to future UME programs Army wide.

Setting the conditions for the UME program is just as important as conducting it. Planning must begin with a thorough mission analysis. The following factors will drive the composition and workload of the UME team: baseline equipment readiness prior to deployment, the unit's forward mission, the unit's rear-detachment mission, funding constraints, equipment and personnel densities, and the availability of UME Soldiers. A cookie-cutter approach is unlikely to succeed, given the range of variables across the factors mentioned.

For example, a brigade combat team that is scheduled to conduct a security forces assistance team mission will typically deploy with much less than the entire brigade's strength, leaving substantial manpower behind. This could create a false impression of the rear-detachment's ability to conduct and supervise a UME effort when one considers that a typical security forces assistance team composition requires a disproportionate percentage of the unit's NCOs, the very leaders necessary to supervise maintenance. The addition of regionally aligned units to geographic combatant commands and units with prepare-to-deploy orders can further constrain the rear-detachment personnel.

Choose the appropriate UME method. There are at least two UME methods for prioritizing maintenance efforts: "training sets" and "pacers first." The approach selected in the planning phase will dictate which vehicles are serviced and with what priority. Vehicles not inducted to the UME service forecast will, by default, have to be inducted to the low usage program or the administrative storage program.

The "pacers first" approach focuses on the unit's pacing items. The "training sets" approach focuses on complete company training sets, including supporting wheeled vehicles to allow for collective training earlier in the recovery phase. Risks and benefits are associated with each approach. Unit commanders must decide where to assume risk and where to provide emphasis based on their unique conditions.

Start joint technical inspections early. Joint technical inspections between the unit's UME personnel and the parent unit must begin no later than 90 days before deployment. Both parties must include experienced leaders to monitor the technical inspection process and ensure candid reporting of the vehicle's deficiencies. Many units require an increased operating tempo and a corresponding equipment usage rate in the last 120 days before deployment. This makes joint technical inspections critical because handing over a vehicle in poor condition simply shifts the burden to the UME program. The standard needs to be that all -10/-20 deficiencies are captured during the joint technical inspections and all parts are ordered.

Understand the difference between readiness reporting and -10/-20 standards. The technical manual (TM)

for each piece of equipment outlines the Army -10/-20 standard maintaining it. The challenge is not in understanding the standard but rather knowing the difference between readiness reporting and the -10/-20 standard. Most units define fully mission capable (FMC) as the positive result of completing the PMCS checklist in the TM. Most units further define this as "FMC + safety," which means a positive PMCS checklist result plus no safety deficiencies that deadline the vehicle. For example, an inoperative brake light, turn signal, or windshield wiper does not deadline a vehicle per the TM but would usually deadline a vehicle for safety reasons.

Army leaders at the enterprise level attempt to re-source equipment and vehicle maintenance to the -10/-20 standard, but unit leaders often observe a disconnect between the resources available at the unit level and the expectation. Funding constraints have driven sustainment managers to cancel select non-mission-essential parts even though they are required in order to meet -10/-20 standards. It is understandable for a unit to lose interest in identifying -10/-20 faults that do not deadline a vehicle per the PMCS checklist when the parts are either not placed on order or are canceled from the manager review file. This is why units often use the PMCS checklist FMC standards to gauge readiness instead of -10/-20 standards.

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