Maximizing Operational Readiness in the Baltics

by 1LT Darren Pitts

During our 2023 U.S. European Command (EUCOM) rotation, 1st Battalion, 8th Cavalry Regiment "Mustangs" spent seven months on a "heel-to toe" rotation in Lithuania, briefly interrupted by two months of multinational collective training in Finland.

During nine months in EUCOM, we were located 500-900 miles aways from the nearest supply support activity (SSA).

Throughout our rotation, the Mustangs adapted to expeditionary maintenance realities that are present in the Baltics:

- constrained parts flow,
- long lines of communication (LOCs), and
- reliance on ring routes and box trucks that can support only a limited capacity for critical parts.

Limited parts flow becomes a constant for all rotational units deployed in the Baltics. A constant that can only be mitigated through deliberate action on the part of company leadership and battalion maintenance teams through an understanding of the Army's field maintenance operations.

Combined arms battalions (CABs) require a well-disciplined, organized maintenance program that encompasses the Army Maintenance Fundamentals laid out in Department of the Army (DA) Pamphlet (PAM) 750-3, ***Guide to Field Maintenance Operations***.[1]

These fundamentals highlight the factors that can be controlled at the unit level to mitigate the effects of limited sustainment capabilities, to include parts management, shop stock management, demand analysis and controlled exchanges.

These specific fundamentals, combined with an effective command maintenance program can enable company and battalion commanders to maintain the highest possible operational readiness (OR) levels while on rotation in eastern Europe, specifically in the Baltics.

Expeditionary maintenance in Baltics

Rotational units located a long distance from supporting sustainment nodes, like units in the Baltics, will experience additional sustainment challenges that can directly impact their readiness. In our experience, we found ourselves with some of the longest LOCs in Europe between our time in Lithuania and a two-month training mission in Finland. For example, our forward operating site was located more than 500 miles away from the nearest SSA, creating systematic sustainment and maintenance challenges. The 1-8 Cavalry adapted during the nine-month rotation, and many of the fundamentals used will be crucial to the success of CABs in a large-scale combat operations (LSCO) environment.

Beyond the distance to the SSA, accessing the theater's maintenance repair facility for next-level requirements at the Maintenance Activity Vilseck (MAV) in Germany is not easily accessible for rotational units on the North Atlantic Treaty Organization's eastern flank. Alternative dispute resolution certification, next level repair on combat vehicles, hose fabrication, and welding support are some examples of the critical capabilities offered at the MAV but hard to access for eastern-based rotational units.[2] Organic welding capabilities and a 40-foot trailer with capability for hose fabrication were critical to supporting our CAB's maintenance requirements, highlighting the need to be creative and expeditionary to maintain OR. In cases where side skirts, radiators, or fan vents may have been replaced outright in garrison, organic capabilities within our CAB found new ways to repair damaged components to maintain combat power.

Another challenge we faced in Lithuania was the lack of motor pool space and overhead lift, which required additional creativity to ensure the completion of tank services and significant repair requirements, such as the installation of turret rings on the Bradley Fighting Vehicle. The requirement to complete services using organic lift capacity from M88s or a Forward Repair System is paramount to rotational unit's success in the Baltics. Host nation facilities offer minimal or zero overhead lift to support maintenance on wheeled vehicles. The facilities are not adequately postured to support a CAB's extensive maintenance requirements.

Given the constraints, leaders at all levels require a level of flexibility to overcome the space and lift requirements to ensure timely completion of services or installation of critical parts. That flexibility, combined with creativity and adherence to maintenance fundamentals is the easiest way a rotational unit can maximize its OR in an expeditionary setting.

Parts management

To overcome these expeditionary maintenance challenges, parts management and understanding parts flow is the first fundamental step in maximizing OR. OR ebbs and flows because of training and other requirements, highlighting the need for parts management to maintain OR at the highest possible level. The added problem set of LOCs stretching over 500 miles through the Suwalki Gap to the nearest SSA in Poland highlights an additional requirement for effective parts management. During our out of sector exercises in Finland, we were 900 miles away from our SSA.

The most viable way a unit can increase the effectiveness of its parts management to maximize combat power is fostered through the ability to forecast and track parts throughout the supply chain process. Leaders who monitor critical parts for deadlined vehicles as they ship from continental United States (CONUS) and transit to

the SSA can accurately time trips to the SSA and re-generate combat power within the shortest possible window. Effective observation of critical parts flow requires daily equipment status report (ESR) scrubs in Global Combat Support System – Army (GCSS-A) and constant checks in the Integrated Development Environment/ Global Transportation Network Convergence (IGC). The CAB maintenance team's mastery of the ESR, combined with IGC, enables CAB commanders to understand how their forecasted OR will ebb and flow during planned training events.

Units in the Baltics have several options to facilitate parts flow through the Suwalki Gap: ring routes, transportation movement requests (TMR), organic distribution platoon assets, and rented or contracted box trucks. TMRs and ring routes have alleviated the build-up of Class IX at our bin at the SSA, but they don't provide a singular answer to the overarching challenges related to EUCOM's supply system. TMRs are a way to move Class IX at projected intervals, but the submission requirements often mean that TMRs are submitted before some critical parts may have even arrived in theatre, with some TMRs being cancelled outright on the day of the mission. Ring routes provide a relative constant flow of Class IX with personnel and vehicles from an external division sustainment support battalion but offer a limited capacity for large parts or major assemblies. In our experience, a weekly push from the SSA would yield only one or two pallet spaces of Class IX, given that the same ring route was supporting multiple battalions. Units that arrive in the Baltics expecting to rely solely on ring routes to provide adequate parts flow will fail and their OR will not be adequately postured to support training or readiness. Additionally, organic distribution plat

oon assets offer a way to increase capacity for parts flow but given the distance and multiple days associated with the movement, regular movements on a weekly basis that are required to sustain a CAB are unrealistic at best.

Our ability to manage parts flow and Overage Reparable (extended) Report turn-in was based solely around organic efforts at the battalion level associated with a contracted box truck used to support parts flow for our exercises in Finland and the normal Class IX requirements of a CAB. The importance of our box truck can't be understated; our weekly pushes to the SSA in Poland, combined with parts flow pushed further north to Finland added up to more than 35,000 miles driven by our team in a period of less than five months. Parts management relating specifically to parts flow requires a level of creativity to overcome the challenges of EUCOM's supply system. Our best answer came in the form of a box truck.

Shop stock

Beyond using the ESR and IGC to understand parts management, shop stock list (SSL) management is the easiest way a unit can maintain combat power in Europe. While numerous articles have been written in ***ARMOR*** magazine during the last 10 years, about building successful maintenance programs from the perspective of battalion commanders. However, little has been written from the Armor community about SSL or its importance in maintaining a CAB in a LSCO environment.[3] BG Michael Simmering, in an article for *The Company Leader* in 2020*,* wrote of the need to maintain SSL to ensure readiness, but beyond that few seem to grasp the importance of SSL and recent CTC summary reviews indicate as much.[4]

Leaders beyond the shop office, specifically company and battalion commanders have a responsibility to take a vested interest in their SSL health to ensure the ultimate success of their formations.

SSL management can result in sustained OR if maintenance leaders and commanders forecast major training and ensure SSL health is prepared to sustain all vehicle platforms across their formations. SSL replenishment is an often-slow process, with proper consumption and automatic re-ordering or initiated replenishment ordering parts at the lowest priority. The requirement is therefore in the CAB's hands to ensure that SSL forecasting for major training is taking place two to three quarters out. Our CAB is currently forecasting SSL health for the entirety of the upcoming fiscal year and ensuring SSL is postured to support a CTC rotation at the end of the next calendar year.

In our experience conducting out of sector exercises in Finland, with minimal parts flow from the SSA, SSL was critical to our success keeping all our combat platforms in the fight. Going into our training, SSL health was over 98 percent which translated to a sustained OR rate of 93 percent for the duration of our training. During a one-week period, our unit maintenance collection point (UMCP) received 19 combat vehicles for next level maintenance, and all 19 rolled out of the UMCP in less than 24 hours, fully-mission capable (FMC) and back in the fight. SSL's ability to keep combat power in the fight is unmatched and can easily be the difference between a combat credible force or a UMCP packed with deadlined vehicles.

SSL is often thrown around as term for any part that is retained by a unit to perform field-level maintenance but is comprised of three different types of stock: demand supported (ZV), command directed (ZM), and bench stock (PD) lines. ZV lines are authorized SSL lines to stock, or simply put shop stock. Our CAB stocks 597 lines of shop stock at the battalion level and maintains 131 lines within our tank companies as demand-support repair parts.

The number of lines at each echelon are mandated by Department of the Army G-4 and are based upon demand analysis. ZM lines are shop stock lines that are maintained by the unit, which is allowed to stock 10 percent of its authorized SSL lines as a ZM. These are often referred to as command adds or command directed stock. For our CAB's 597 lines, 60 lines would account for the 10 percent of our authorized SSL. These lines enable commanders to stock critical items for combat systems that are specific to their formation, which in our CAB is focused on parts for our M1A2 SEPv3 platforms. PD lines are bench stock items and are usually low-cost, high-use consumable items used by

maintenance personnel at a high rate. Items that are ordered against bumper numbers will appear as a PD until a goods movement is conducted to the work order.

Understanding how many lines a unit is authorized to stock and of which type is the first step in effective SSL management. The next steps involve accurate inventories, ensuring stocks have initiated replenishment or automatic re-ordering points, demand analysis of previous high-density training cycles, and accurate forecasting of upcoming training and requirements. In addition to the need for constant SSL demand analysis, quarterly demand analysis is mandated by Army Regulation 750-1, ***Army Materiel Maintenance,*** and within GCSS-A as a check to ensure that units across the Army are maintaining their SSL.

While responsibility for SSL management generally falls on the individual field maintenance team and leadership within the battalion maintenance program, Commanders have a responsibility to regularly validate and ensure SSL levels are being maintained at the highest possible level.

The easiest way to maintain visibility of a unit's SSL levels are via the Commander's Actionable Readiness Dashboard – Shop Stock program on GCSS-A, where a commander can very quickly view the health of their SSL and view replenishment rates to better inform expectations for their maintenance program.

In the Baltics, units don't have the luxury of quick trips to the SSA, so proper demand analysis is crucial to ensure SSL is stocked with the necessary lines, when units don't have the luxury of accessing their SSA as easily or as often.

Controlled exchanges

Outside of parts management and SSL, controlled exchanges (CE) are an option that units can use to maintain OR in the Baltics when presented with long lead times for parts. A Controlled Exchange is the removal of a serviceable component from an unserviceable, non-mission capable (NMC) platform to a like-item NMC platform that restores a platform to FMC. The process can be used to generate combat power or increase a unit's OR but requires deliberate analysis of lead times for parts for both platforms and a conversation between Battalion leadership and maintenance leaders before the Commander can authorize the execution of the CE. In the Baltics, our unit approach to CEs has been used to retore combat power when lead times for two like-platforms are backordered or have a longer lead times because of parts shipping from the CONUS. The analysis associated with understanding lead times to inform CEs tie-in with the importance of parts management and with utilizing GCSS-A and IGC. CEs aren't a long-term answer but can often enable units that have depleted their SSL to maintain their OR during high density training periods.

CEs enable a unit to exercise a level of battle damage assessment and repair (BDAR). BDAR will be critical for maintenance programs maintaining combat power in large-scale combat operations (LSCO), particularly for an Army that has been spoiled with substantial parts flow over the last 20-years and has not experienced significant Armored-vehicle loss rates in over 70 years. In Finland, our unit utilized CEs to maintain OR across M-113 variant platforms after M-113 variant major assemblies had been consumed. The depleted SSL limited combat regeneration during the following training exercises, but an NMC M-113 from the Battalion's medical platoon generated options for CEs that ultimately maintained 1064 Mortar Tracks and kept additional combat power in the fight.

The conversations among leaders at the UMCP are critical to the success of CABs during training in the Baltics and will prove critical in a LSCO environment. Competent maintenance leaders enable combat re-generation via timely CEs, which in turn translate to maintained capabilities for commanders.

Conclusion

These lessons are important for all units preparing for a EUCOM rotation, or expeditionary training in any austere condition. The deliberate preparation of maintenance systems is the best way to set the conditions to maintain OR. The fundamentals that have maximized our success in the Baltics can be exploited by any unit that rotates to eastern Europe, but it requires component maintenance leaders and building a culture of maintenance across a formation.

The need to leverage the fundamentals of parts management, shop stock management, demand analysis, and controlled exchanges to overcome the sustainment challenges of the Baltics are nothing new and will be critical to generating combat power in the next conflict. Leaders beyond the Army's sustainment enterprise or the forward support company who are not focused on generating combat power under these current conditions will be combat ineffective when their time comes to cross the line of departure.

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Notes

1 Department of the Army Pamphlet 750-3, ***Guide to Field Maintenance Operations*** (Washington, D.C.: Government Printing Office: 2023).

2 "External Standard Operating Procedures," ***Maintenance Activity Vilseck***, 2022.

3 1LT Samuel C. Skillman, "A Lean, Expeditionary Shop Stock Listing", ***ARMOR***, 2018, https://www.dvidshub.net/publication/issues/43709.

4 COL Michael J. Simmering, "Winning the Maintenance Fight at Pace," ***The Company Leader***, March 16, 2020, https://companyleader.themilitaryleader.com/2020/03/16/winning-the-maintenance-fight-at-pace/.