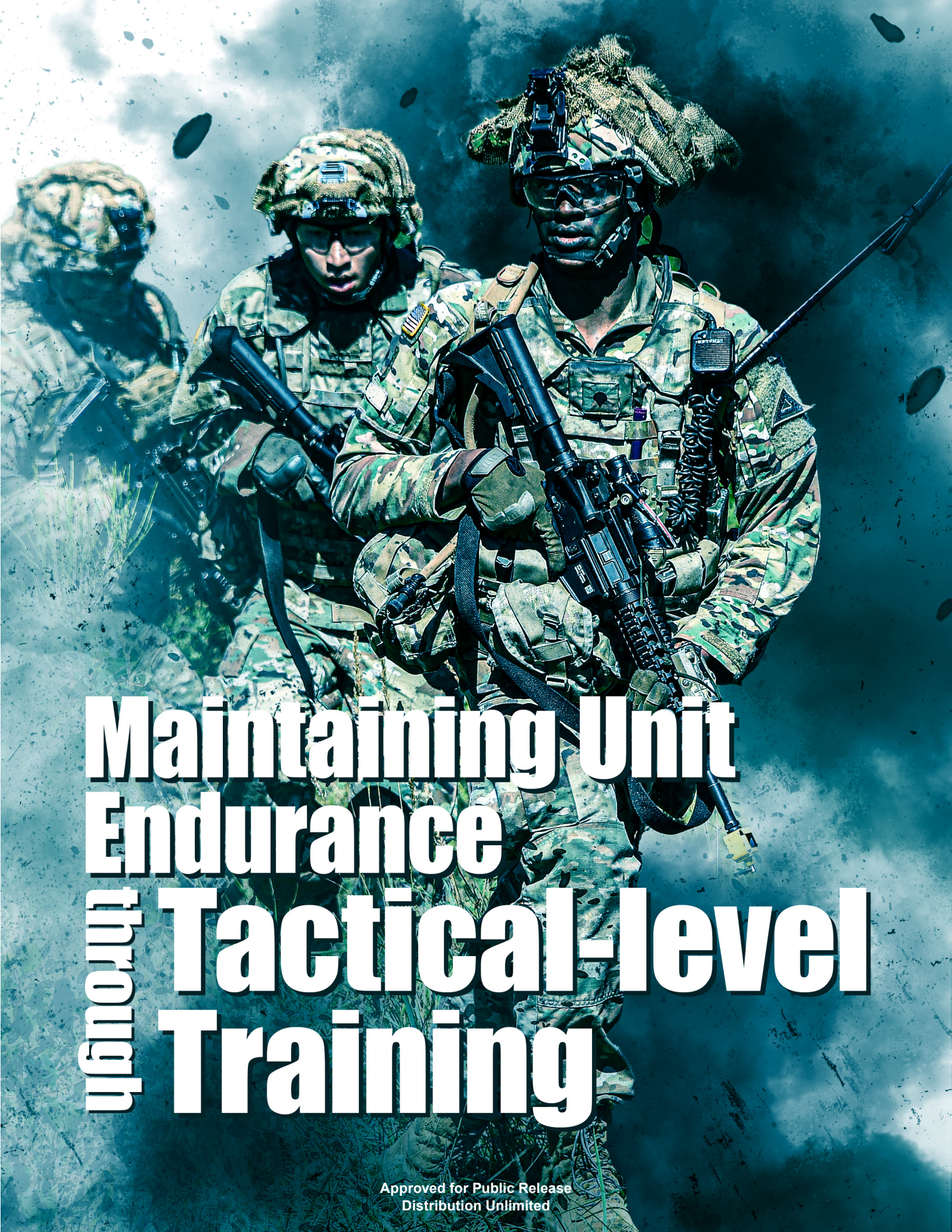

Maintaining Unit Endurance through Tactical-level Training

Center for Army Lessons Learned

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Introduction

> "Only first-place trophies will be displayed, accepted, or presented…. Second place in our line of work is defeat of the unit on the battlefield, and death for the individual in combat."
>
> —LTG(R) Hal Moore, *We Were Soldiers Once... And Young*[1]

The Russia-Ukraine conflict has reached a stalemate over the past two years. The Russian Ground Forces (RGF) and Armed Forces of Ukraine (AFU) lack the endurance to conduct decisive battles or campaigns. In any future large-scale combat operation against a pacing or acute threat, a contested logistical environment will hinder or prevent rapid reconstitution and therefore reduce the available combat power necessary to achieve operational and strategic outcomes. Rapid reconstitution of combat power at the tactical level may not be feasible to achieve the desired operational and strategic outcomes. Units must build endurance into all plans and operations to maintain resilience and preserve combat power for as long as necessary. To train as it will fight, the U.S. Army must emphasize conserving sufficient combat power during collective training of tactical combat tasks. This paper will present endurance-related observations from the Russia-Ukraine conflict and U.S. Army collective training events, discuss potential effects on the U.S. Army, and offer recommendations that increase training rigor associated with reconstitution operations.

Observations from the Russia-Ukraine Conflict

Building endurance into a plan allows units to employ combat power for extended periods and under all conditions, including degraded communications and high casualties.[2] The RGF and AFU have struggled with this since Russia's invasion of Ukraine in February 2022. The tenacious Ukrainian defense inflicted unexpected high losses on the RGF, preventing them from maintaining the combat power necessary to seize Kyiv and the southern Ukrainian oblasts and force Ukraine's capitulation.[3] Similarly, AFU's losses reduced their resilience and increased lead times for regenerating combat power, delaying their counteroffensive that reclaimed significant Russian-occupied territory in eastern Ukraine.[4]

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[1] Moore, Harold G.; Galloway, Joseph L.; Random House, *We Were Soldiers Once... And Young*, 1992.
[2] Field Manual (FM) 3-0, *Operations*, 1 October 2022, 3-6.
[3] Jones, Seth G., Center for Strategic and International Studies, *Russia's Ill-Fated Invasion of Ukraine: Lessons in Modern Warfare*, 1 June 2022, https://www.csis.org/analysis/russias-ill-fated-invasion-ukraine-lessons-modern-warfare.
[4] Welling, Jack; Danylyuk, Oleksandr V.; Reynolds, Nick; RUSI, *Preliminary Lessons from Ukraine's Offensive Operations, 2022-23,* 18 July 2024, 3, https://www.rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-ukraines-offensive-operations-2022-23.

The inability to preserve combat power was a key factor hindering RGF and AFU success in achieving their initial operational and strategic objectives, decisively defeating their opponent around Bakhmut in 2023. Both sides expended valuable combat power in a battle of symbolic rather than strategic value.[5] The RGF mobilized convicts to augment the Wagner Group, while the AFU deployed some of their most experienced units.[6] Approximately 88 percent of the total RGF's 20,000 killed and 20,000 wounded were mobilized convicts. Whereas the AFU lost many experienced soldiers among the approximately 10,000 killed or severely wounded.[7]

With proper training and sound tactical employment, the RGF could have preserved the mobilized convict units, turning them into hardened, combat-tested units for future operations. Similarly, the AFU could have used experienced soldiers to elevate the tactical proficiency of newly established units for early engagements in future operations.[8] Instead, the RGF and AFU squandered their combat power, complicating their ability to achieve desired outcomes.

Observations from U.S. Army Collective Training Events

During collective training events, U.S. Army units often demonstrate a relentless determination to accomplish the tactical mission at the expense of conserving combat power for subsequent operations. In corps and division warfighter exercises (WFX), opposing forces have reduced friendly units to 40 to 50 percent strength, forcing leaders to reassign tasks.[9] At brigade combat training center (CTC) rotations, commanders often commit their forces to the point of operational exhaustion. To ensure that commanders and staffs consider endurance when developing operational plans, U.S. Army collective training events should challenge units to preserve combat power while sustaining personnel, systems, and formations across the depth and breadth of the area of operations.

Implications to the U.S. Army

Facing either the pacing threat of China or the acute threat of Russia in a future large-scale combat environment, the U.S. Army may encounter a situation like the AFU's in the Russia-Ukraine conflict. China and Russia are likely to depend heavily on the quantity of resources, whereas the U.S. will rely on the quality of resources and their endurance to achieve desired outcomes. To be victorious, the U.S. Army must train as it will fight, with an emphasis on operational endurance. Commanders should consider including staff running estimates, preserving combat power, and reconstitution operations in select collective training events.

[5] Wright, George, BBC News, *Ukraine war: Heavy losses reported as battle for Bakhmut rages*, 13 March 2023, https://www.bbc.com/news/world-europe-64935449.
[6] Welling, Jack; Danylyuk, Oleksandr V.; Reynolds, Nick; RUSI, *Preliminary Lessons from Ukraine's Offensive Operations,* 2022-23, 18 July 2024, 11-12, https://www.rusi.org/explore-our-research/publications/special-resources/preliminary-lessons-ukraines-offensive-operations-2022-23.
[7] Ibid.
[8] Ibid, 13-14.
[9] Center for Army Lessons Learned observation.

Staff Running Estimates and Reconstitution Operations

Reconstitution operations demand deliberate planning. Units should incorporate reconstitution operations as a standing branch or sequel plan.[10] Staffs must constantly update their running estimates during the operations process, as running estimates reflect the status at a specific moment.[11] Units include projected losses in their sustainment running estimates to identify decision points that trigger the implementation of reconstitution plans.[12]

Training and evaluation outlines (T&EOs) are valuable yet misunderstood tools.[13] Standardized use of T&EOs to prepare and practice tasks in a common manner across the Army might improve integration and interoperability among units where a habitual working relationship does not exist.[14]

Though the Department of Tactics at the U.S. Army Command and General Staff College uses a correlation of force calculator for developing running estimates, the U.S. Army lacks a standardized tool to compare the relative combat power and estimate mission outcome between forces.[15] In 2020, the RAND Corporation proposed the development of a large-scale combat model to manage large amounts of data to produce combat potential values and forecast outcomes of engagements and operations.[16] Developing and managing such a model could benefit from the power of large-language machine learning and artificial intelligence. Until such a model is developed, staffs must rely on the Medical Planners Toolkit (MPTk) to generate casualty estimation along with requisite Class VIII (medical materiel) workload required for treatment. This is the only approved automated casualty estimation tool for echelons above brigade (EAB).[17]

[10] Army Techniques Publication (ATP) 3-94.4, *Reconstitution Operations*, 5 May 2021, 1-12.
[11] FM 5-0, *Planning and Orders Production*, 4 November 2024, C-9 - C-10.
[12] Army Techniques Publication (ATP) 3-94.4, *Reconstitution Operations*, 5 May 2021, 1-12.
[13] Leaders can find T&EOs to help train their staff sections on developing running estimates on the United States Army Central Army Registry at https://rdl.train.army.mil/catalog/#/search?search_terms=running%20estimates. Entering 'running estimate' into the search field results in generic and warfighting function-specific T&EOs to develop and maintain running estimates.
[14] The Center for Army Lessons Learned (CALL) has published a Running Estimate staff guide, available at: https://api.army.mil/e2/c/downloads/2024/09/06/fd35ce87/no-24-894-staff-processes-in-lsco-pt-2-running-estimates-crawling-when-we-need-to-run.pdf.
[15] Spulin, Dale; Green, Matthew; Infantry Magazine, *Demystifying the Correlation of Forces Calculator*, January-March 2017, 14.
[16] Reach, Clint; Kilambi, Vikram; Cozad, Mark; The RAND Corporation, *Russian Assessments and Applications of the Correlation of Forces and Means,* 20 April 2020, 135, https://www.rand.org/pubs/research_reports/RR4235.html.
[17] FM 1-0, *Human Resources Support*, 25 August 2021, 3-8.

Collective Training and Preserving Combat Power

Logistically constrained operational environments will require units to accomplish missions while preserving maximum combat power for future operations. Unfortunately, T&EOs do not include performance measures to assess a unit's ability to maintain relative combat power. T&EOs focus overwhelmingly on performance measures, rarely addressing measures of effectiveness to achieve a specific collective task proficiency rating. For example, in the standards to achieve a "Trained: T (Advanced Task Proficiency)" rating for 71-DIV-7120 Conduct an Attack and 71-DIV-7222, a commander could rate their unit a "T" even if the unit failed to accomplish the mission and was combat ineffective afterward. The unit only needs to have performed the task while:

"Incorporating the identified training environment; with 75 percent of unit leaders and 80 percent of Soldiers present for training; attaining 80 percent on performance measures, 100 percent on critical performance measures, and 85 percent on leader performance measures; and with an external evaluation."[18]

To assess their unit's ability to continue with its current or follow-on mission, commanders could develop a tool using the internal assessment section in Chapter 4 of ATP 3-94.4 Reconstitution Operations. Table 4-1 assigns criteria to determine the assigned mission manning (AMM) and the assigned mission equipping (AME) levels, and table 4-2 uses the AMM and AME levels to determine the assigned mission levels (A-level) rating.[19]

Table 4-1. Assigned mission manning and assigned mission equipping criteria[20]

Measurement	Level 1	Level 2	Level 3	Level 4
Assigned Mission Manning (AMM)	≥ 90-100 percent of mission required personnel and ≥ 85-100 percent of mission required senior grade personnel currently are available	≥ 80 percent of mission required personnel and ≥ 75 percent of mission required senior grade personnel currently are available	≥ 70 percent of mission required personnel and ≥ 65 percent of mission required senior grade personnel currently are available	<70 percent of mission required personnel or < 65 percent of mission required senior grade personnel currently are available
Assigned Mission Equipping (AME)	≥ 90-100 percent of mission required equipment items currently are available	≥80-89 percent of mission required equipment items currently are available	≥ 65-79 percent of mission required equipment items currently are available	< 65 percent of mission required equipment items currently are available

[18] T&EO 71-DIV-7120, *Conduct an Attack*, 9 October 2024, https://rdl.train.army.mil/catalog-ws/view/100.ATSC/5657F7B2-1E4A-44A7-8570-AE1344DBF37E-1469462554983/report.pdf. T&EO 71-DIV-7222, *Conduct a Defense*, 15 August 2023, https://rdl.train.army.mil/catalog-ws/view/100.ATSC/08B624E5-ADC7-42C4-9703-6C63D3F94B41-1469457180144/report.pdf.
[19] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021, 4-1 to 4-13.
[20] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021.

Table 4-2. Assigned mission levels (A-Levels)[21]

A-Level 1	A-Level 2	A-Level 3	A-Level 4
The unit is fully trained and possesses the resources required to undertake the assigned mission.	The unit is trained and resourced to undertake most of the assigned mission.	The unit is trained and resourced to undertake many, but not all portions of the assigned mission.	The unit requires additional resources or training to undertake the currently assigned mission; however, it may be directed to undertake portions of the assigned mission with the resources at hand.

Table 3 is a tool with which commanders can integrate the AMM, AME, and A-level ratings to determine an objective collective task proficiency rating. To determine the ratings, do the following:

- After completing a training iteration, compare the personnel and leadership available to those at the start. 'Available' may include those not evacuated because of injury and those returned to duty after minor injuries. Use the lower percentage to determine the AMM level.
- Similarly, compare the status of mission-essential systems remaining, including those that are mission-capable or field-level repairable, to those available at the beginning of the training iteration. Use this percentage to determine the AME level.
- To determine the A-level rating for a unit, take the lower of the AMM or AME levels.
- Based on the A-level rating, assign the following collective task proficiency:
  - A-1 and A-2 are Trained (T)
  - A-3 is Practiced (P)
  - A-4 is Untrained (U)

[21] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021.

Table 3. A-level to collective task proficiency[22]

		Assigned Mission Manning (AMM)			
		90 percent ≤ Msn Rqd or 85 percent ≤ Sr Grade Available **(A1)**	80 percent ≤ Msn Rqd ≤ 90 percent or 75 percent ≤ Sr Grade ≤ 85 percent Available **(A2)**	70 percent ≤ Msn Rqd ≤ 80 percent or 65 percent ≤ Sr Grade ≤75 percent Available **(A3)**	< 70 percent Msn Rqd or < 65 percent Sr Grade Available **(A4)**
Assigned Mission Equipping (AME)	90 percent < Msn Rqd Available **(A1)**	**TRAINED: T** **Advanced Task Proficiency**	**TRAINED: T** **Advanced Task Proficiency**	**PRACTICED: P** **Basic Task Proficiency**	**UNTRAINED: U** **Cannot Perform Task**
	80 percent ≤ Msn Rqd = 89 percent Available **(A2)**	**TRAINED: T** **Advanced Task Proficiency**	**TRAINED: T** **Advanced Task Proficiency**	**PRACTICED: P** **Basic Task Proficiency**	**UNTRAINED: U** **Cannot Perform Task**
	65 percent ≤ Msn Rqd = 79 percent Available **(A3)**	**PRACTICED: P** **Basic Task Proficiency**	**PRACTICED: P** **Basic Task Proficiency**	**PRACTICED: P** **Basic Task Proficiency**	**UNTRAINED: U** **Cannot Perform Task**
	< 65 percent Msn Rqd Available **(A4)**	**UNTRAINED: U** **Cannot Perform Task**	**UNTRAINED: U** **Cannot Perform Task**	**UNTRAINED: U** **Cannot Perform Task**	**UNTRAINED: U** **Cannot Perform Task**

[22] Vass, Steven, Center for Army Lessons Learned.

Adding the Rigor of Reconstitution Operations to Collective Training Iterations

Having developed a way for commanders to incorporate endurance into collective task proficiency ratings, they could also emphasize endurance through the increased training rigor associated with reconstitution operations. Currently, units often forgo the rigors of reconstitution operations during WFXs and CTC rotations, preferring to capitalize on training as organic units or units with habitual working relationships. To allow uninterrupted collective training with maximum available personnel and equipment, reconstitution during training often defaults to personnel and equipment returning to their organic units.

Unfortunately, because of limited resources, such as training time, commanders must prioritize on which tasks to focus.[23] To reflect the rigor expected during large-scale combat operations, selected training iterations could challenge units to integrate new or unfamiliar units, personnel, and equipment into their formations. Instead of returning units, personnel, and equipment to their organic units, units could use a combination of immediate reorganization, incremental regeneration, and sub-unit regeneration to replace losses in sister units. Immediate reorganization involves increasing combat power by shifting readily available assets, such as during "consolidation and reorganization on the objective."[24] Sub-unit regeneration integrates sub-units as complete units.[25] One can draw an example of this in training in Figure 1 through Figure 4. Figure 1 shows a notional tank company, Company A, participating in a brigade collective training event.

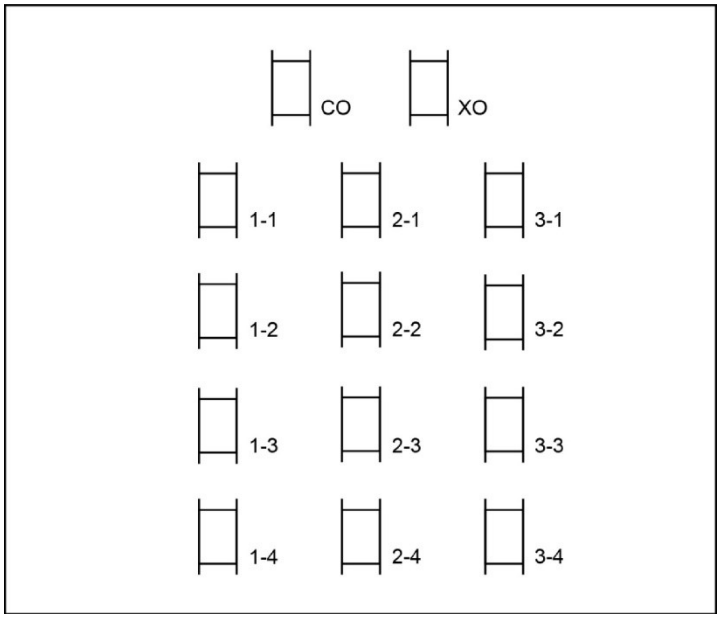

Figure 1. Notional tank company[26]

[23] Army Doctrine Publication (ADP) 7-0, *Training*, 29 April 2024, 2
[24] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021, 1-36.
[25] Ibid, 1-43.
[26] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021.

During the mission, Company A suffers four simulated losses of tanks with crews, as shown in Figure 2. Instead of having the losses return to their original positions, the exercise director increases training rigor by using individual replacements or sub-unit replacements across the brigade. Company A's tanks 1-1, 1-4, 2-2, and 3-4 do not return to Company A; instead, they fill individual replacement requirements in other companies. Company A must be prepared to receive either individual or sub-unit replacements.

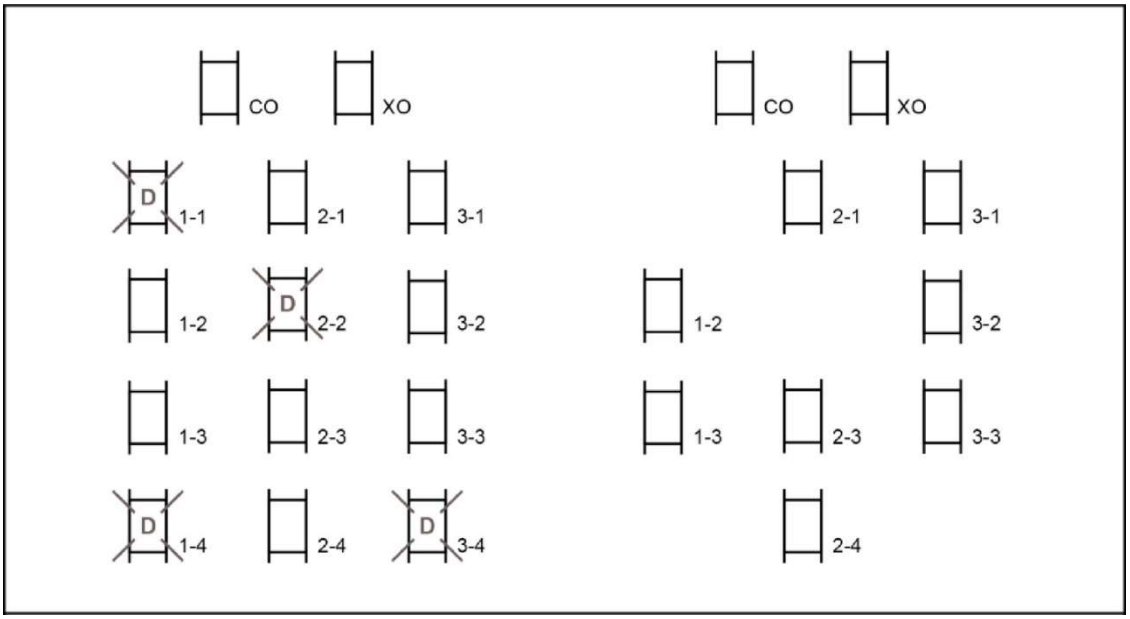

Figure 2. Notional tank company after contact[27]

[27] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021.

Figure 3 illustrates how Company A could integrate four replacement tanks with crews from various companies, ensuring the unit can continue its mission despite initial losses. This example underscores the importance of training for endurance and adaptability in maintaining combat effectiveness.

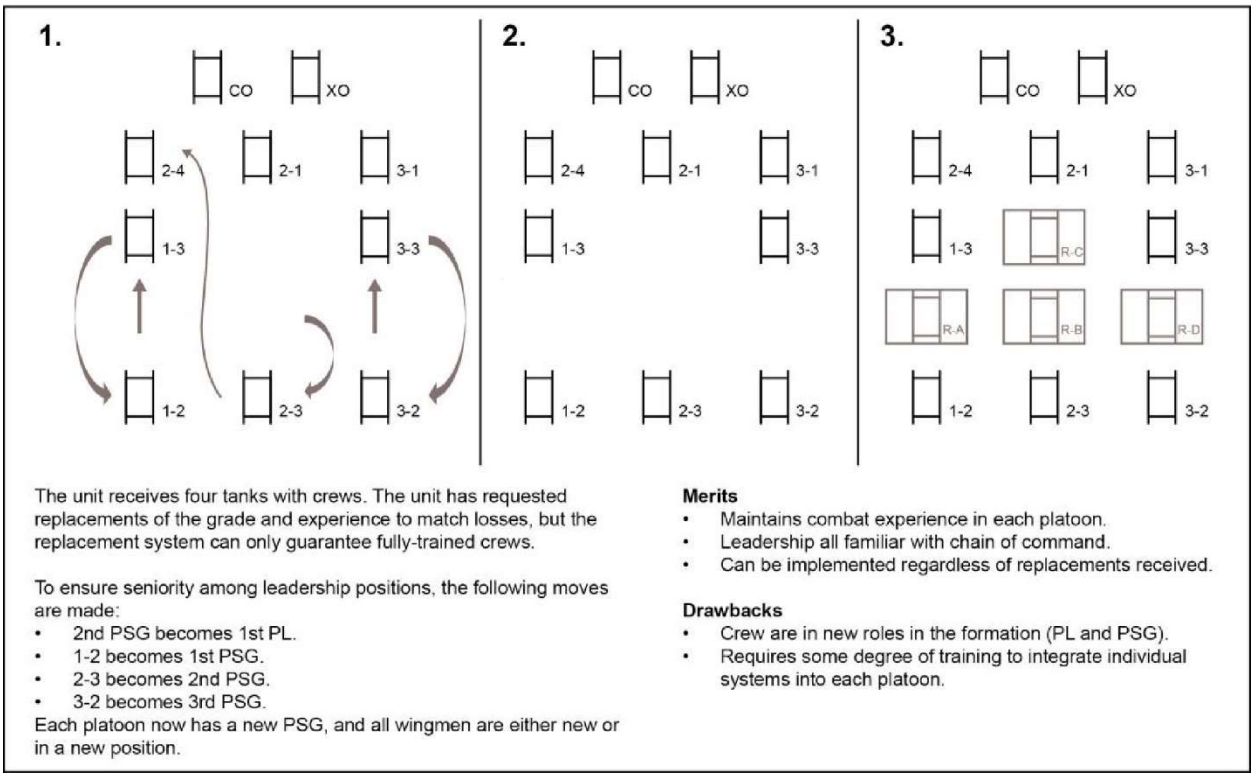

Figure 3. Integrating individual replacements[28]

[28] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021.

Figure 4 illustrates how Company A could integrate a fully trained platoon from another company. This highlights the flexibility and resilience required to maintain combat effectiveness even with significant personnel and equipment losses. Training exercises incorporating such scenarios can better prepare units for real-world challenges.

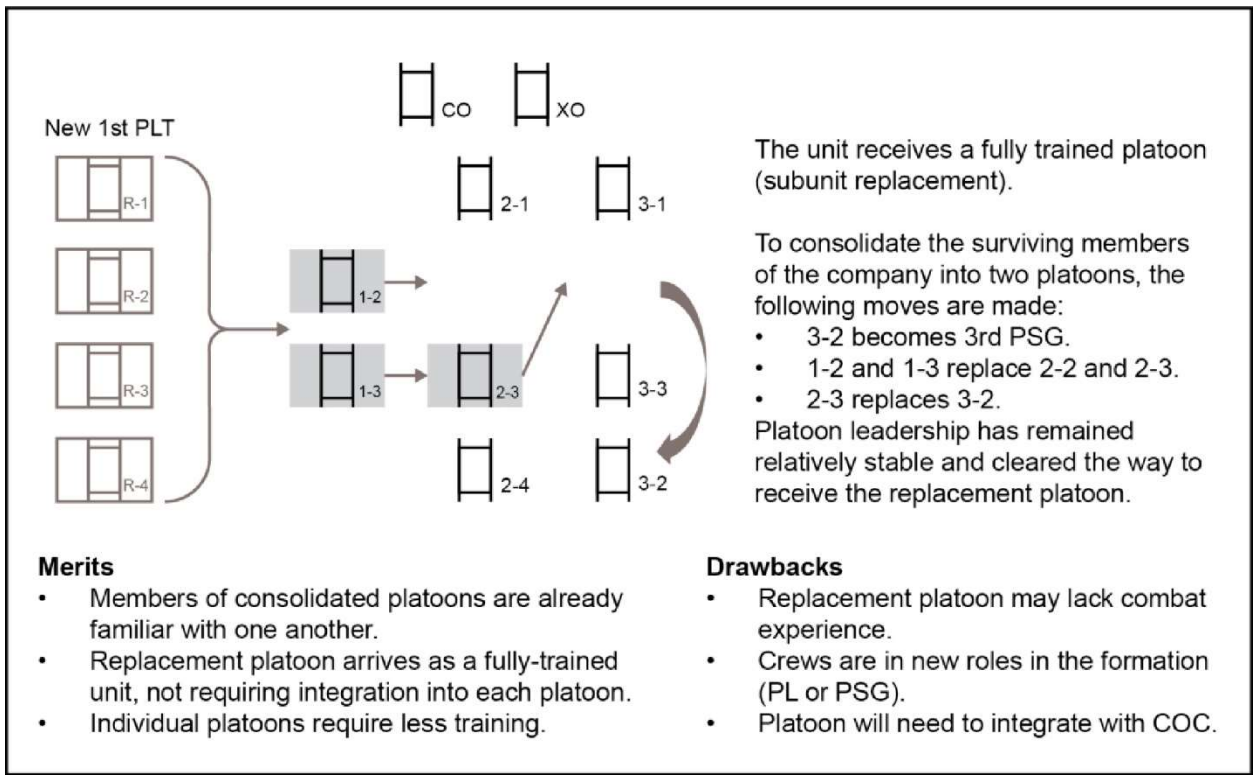

Figure 4. Integrating sub-unit replacements[29]

[29] ATP 3-94.4, *Reconstitution Operations*, 5 May 2021.

To increase the training rigor of larger units, exercise directors and commanders might use Table 4 to help determine the type of reconstitution operation that units should conduct. The table uses AMM and AME, employing a technique like that previously discussed to determine the collective training proficiency in Table 3.

Table 4. A-level and reconstitution level training[30]

		Assigned Mission Manning (AMM)			
		90 percent ≤ Msn Rqd or 85 percent ≤ Sr Grade Available **(A1)**	80 percent ≤ Msn Rqd ≤ 90 percent or 75 percent ≤ Sr Grade ≤ 85 percent Available **(A2)**	70 percent ≤ Msn Rqd ≤ 80 percent or 65 percent ≤ Sr Grade ≤75 percent Available **(A3)**	< 70 percent Msn Rqd or < 65 percent Sr Grade Available **(A4)**
Assigned Mission Equipping (AME)	90 percent < Msn Rqd Available **(A1)**	**REORGANIZE & CONTINUE THE MISSION**	**REORGANIZE & CONTINUE THE MISSION**	**REORGANIZE & MODIFY OR CHANGE MISSION**	**REGENERATION OR REDISTRIBUTION**
	80 percent ≤ Msn Rqd = 89 percent Available **(A2)**	**REORGANIZE & CONTINUE THE MISSION**	**REORGANIZE & CONTINUE THE MISSION**	**REORGANIZE & MODIFY OR CHANGE MISSION**	**REGENERATION OR REDISTRIBUTION**
	65 percent ≤ Msn Rqd = 79 percent Available **(A3)**	**REORGANIZE & MODIFY OR CHANGE MISSION**	**REORGANIZE & MODIFY OR CHANGE MISSION**	**REORGANIZE & MODIFY OR CHANGE MISSION**	**REGENERATION OR REDISTRIBUTION**
	< 65 percent Msn Rqd Available **(A4)**	**REGENERATION OR REDISTRIBUTION**	**REGENERATION OR REDISTRIBUTION**	**REGENERATION OR REDISTRIBUTION**	**REGENERATION OR REDISTRIBUTION**

[30] Vass, Steven, Center for Army Lessons Learned.

Conclusion

In conclusion, the prolonged stalemate in the Russia-Ukraine conflict highlights the critical importance of endurance in maintaining operational effectiveness. As U.S. Army units prepare for future large-scale combat operations against formidable threats, such as China or Russia, the ability to preserve combat power will be essential. To prepare for the most challenging conditions, the U.S. Army should prioritize operational endurance by integrating it into planning and operations, emphasizing the development and maintenance of accurate staff running estimates, training to conserve combat power, and increasing training rigor with reconstitution operations.

Leaders must always be mindful of the imperative of endurance and avoid squandering their Soldiers' lives, recognizing that the true test of endurance lies not in a single battle, but in the ability to sustain operations over time and ultimately achieve strategic objectives. This solemn responsibility is underscored by Lieutenant General Moore's poignant words in *We Were Soldiers Once... And Young*: "When it was over, the dead did not get up and dust themselves off and walk away. The wounded did not wash away the red and go on with life, unhurt. Those who were, miraculously, unscratched were by no means untouched."[31] These words serve as a stark reminder of the human cost of war and the importance of leaders making deliberate and informed decisions to conserve combat power and protect their Soldiers.

[31] Moore, Harold G.; Galloway, Joseph L.; Random House, *We Were Soldiers Once... And Young*, 1992.

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