



Winning the Maintenance Fight at Pace



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When preparing for a major operation such as a deployment or a Combat Training Center (CTC) rotation, the volume of tasks that need to be accomplished to standard in a short amount of time can amaze the best Commanders. Prior to, during and after deployment, many Commanders find that maintenance consumes a disproportionately large amount of time. Even as the Commander of Operations Group, I often find myself more focused maintenance and sustainment more than many other areas. Why? The answer is simple: An insufficient maintenance program can grind any BCT to a halt, even more so than an Opposing Force. You can't fix it after first contact. Once you're in the middle of a fight, it's too late.

Many senior leaders have asked me, "What challenges units to maintain combat power in a field environment?" Maneuver leaders often default to the simple answer of long lead time parts and the Army sustainment enterprise. Conversely, sustainers often choose to blame our lowest level maintainers and operators. In reality, both viewpoints are inaccurate. Both attempt to centrally place blame on a multi-faceted challenge facing any modern force. Maintenance challenges exist for a variety of reasons, none of which are singularly responsible for unit shortcomings. The real answer is more complicated and nuanced.

As an Army, we need to come to grips with the challenges we face in maintaining our equipment. More accurately, we need to recognize the challenges units face in maintaining our equipment at the fast pace of operations anticipated in large scale combat operations (LSCO). From common shortages to increasingly more technical equipment, we face challenges at echelon. As leaders, we need to pay attention to what we can fix. While I was often frustrated as a Brigade Commander, I often found myself amazed at what I could control and fix internally.

This paper provides "a way" for Battalion and Brigade Commanders to build a solid home station maintenance program capable of sustaining combat power regardless of the unit's assigned mission, rotational schedule, or training progression. Don't take this the wrong way....I didn't do everything perfect as a Battalion or Brigade Commander. But, this job has provided me with insights as to what I did right and what I did wrong. It's provided me further insights as to what the best formations do to create a solid maintenance program.

Part I: The FARs of Maintenance

The "Rules of Maintenance" are fairly simple. If correctly bred into an organization's culture, leaders can ease the daily maintenance burden on their formation. Changing a unit's culture won't completely cure the problem, but it will breed into your maintenance program a decentralized approach critical to any effective system.

1. Maintenance is everyone's business: Maintenance doesn't just belong to the mechanics in your formation. Maintenance doesn't belong to the Executive Officer. As a Commander or small unit leader, YOU are responsible for the condition of your equipment, but you must make maintenance the business of EVERY MEMBER of your organization. If First Sergeants are more worried about fulfilling red cycle tasks than they are the condition of your equipment, you have a problem. If you are willing to place Staff Duty requirements above managing the work

schedule for your maintainers and supply personnel, you have a problem. Commanders must remove organizational maintenance distractors to every extent possible. Nobody cares more about your equipment than you (at least, nobody should). If your stuff is broken, and you cannot perform your wartime mission, your formation is NOT ready.

2. Mission Command is central to a solid maintenance program: At the Brigade or Battalion level, you cannot centrally manage your maintenance program. Brigade maintenance meetings do not fix vehicles; they merely establish priorities, identify problems, coordinate resources, and hold subordinates accountable. A solid maintenance program requires a “team of teams” approach. Just like any other task, every echelon’s (operators, mechanics, supervisors) maintenance efforts require educated Soldiers, skilled leaders, and supervisors willing to prioritize efforts, enforce standards, and hold subordinates accountable.

3. Know your Soldiers & their skills: Almost no one enters the Army with a maintenance background. Most Soldiers in our Army do not personally work on their own vehicles; they go to Jiffy Lube like everyone else. The typical maintainer’s education comes from the Army in AIT but must continue in the unit. Your unit requires a deliberate, junior leader driven individual training approach to both operator and mechanic education. Keep in mind, our Army is still recovering from a programmatic mindset born of the COIN era, when Soldiers and leaders needed a wide array of skill and lost expertise in critical areas like equipment knowledge and maintenance. Therefore, many leaders do not necessarily possess true expertise on their equipment. While the institution has begun to change this mindset, we still have a ways to go, and you, as a leader, play a critical role.

4. One of the greatest indicators of a formation’s discipline is the condition of its equipment: In the words of General Abrams, “There is only one standard for maintenance in the Army....10/20!” However, individual shortcuts, an unwillingness to bring up issues with higher headquarters, and perceived financial constraints often lead to an environment where we fall short of 10/20. If your unit’s standard is 10/20, you, as a Company level leader and below, should know the exact shortcomings that are preventing you from achieving that standard. As a Field Grade officer, you should know the major faults of every piece of equipment in the formation. As a BCT Commander, you should have an in depth knowledge of the routine challenges your unit faces, the parts they require, what long lead time parts you need assistance with, and what is preventing you from achieving the standard. Anything less opens the door to a cultural acceptance of sub-par standards.

5. Learn your roles and responsibilities at echelon: As a BCT CDR, understanding how your maintenance program fits together can be confusing. Everyone has a role to play. But, you should prescribe roles and responsibilities for your maintenance system. What roles and responsibilities does the Brigade Maintenance Officer/Tech have? How do you expect Battalion Commanders to manage their Maintenance Warrants? What authority does your SSA Tech have? Will you treat these critical personnel as a “third” field grade, or will you subordinate them to the Forward Support Company Commander? What is the role of the Forward Support Company Commander? What is the role of our Motor Sergeants throughout the BCT? What authorities are you going to give the Brigade Support Battalion Commander?

Until you have personally sat down with your formation and defined roles and responsibilities for these subordinates, gaining momentum proves difficult. As an example, some BDE Maintenance Officers/Techs serve as a primary advisor to the Brigade leadership regarding maintenance operations. In other units, the Brigade Maintenance Officer/Tech simply provides vetted answers to questions through the Brigade Support Battalion. One technique provides command emphasis and unfiltered information allowing leaders to immediately influence maintenance operations. The other does not.

6. If you're not training, you're maintaining: In the last two years, our Army has made a larger effort than any other time in the last 26 years to unencumber Company Commanders and their Soldiers from un-necessary tasks. The flip side is the expectation that Company Commanders and their Soldiers focus more on building readiness for the Army. I would pose that if you are not at a training event, then small unit leaders should strive to be maintaining/sustaining the readiness of their Soldiers and their equipment. This means that maintenance doesn't just happen on Monday. If equipment is down, maintenance occurs until the vehicle comes up (within reason). If the training schedule reflected other efforts, at a minimum, you should be augmenting mechanics with operators for a deadlined vehicle until they bring the equipment up.

7. But, you have to train to maintain: Given your knowledge of your Soldier's maintenance skills, you must train into your formation HOW to properly conduct maintenance. The best motorpool events I've seen were ones where Battalion and Company Commanders conducted ruthless inspections of their Soldiers' equipment. They used them as an opportunity to train young Soldiers on what right looks like. The very best Commanders recognized weaknesses in their formation (such as NBC systems or hydraulic pumps on the M1 tank) and openly educated their Soldiers on preventative maintenance regarding that problem. They also spent time training their GCCS-A clerks deliberately on how to order parts, open/close work orders, etc. They took advantage of resources such as installation COMET teams. They spent time training the lieutenants and Non-Commissioned Officers regarding expectations, and then they ruthlessly held both Soldiers and subordinate leaders accountable.

8. Maintenance is a system, not a warfighting function: Your maintenance system must function 24/7. It doesn't just happen during field operations, and it doesn't just happen when it's on the training schedule. Treat your maintenance system as an operation that must function constantly, regardless of where your unit finds itself. Can you imagine if we treated our personnel system in the Army like most units treat their maintenance system? For every operation, every training event, every day, your maintenance system must function.

9. Your maintenance system will perform in the field as it has been trained to perform in garrison: Given that maintenance is a system, expecting a system to processes from environment to environment is unrealistic. You cannot operate one way in garrison for 9 months and then go to the field expecting that your maintenance system will function any differently. Who is empowered to make decisions? Do you operate off of your VSATs in garrison AND in the field? Are we mandating the use of our Tactical Equipment Logistics Systems (TELS) in garrison, or are we overly reliant on the Network Enterprise Center (NEC)?

Does everyone understand each other's role? Does your system of maintenance experts solve problems for you or undergo paralysis when you go to the field?

For example, Cisco Voice Over IP (VOIP) phones provide effective beyond line of site communications to sustainment units through the VSAT network. Units that equip every CTCF, FTCP, SPO, and Field Maintenance Company (FMC) with this capability exhibit excellent collaboration throughout field operations. Equipping each FTCP with a single CAISI and a VOIP phone allows them to connect to the SPO VSAT to talk to their supported CTCF. Cisco VOIP phones are also capable of hosting a conference call with up to six lines on the VSAT network. But, if it is never practiced, the collapse of the maintenance network in a field environment is fairly assured.

Part II: Tips for Building a Solid Brigade Maintenance Program:

While the "Rules for Maintenance" offer a way to think about maintenance, they do not provide specific problem areas for Commanders to consider when building their maintenance program. Currently, many leaders only tend to look down when considering faults. While a Brigade or Battalion Commander may not be able to address every challenge facing the force, they CAN clean their own house and solve problems at their own level in order to force the maintenance system to work as efficiently and effectively as possible.

1. Operator Training: Nobody graduates from Advanced Individual Training (AIT) fully proficient in their MOS. Training received on Army equipment in AIT must be augmented by additional individual training upon arrival at home station. Who certifies your crew member's ability to conduct PMCS? An 11B20 arriving from an IBCT likely has never operated a Bradley or Stryker regardless of carrying the rank of a Non-Commissioned Officer. Who ensures they are trained to operate and maintain their equipment? NCOs within your formation must train their young Soldiers. Sometimes, especially in the 11B, 12B, 13B, and 13F series MOSs, you may even have a more senior leader that has never been on the equipment. Operator training programs are critical to solid maintenance efforts.

Commanders must also properly resource operators. This means finding hard copy technical manuals to place in our Soldier's hands. Today, many Soldiers default to downloading technical manuals on their phone. Then, in a field environment (such as a CTC rotation) phones are taken away and the operator checks are either done by memory or, more often, not done at all. Digital TMs may save money in the short term. Whether they save money over the long haul is questionable.

Additionally, even when time allows, we only do certain maintenance checks in preparation for special events. For example, we will conduct prep to fire checks in preparation for gunnery. We will conduct certain maintenance tasks only in preparation for Gunnery Skills Testing. Regardless of the fact that a breach on a tank should always be properly adjusted, and our firing circuits should always be ready, we only check them when these events are upon us. Consistent operator training, with a directed focus adds to the expertise of the formation. The certification of newly arrived personnel allows units to bring newcomers up to speed quickly.

2. Mechanic Training: If you haven't been to the motorpool lately (shame on you), your mechanics are some of the hardest working Soldiers in your formation. These young men and women work long, hard, late hours more often than most leaders care to admit. Yet, we often overlook training these critical personnel for the sake of other priorities. While everyone else is training in their particular MOS during a field exercise, we automatically expect these Soldiers to be experts every time and keep our equipment running.

Mechanics need individual training just like any other Soldier. Classes from Field Service Representatives (FSRs) are some of the most productive events a unit can coordinate. Other training includes basic troubleshooting procedures, how to read/use 20 or 30 level TM that traces diagrams. Even classes on how to properly utilize diagnostic maintenance computers can ease typical problem areas in a unit. Teaching them to read schematics to actually trace a fault to its origin can pay tremendous dividends. If you are a Battalion or Brigade Commander and you haven't taken the time to define with your senior Warrant Officers what additional training your mechanics require, you are setting your mechanics up for failure. It doesn't need to be complicated, and it doesn't need to drain all of the energy from a unit. But, it needs to happen.

3. Maintenance Platforms, Special Tools and Diagnostic Equipment: Often some of the most overlooked equipment within a unit, maintenance platforms, special tools and diagnostic equipment allow your maintenance personnel to do their jobs. Commanders often spend more time focusing on combat platforms, creating a culture where leaders do not focus on critical maintenance equipment such as M88s, Forward Repair Systems, Contact Trucks, etc. Many times, we request shortages for the HMMWV missing a screwdriver, but neglect to purchase equipment for our Forward Repair Systems, severely limiting the ability of our mechanics to perform their job. We overlook items such as engine (pac) slings, thinking that we only need one or two. We forget to examine the condition of our diagnostic maintenance computers (MSDs), thinking that they work, when often units find themselves at less than 50% fill on these critical items.

If you truly want to know the condition of your unit maintenance program, routinely inspect of all of your maintenance equipment. Sometimes, you'll find mechanic's toolboxes that are empty. You'll find that while they might have Maintenance Support Devices (MSDs), mechanics may not have the right software version, or the computers may not work at all. Communications and Electronic (C&E) shops may find that while they might have 300 work-orders for Night Vision Goggles from units, they lack the equipment to properly diagnose faults.

As a Battalion or Brigade Commander, you have the ability to address these types of challenges. Make resourcing your mechanic's equipment a top budget priority. No matter how fiscally constrained you might feel, failing to invest in special tools, diagnostic equipment, and other mechanic tools virtually guarantees the un-necessary expenditure of resources in the future.

4. Ordering Parts & Supplies (GCCS-A): Let's face it. The Army continues to learn the GCCS-A system. Just like ULLS-G of the past, a learning curve appears when any new system comes

on line. And the Army is getting better. But – your field maintenance team leaders cannot be the only ones who know how to effectively use the system. They need to be out there on the line, helping their young mechanics troubleshoot, teaching Soldiers, and supervising overall maintenance operations. This fact alone makes the 92A one of the most critical MOSs within a Brigade Combat Team. Without trained 92A Soldiers, who are experts in GCCS-A, you cannot possibly get the parts and supplies you need on a routine basis. Yet, this is sometimes one of the most thankless jobs in the Army. These young Soldiers get criticized when they make a mistake, but overlooked when they upload a Battalion’s worth of 5988-E’s in a single day.

As a Brigade Commander, I realized that I had problems in my 92A population. Much too late in our training cycle, we ended up holding daily classes with select 92As to show them common mistakes being made. We held classes on the proper way to requisition parts and supplies when we recognized a deficiency. Regardless, if you want to get the right parts and supplies into the hands of your mechanics, you must ensure your 92As (and 92Ys) receive training in the GCCS-A system.

5. Maintenance Supervisors & Warrant Officers: The most important leaders within your maintenance program are your Warrant Officers and senior NCO Maintenance Supervisors. As a Brigade Commander, you should be as worried about the manning of your Warrant Officer cohort as you are about your Field Grade network.

Current Army doctrine places the Battalion and Brigade Maintenance Warrant Officers under the direct supervision of the Brigade Support Battalion and Forward Support Company Commanders. I contend that a Battalion or Brigade Maintenance Warrant Officer is the sole person who can provide technical expertise and truly paint the picture to the Battalion or Brigade Commander regarding the maintenance status of their unit. Therefore, Maintenance Warrant Officers should be held in exactly that regard – they are the personal advisors to the Battalion or Brigade Commander regarding maintenance efforts. If you treat your Maintenance Warrant Officer like a third field grade in a Battalion or a special advisor at the Brigade level, you will have a much better feel for maintenance operations in your unit. Do you rely on your XO to bring you information regarding how the personnel system is performing? No. You ask the S1. If you want to know what is going on with your maintenance program, develop a personal relationship with our senior Maintenance NCOs and your senior Maintenance Officers. Then, when they talk, start listening.

6. Services: Service windows must be planned into a unit’s training cycle. They must be on the unit’s training calendar. Units that utilize their long range training calendars only for “training” tend to fall short when it comes to other systems. Additionally, failing to account for service windows for ancillary equipment often causes problems within units as well. Every piece of equipment must be accounted for in the unit’s services program. Then, if mission dictates, the Commander decides when and where to accept risk. Any other method often results in last minute surprises, lengthy lists of overdue services, and a falling operational readiness rate. An ABCT training schedule that depicts nothing but training fails to capture the complexity of operating an ABCT on a daily basis.

To reinforce this approach, Commanders can include service schedules as part of the new Company Commander inbriefs and as part of unit training briefs. By forecasting properly, Commanders can leverage other resources to assist in surge windows for items like Night Vision Devices, Communications Equipment, and other items normally not briefed as part of a “pacer” only service schedule.

7. SSLs: The Army has made tremendous strides in the last few years, re-learning how to invest in parts on hand at the unit level to allow Commanders to fix equipment in a timelier manner. However, units must inventory these stocks on a routine (quarterly) basis and keep close track of what they have on hand. This requires Battalion SSLs to be organized, efficient, and ready to move at a moment’s notice. Units must remember to consume parts from the SSL when mechanics install them on vehicles. Finally, Brigades must ensure maintenance technicians have the ability to see each other’s SSLs. This prevents units from un-necessarily ordering parts from higher when they are on hand within the Brigade.

The management of unit SSLs requires a Commander’s attention throughout their tenure. In conjunction with resource managers and maintenance technicians, they must ensure the unit continually invests in keeping SSL supplies healthy to ensure readiness. They should routinely review their SSL inventories and consumption demands to direct the addition of lines of stock where required based upon upcoming missions, historical trends, or other known friction points. Finally, Brigade level Commanders should take a personal interest in the SSLs for critical Brigade level commodity shops including armament and communication/electronics shops.

8. SSA Operations: Often treated as an after-thought, one of the toughest jobs in a Brigade Combat Team is working in a Supply Support Activity (SSA). These shops often find themselves under-manned, missing leadership due to personnel turnover, and incapable of performing their routine functions in any environment other than garrison. For example, over the last year, the average SSA manning level for Rotational Training Units at the NTC has been ~60%. During periods of high OPTEMPO, these Soldiers become overwhelmed with the sheer number of items they must receive, inventory, and move to the front lines.

The deployment of Brigade level Common Authorized Stockage Listings (CASL) has made our SSA more mobile and expeditionary. However, units routinely face challenges in manning these critical supply hubs. The Soldiers find themselves challenged to simply keep up with demand. In the face of common manning shortages, protecting themselves, and reacting to contact simply performing their job in a field environment, training units become overwhelmed.

If you are a Brigade Commander, take a special interest your SSA. Support your Brigade Support Battalion Commander's efforts to properly man and equip these units. Make sure the distribution schedule from the SSA to the Battalions happens on a routine (more than once per week) basis. Make sure the process for divesting ORILs is sound. Where appropriate, be willing to add command emphasis by making the SSA’s efforts a Brigade level priority. Demand that these great Soldiers be resourced properly, rewarded often, and guarded ruthlessly to ensure their efforts are focused.

9. Maintenance Personnel Management: Who decides what maintenance talent gets distributed to what organizations inside of a BCT? Many units let the S1 shop simply manage inbounds and then adjust only when a Battalion level Command Sergeant Major brings up an issue. Maintenance talent must be distributed evenly across a BCT in order to allow the entire organization to maintain the highest levels of readiness possible.

Common challenges for BCTs at the National Training Center include arriving without competent maintenance technicians and unevenly distributed or extremely young mechanics within an organization. Units that fail to manage maintenance personnel correctly often find their readiness ratings plummeting just days into a rotation.

“A Way” to assist in the management of maintenance personnel is to place the BSB Command Sergeant Major in charge of managing talent distribution throughout the organization. From there, units with only a single entity (for example, a single Mechanized Infantry Company) receive the talent *to operate independently*. Similarly, the Battalions with multiple Mechanized Infantry Companies receive the talent to develop personnel internally and lean on each other for support. The same approach can be made regarding Tank Company mechanics. Providing your Cavalry Squadron and Infantry Combined Arms Battalion with only minimally qualified tank mechanics ensures a drop in future readiness over time. Additionally, establishing a working relationship with the senior Warrant Officer at the Division level can ensure gaps in maintenance technicians are minimized and the right Warrant Officer talent finds its way to the correct position.

Regardless of the approach, management of mechanic expertise is an absolute requirement for any Brigade level organization. Commanders and Command Sergeants Major cannot rely on the S1 to manage it for them. S1’s manage people. Leaders manage talent.

10. Routine Inspections: If you expect your organization to do it, you must be willing to inspect it. Maintenance terrain walks executed at the Division level set a baseline for new leaders within an organization; however, that is only the beginning of the journey. Commanders (Brigade Commanders most importantly) need to spend time inside of their motorpools. They need to talk to mechanics, operators, and supervisors consistently to understand the challenges they face. They need to walk the maintenance chain from operator to ORIL turn in at the SSA on a routine basis. If anything, get out of the office. Be informal. Be seen. But, be attentive. If you’re worried that you don’t have the time, just consider how much time maintenance problems in your formation will consume if you don’t understand what is going on and keep your finger on the pulse of your maintenance system. Let your organization know that a solid maintenance program is a top priority for you as a Commander. More formally, Commanders can execute routine roll-out drills for platoons and companies to validate reported operational readiness rates.

Conclusion

A solid maintenance program is tough to build. It’s even harder to sustain. By understanding common shortcomings at echelon, we can build a stronger Army. This requires engaged leaders, expert Soldiers, and Commanders willing to prioritize the maintenance and readiness

of their equipment above other day to day concerns or taskings. Additionally, if we all roll up our sleeves and focus on fixing our own house, we can make huge strides in an area that has challenged our Army for decades. Meanwhile, we can collectively communicate daily challenges to the Army's senior leaders to make the entire team better. Maintenance is EVERYONE'S business.

Michael J. Simmering
COL, AR
Commander
Operations Group,
The National Training Center

@simmering216 (Twitter)
michael.j.simmering.mil@mail.mil