

There is No Conflict between Maintenance and Training: How to Establish an Effective Unit Maintenance Culture

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Serving as an organizational leader in the most powerful army in the world represents an incredible opportunity! Based on our experiences as battalion commanders within an armored brigade combat team (ABCT), we outline in this article the most important building blocks to assist organizational leaders in establishing and fostering a maintenance culture.

Preparation prior to assuming positions of this magnitude is paramount, especially from an intellectual perspective. The last time battalion commanders *commanded* was likely 10 years previously at company level. This divide in time and space is massive, and your attention to detail can help rapidly shape success in your organization.

The most earth-shattering epiphany during command is the realization that you as battalion commander, along with your battalion command sergeant major, are the most experienced leaders in the organization. Therefore commander's dialogue and directives demand precision and clarity to ease friction for subordinates during execution. Although clear commander's intent is often thought of in relation to field training, it's just as impactful in home-station functions such as establishing a maintenance culture.

There is never conflict between maintenance and training. Conducting maintenance is training, and its effect when properly implemented will pay significant dividends toward increasing operational readiness (OR) in support of decisive-action operations. Unfortunately, based on competing operational priorities, maintenance operations can be underprioritized or largely delegated to sustainment leadership. This lack of an established unit-maintenance culture translates over time to reduced leader involvement, inefficient processes and long-term impact on equipment readiness.

The goal of this article is to highlight key foundational processes and intellectual approaches designed to shape the deliberate establishment of a maintenance culture in any type of organization within our Army.

Establishing effective maintenance culture

The sustainment warfighting function exists to extend the commander's operational reach, sustain operational tempo and enable freedom of action. The brigade command team maintenance and logistics synchronization meetings are the most powerful executive-level assemblies that provide detailed synchronization of resources and organizational priorities. The brigade-support battalion (BSB) commander serves as chief of sustainment, with a distinct responsibility to chair these meetings. The brigade executive officer and support-operations officer serve as facilitators.

Production of executive-level notes allows the brigade combat team (BCT) commander the ability to leverage or reprioritize resources to address identified gaps. The published notes serve as a key progression or regression indicator, with the goal to move the readiness needle forward continuously. The battalion executive officers and the maintenance warrant officers, combined with forward-support company (FSC) commanders and company executive officers, represent the preponderance of the audience and intellectual body of executioners.

BCT leaders must take full advantage of division and external resources designed to provide a range of technical/supply assistance. Most of these entities include:

- Division/corps G-4;
- Sustainment brigade;
- Army field-support brigade;
- Defense Logistics Agency; and
- Army Materiel Command (AMC) lifecycle-management commands.

Resources are finite. As organizational leaders, it's our responsibility to understand available resources to stay ahead of potential resourcing shortfalls which may hinder OR. The goal is to establish a maintenance culture that

effectively transitions to any operational environment. This mandates continuous leader involvement with a detailed task and purpose, which adds holistic credibility to the maintenance program. The standard is to maintain equipment at the 10/20 level, which requires equipment fully-mission-capable – all faults properly identified, installed or ordered; services performed and up to date; modification work orders applied; and authorized basic-issue items and components of end items present and serviceable. The goal is to *prevent* mechanical failures by establishing a disciplined and deliberate service program committed to identifying impending failures.

The second aspect involves minimizing the amount of time that equipment is non-mission-capable to ensure the unit maintains the highest possible OR rate. This structure allows the highest levels of OR, thus bringing to bear maximum levels of destruction on the enemy in combat.

Recommendations: Make implicit standards explicit and highly encourage leader involvement at all levels. Overdue services, delinquencies and failure to secure supplies/equipment/oil samples are key indicators that leaders are not involved. Publish maintenance standards early and implement the appropriate forecasting tools to avoid future failure. Finally, establish positive relationships with sustainment professionals who are echelons above your assigned organization. The established relationships will provide valuable assistance reaching prescribed Army maintenance standards.

Establishing clear battalion-level expectations

Like other parts of unit culture, a culture of maintenance begins with leaders establishing clear expectations and setting priorities. One shouldn't assume that leaders in your unit have experience with effective maintenance programs. Whether mounted or dismounted, leaders and Soldiers arrive at your unit with diverse backgrounds and varied experience. This is a true strength of our military, but not all these skills are directly applicable to building an effective maintenance culture. Clearly articulating foundational guidance such as motorpool uniform standards, formation requirements and maintenance battle rhythm will help ensure shared understanding.



Figure 1. SPC Godspower Okoroh (left) and SPC Phillip Hutto, both with Headquarters Support Company, 615th Aviation Support Battalion, 227th Aviation Regiment, 1st Air Cavalry Brigade, 1st Cavalry Division, perform maintenance. A culture of unit maintenance moved this unit to Army-award-winning level. (U.S. Army photo)

Outlining leader expectations is also important. Where do you expect commanders and first sergeants during maintenance operations? What are the unit standards for Form 5988E completion, submission and fault

validation? Further, how can Soldiers and leaders be right if there is not a published standard to emulate? Delegating these decisions solely to executive officers or maintenance technicians could cause subordinates to misunderstand your prioritization of maintenance operations.

Executive officers, warrant officers and motor sergeants are critical as the execution arm of maintenance operations. However, their actions are not a substitute for clear commander's intent. Remember, it's your (the commander's) maintenance program, and it's your responsibility to set the tone and culture of the organization. Simply put, identify foundational unit standards and clearly articulate principles across the organization to shape the establishment of a maintenance culture.

Recommendations: Start with a maintenance terrain walk with battalion leadership and determine the status of your maintenance program, including pride, ownership, leader involvement and process efficiency according to division and brigade standards. Determine your shortfalls and conduct a subsequent terrain walk with company and platoon leadership to clearly articulate expectations.

Supporting companies through synchronized battalion programs

In addition to setting expectations, commanders should resource and synchronize battalion-level maintenance programs. Leveraging battalion systems to track requirements and increase awareness can empower subordinates and increase efficiency. Although programs such as the Army Oil Analysis Program (AOAP), test and measurement diagnostic equipment (TMDE) and overaged repairable-item list are generally thought to be the domain of company-level executive officers to navigate. However, company programs can suffer in silence if not resourced and monitored at battalion level. Field-training exercises and leader transitions make continuity for company programs challenging.

The Global Combat Support System-Army (GCSS-A) is the Army's system of record. Using this system as a forecasting tool to identify future requirements and decision points can add tremendous value to your program. Looking ahead toward projected requirements is always better than looking behind at delinquencies.

An example of a company-level action having battalion-readiness implications are weapons gauges from the FSC armament section. Although clearly within the FSC commander/executive officer responsibilities, delinquent armament gauges could leave the battalion without the ability to conduct annual weapons gauging and impact weapons qualification, live-fire exercise requirements and rapid deployability. With battalion-level forecasting through GCSS-A, the battalion executive officer or the battalion maintenance officer could recommend early calibration or adjacent unit coordination as a mitigating measure before losing a critical battalion capability. Although, in this specific example, we recommend having two sets of weapons gauges with six months offset calibration to never lose the ability to gauge weapons.

Recommendation: Use GCSS-A as a forecasting tool and publish future requirements to increase awareness of upcoming services, AOAP, TMDE, etc. This resource provides companies the necessary information to execute company maintenance programs and reduces delinquencies.

SSA operations

The supply-support activity (SSA) is unequivocally the nucleus of logistical operations. This single BCT entity serves as the catalyst to improve OR and is governed by Army Techniques Publication 4-42.2, **Supply Support Activity Operations**. The SSA is comprised of the following sections: stock control, receiving, issue, storage and turn-in.

Commanders at echelon must devote time and personal energy into SSA operations to ensure that the return on this precious investment permeates throughout the entire formation. Commanders must instill discipline into the following daily activities:

- Clearing unit SSA bins;
- Company commander and first sergeant weekly visits;
- Eliminating free issue through responsible supply ownership; and
- Operationalizing SSA operations (executing operations with a tactical-logistics-package mindset).

AMC owns the SSA, which is operated by American tax dollars through the Defense-Wide Working Capital Fund. As Soldiers we have a fiduciary responsibility to safeguard resources, combined with responsible financial execution.

Commanders must ensure that their unit-level military-occupation specialty 92As (automated logistical specialists) are properly trained on GCSS-A functions, with appropriate supervision in parts ordering.

Finally, the supply-chain management decision/execution loop must be properly closed through the execution of post goods issue and post goods receipt. This execution displays prudent management of supplies, which affects tactical-, operational- and strategic-level operations. Battalion commanders play an integral role in the preservation of our national supply system. The inability to deliberately manage this system will produce detrimental effects within our Army over time.

Recommendation: Conduct maintenance meetings at the SSA monthly meeting and execute BCT-level SSA terrain walks with the BCT commander. In addition, develop a certification for 92As and publish VL06I reports, which display supplies at the SSA that are ready for pick up. It's also important to operationalize SSA pick-ups by using operations orders and mission briefs to improve tactical operations in field environments.

Maintenance reporting: how to reinforce culture and unit priorities

There are many ways to establish internal reporting requirements that reinforce maintenance culture and unit priorities. We recommend against structuring your battalion reporting or commander's critical information requirements solely with OR rates and the equipment-status report (ESR) in mind. In fact, we believe it's difficult to build an effective battalion maintenance culture using only the ESR and OR rates, as these tools do not accurately evaluate the building blocks of maintenance culture such as leader involvement and maintenance-efficiency rates.

With a little creative thinking, commanders can establish maintenance reporting that gauges the maintenance culture while actively supporting leader development. We recommend reporting that highlights high-payoff resources, which impacts all entities such as a shop office. If the Very-Small-Aperture Terminal (VSAT) is non-mission-capable, the battalion has lost the ability to dispatch vehicles, order Class IX parts and update the ESR.

How long do you want your battalion executive officer to work the issue before he/she makes you aware? 12 hours? 24 hours? Further, when do you notify your brigade commander that you have a critical sustainment shortfall and discuss a shift in resources? Whatever the answer, this example helps to show how critical maintenance reporting supports commander decision points.

There are obviously other battalion-level resources that can impact daily maintenance operations such as welding, fabrication and armament capabilities. With the help of your maintenance leadership, identify mission-critical organic resources and determine a reporting framework that support unit priorities.



Figure 2. A Soldier assigned to 1st Battalion, 12th Cavalry Regiment, pulls maintenance on an armored vehicle to ensure things are in good order after arriving in Korea from Fort Hood, TX, for a nine-month deployment. The

unit, a combined-arms battalion, is assigned to 2nd Infantry Division's 1st Armored Brigade Combat Team. It deployed to Korea with about 800 Soldiers, 20 M1A2 Abrams tanks and 30 M2A3 Bradley Fighting Vehicles. The Soldiers are stationed at Camp Stanley and Camp Hovey. (U.S. Army photo)

Let's shift to how maintenance reporting also supports leader development. A good example is the decision points surrounding controlled substitutions. Although your warrant officer is routinely first to identify a potential controlled substitution, the discussion and decision should involve both the gaining and losing company commanders. This small step requires the commanders to understand and articulate the maintenance action and develop a recommendation based on battalion-readiness priorities. Whatever the decision, the knowledge and shared understanding gained facilitates leader development and helps to reinforce the unit maintenance culture.

Recommendation: Establish a battalion maintenance reporting framework that is aligned with critical capabilities and use routine maintenance actions as opportunities for leader development in your formation. As an example, we would recommend aligning maintenance reporting with assets unique to your formation or that do not have redundancy such as the VSAT, overhead lift and armament capabilities.

Ethical ESR management

The ESR epistemology correlates the methodology associated with the development of tactical plans, specifically up-to-date equipment/resources available to maneuver commanders they can employ against the enemy. Thus the ESR represents a binary contract between higher- and subordinate-level commanders, which stimulates a tangible level of trust that assigned equipment is prepared or unprepared for combat.

So when does prolonged troubleshooting or failure to correctly report the operational status of assigned equipment become unethical? This boils down simply to communication at echelon. Certainly, there are faults which may not seem prudent to place on the ESR – for instance: controlled substitutions, parts on hand or active troubleshooting. However, there must be a published timeframe that all leaders understand at echelon. Most units incorporate a 72-hour timeline; we would argue that this is too long, as it relates to pace and tempo in combat.

Regardless of the established timeline, leaders must have the fortitude to report what's truly non-mission-capable without fear of reprisal or retribution from superior leaders. Some potential indicators of inaccurate reporting are:

- Severe degradation of OR rate within the first 36 hours of a field exercise;
- The inability to perform rollout exercises; and
- The lack of in-transit visibility of Class IX parts flow.

The establishment of an effective and efficient maintenance system takes the proactive involvement of every leader in the organization. Once the organization has established a true maintenance culture, its ability to wage effective combat operations will significantly increase.

The battalion commander is the only leader who can establish organizational culture and climate. If maintenance and sustainment are commander priorities, the behavior and actions of the formation will reflect it. Therefore the commander must also certify the formation on maintenance practices just as he/she does for battle drills and live-fire scenarios. Although the BSB commander serves as the BCT's chief of sustainment, every commander plays a vital role in establishing an effective maintenance culture that supports operational requirements. The effectiveness of your formation to execute the assigned mission depends on the durability of the equipment and Soldiers within the formation.

Recommendation: Establish a binding contract within your organization that is easily understood and simple to execute at the lowest level. Implementing the six-hour rule is prudent technique. This rule includes the following guidelines:

- Equipment that requires more than six hours to troubleshoot must enter the ESR.
- If troubleshooting occurs under six hours and the equipment can be repaired within 24 hours, equipment does not enter the ESR.
- If the part is on hand, can be installed and repaired within 24 hours, the equipment does not enter the ESR.
- Repairs longer than 24 hours will always enter the ESR.

The standard 72 hours of troubleshooting is unrealistic, and it provides significantly less clarity on the ESR. This detracts from the power this document is designed to portray to commanders.

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Acronym Quick-Scan

ABCT – armored brigade combat team

AMC – Army Materiel Command

AOAP – Army Oil Analysis Program

BCT – brigade combat team

BSB – brigade-support battalion

ESR – equipment-status report

FSC – forward-support company

GCSS-A – Global Combat Support System-Army

IBCT – infantry brigade combat team

OR – operational readiness

SAMS – School of Advanced Military Studies

SSA – supply-support activity

TMDE – test and measurement diagnostic equipment

VSAT – Very-Small-Aperture Terminal