Junior Engineer Officers Need Better Training

By First Lieutenant Tyler A. Skidmore

The war in Ukraine demonstrates that combat engineers are essential game changers in the glacially paced trench warfare of the modern battlefield. Ukrainian engineer squads and platoons are critical to reducing, breaching, and clearing trenches, mines, and other obstacles on the Russian front.[1, 2, 3] These combat engineers must also be proficient in fire and maneuver, as most of their work is done while actively under fire.[4] The U.S. Army should take note of what is asked of combat engineers in Ukraine and train its engineer forces accordingly. Additionally, under the Army 2030 force redesign, engineer assets will be held at the division level—meaning that high-level maneuver commanders will determine how to best task-organize engineer units, which could move as teams, squads, platoons, or even larger units.[5] Existing working relationships between combat engineer augmentees and their maneuver companies or battalions will likely garner less respect. To meet demands, the Army will need better trained and more dynamic and adaptable junior engineer officers than ever before.

The way that the U.S. Army Engineer Branch trains its newly commissioned engineer lieutenants must be reexamined in this new light. The 19-week Engineer Basic Officer Leader Course (EBOLC) does not meet its stated objective of producing graduates "with the technical and tactical knowledge and skills that are essential to success as a platoon leader."[6] The responsibilities of the Engineer Branch are too broad and its formations too diverse to gain proficiency in these subjects in such a short amount of time, and there are few engineer-specific Army schools available for junior officers to attend. To make matters worse, most engineer lieutenants do not attend any existing engineer-specific schools before they are sent to lead the force. By comparison, the responsibilities of infantry and armor lieutenants are narrower than those of engineers, allowing those Basic Officer Leader Courses (BOLCs) to more comprehensively cover the scope of a newly commissioned lieutenant's potential duties. Lieutenants in these branches can also generally expect a battery of career-specific post-BOLC schools.

The Army must begin treating young engineer officers more like maneuver officers are treated in introductory training. First, more thorough practical instruction on maneuver and engineer-specific skills is needed during EBOLC. Second, engineers need more engineer-specific post-EBOLC instruction. Follow-on schools must be a part of the training pipeline for engineer officers, just as they are for infantry and armor officers. The solution is not simple. Such changes would require that the Army reevaluate its priorities, restructure existing schools, develop new training programs, and provide more funding and resources to support those programs. However, the cost of inaction may be higher than that of making changes; engineers have an expansive mandate, and they need the tools to properly execute.

Serving as Jacks of All Trades

The primary role of junior engineer officers in large-scale combat operations is to provide mobility, countermobility, survivability, and general engineering support to their maneuver brothers and sisters on the battlefield[7] and, if the mission requires it, to be prepared to conduct maneuver operations themselves. The EBOLC program of instruction falls short of preparing lieutenants to meet this standard.

Theoretically, EBOLC provides engineer officers with professional indoctrination, infantry common core knowledge, combat engineer fundamental skills, familiarization with general engineering, and doctrinal expertise. However, blocks of instruction are presented at a breakneck pace, with little time to practice or refine these skills. Only 1 week each is spent on critical subjects such as small-unit tactics, demolition, bridging, horizontal and vertical engineering, construction, and project management. Only a single lesson is presented on important topics as convoy operations and the employment of heavy-track engineer vehicles. Instruction on mounted operations, mechanized breaches, and route clearance is very scant, and only 2 weeks are allotted for doctrinal concepts such as offense, defense, stability operations, and maneuver task force planning.

The knowledge base that engineer officers must possess is much broader than any other branch, forcing EBOLC to be a mile wide and an inch deep. An engineer officer must be a jack of all trades, fluent in combat engineering, general

engineering, fire and maneuver, and many more areas.[8] Furthermore, there are many vastly different engineer formations (sapper, construction, route clearance, bridging) that require a wide variety of skills.[9] As a result, junior engineer officers need more preparation for their day-to-day job than lieutenants in virtually every other branch. Thescopes of responsibility for officers of other branches, such as infantry and armor lieutenants, are narrower, allowing more time to train the fundamentals in their BOLCs.

I am not suggesting that EBOLC blocks of instruction be sacrificed. In the current form of the Branch, engineers must be good at everything. To adequately train new engineer lieutenants on such a diverse set of tasks and provide them with the repetition of necessary tasks to absorb the material and skills, the solution will need to include a longer EBOLC. While the current length of EBOLC is comparable to the length of infantry and armor BOLCs, much more ground must be covered for engineers. Additionally, maneuver lieutenants are often guaranteed to receive post-BOLC training, which is not true for engineer lieutenants.

Getting Back to Basics

Engineer lieutenants need more instruction and practice in engineer-specific disciplines during EBOLC. For example, more than 1 week should be dedicated to demolition and students should be given more opportunities to apply the techniques they learn in this block to field problems. Students should also execute more than one or two breaches during EBOLC field training exercises. Likewise, bridging and wet-gap crossing also deserve more than 1 week of instruction, as the planning and execution of such operations are some of the most crucial support functions that engineer officers can offer to maneuver elements. Students should be required to build obstacles to standard and learn to use high-mobility engineer excavators, bulldozers, and loaders—not just read about them and "understand" how they could theoretically be used.

Since most engineer lieutenants will join combat engineering and direct maneuver support units, EBOLC must include more maneuver instruction. This would require more than a 3- to 4-day block of instruction on patrolling, battle drills, movement formations, and the like. Each of these topics should be covered for closer to a week, with plenty of time for repetition. Familiarization with mounted patrolling should be included. Although engineers cannot dive as deeply into maneuver tactics as the maneuver branches do, many engineer leaders will be expected to execute maneuver tasks and should rightfully prepare to do so.

Sharpening Skills

If the rationale for the exclusion of in-depth maneuver training from EBOLC were that it is available at the Sapper or Ranger Schools, that would be understandable—if these schools were attainable for most EBOLC students who demonstrate the motivation and ability to complete them. However, in most cases, these schools are out of reach for students. EBOLC does offer a train-up program for the Sapper and Ranger Schools, but it rarely leads to slots for students who complete it. The burden of sending officers to these schools is typically passed to follow-on units. Additionally, only some officers will serve in infantry-centric units; many will lead bridging platoons (with only 1 week of training), light-equipment or engineer support platoons (with little more than a week and a half of training), and so on. Strategic leaders must discuss providing resources for follow-on schools as an expected part of introductory engineer officer training.

This is not a radical suggestion. As mentioned, infantry and armor lieutenants often attend more than one follow-on school (Ranger School, the Scout Leader Course, the Maneuver Leader Maintenance Course, the Stryker Leader Course) after their BOLC. The result is that those officers are far more equipped for the technical aspects of their jobs than their engineer counterparts are. Engineers need similar expertise, and their training pipeline must reflect this necessity.

As in maneuver branches, follow-on schools for engineers should be based on the type of unit in which the officer will serve. For officers headed to a sapper unit, Sapper School should be included the same way that Ranger School is included for virtually all infantry officers. Engineers that will post with Stryker or Bradley units ought to attend the Stryker or Bradley Leader Courses directly after completing EBOLC. Engineers who will work with scout or reconnaissance units should be sent to the Scout Leader Course or Reconnaissance and Surveillance Leader Course—or they should be offered the chance to volunteer for those courses. More slots to Ranger School should also be available to engineer officers directly after BOLC, as the Ranger School is an essential developmental tool for learning and appreciating the job of the infantry—a job that engineers may be expected to execute.

Opportunities for follow-on courses are necessary for two reasons. First, engineers need an in-depth knowledge about how their maneuver formations operate and how their equipment works in order to execute their support function in a way that other enablers do not. Second, there is a much more direct expectation that engineers—not any other support function—will complete the maneuver job if the situation requires it.

For specific engineer tasks such as bridging, construction, and route clearance, I suggest that entirely new schools be established to account for training shortfalls. A "Bridging Leader Course," a "Construction Leader Course," or a "Light Equipment Leader Course" would benefit future leaders of such formations. If establishing a new school is not possible, then care must be taken to ensure sufficient training during EBOLC. Considering the strong emphasis on urban combat in military circles today, the fact that the Urban Breachers Course at Fort Leonard Wood, Missouri, was shut down is perplexing. Other courses, such as the Route Reconnaissance Clearance Course, are also shuttering due to the Army's shifting priorities.[10] This training would be

very useful to young officers who may be approached as subject matter experts—even with little actual training. A possible solution to these problems is that engineer leaders who prove themselves especially capable could attend courses meant for U.S. Marines or special operations forces (such as the Master Breacher Course) before being sent to their units.

Kicking the Can

The ideal time for advanced training is immediately after successful completion of EBOLC. It is unreasonable for the Army to entirely shunt the responsibility for sending officers to schools on to their receiving units because this is what often leads to lieutenants being denied such opportunities. Units are forced to conduct cost-benefit analyses to determine who to send to what school. Most do not have the money to freely send their officers to the schools they need or are completely at the mercy of the training calendar. Those officers who are "needed on staff" or are immediately placed into platoon leader positions are usually not sent.

However, the Engineer Branch has limited resources. If the limitation that prevents these suggested reforms is a lack of funding, then the Branch must raise this issue with strategic leadership. While the present arrangement may have previously worked, the modern environment reveals that the Army must prioritize the development of engineer leaders—potentially at the expense of readiness elsewhere.

It is also worth considering whether more radical solutions are necessary. Perhaps splitting combat engineers and general engineers into two separate Army branches, each with its own BOLC training priorities and pipelines, would reduce the sheer volume of material that both groups would need to master. These branches could then be merged back together following the Captain's Career Course in the same way that the Ordnance, Transportation, and Quartermaster Branches are merged into the Logistics Branch following their Captains Career Courses. However, if the Engineer Branch is to retain its current form, then a serious overhaul is necessary. EBOLC must provide more in-depth instruction for students, and the EBOLC instruction must be followed by additional training.

The modern battlefield has demonstrated that producing trained and flexible engineer leaders is not optional. One way or another, the U.S. Army must prioritize the development of its engineer officers—victory in modern war may depend on it.

Endnotes:

[1]"Sappers Risk Their Lives to Win Ukraine Back Inch-by-Inch," *The Economist*, 9 July 2023, <https://www.economist.com/europe/2023/07/09/sappers-risk-their-lives-to-win-ukraine-back-inch-by-inch>, accessed on 30 October 2024.

[2]Parakash Panneerselvam, "Russian Trenches Major Challenge for Ukraine's Counter Offensive," *Indian Defense Review*, 1 June 2023, <https://indiandefencereview.com/russian-trenches-major-challenge-for-ukraines-counter-offensive/>, accessed on 30 October 2024.

[3]" 'Definitely a Trap': Ukraine's Sappers Face New Dangers," *AFP*, 10 January 2024, <https://www.france24.com/en/live-news/20240110-definitely-a-trap-ukraine-s-sappers-face-new-dangers>, accessed on 30 October 2024.

[4]"How Ukraine's Sappers Pierced Russian Defensive Lines," *Times Radio*, 12 September 2023, <https://www.youtube.com/watch?v=ceTMpR00ehc>, accessed on 30 October 2024.

[5]"U.S. Army's Way Forward: 5 New Division Organizations," *Battle Order*, 11 April 2023, <https://www.battleorder.org/post/waypoint-divisions>, accessed on 30 October 2024.

[6]"Engineer Basic Officer Leadership Course (EBOLC)," U.S. Army, Fort Leonard Wood website, <https://home.army.mil/wood/units/tenants/USAES/Orgs/1stENBDE/554thENBN/EBOLC>, accessed on 30 October 2024.

[7]Field Manual (FM) 3-34, *Engineer Operations*, 18 December 2020.

[8]Ibid.

[9]Army Techniques Publication (ATP), 3-34.10, *Engineer Platoons*, 2 February 2021.

[10]Amanda Sullivan, "The End of an Era: R2C2 Course Concludes, CEHC to Focus on New Missions," 30 September 2021, U.S. Army website, <https://www.army.mil/article/250767/the_end_of_an_era_r2c2_course_concludes_cehc_to_focus_on_new_missions>, accessed on 30 October 2024.

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