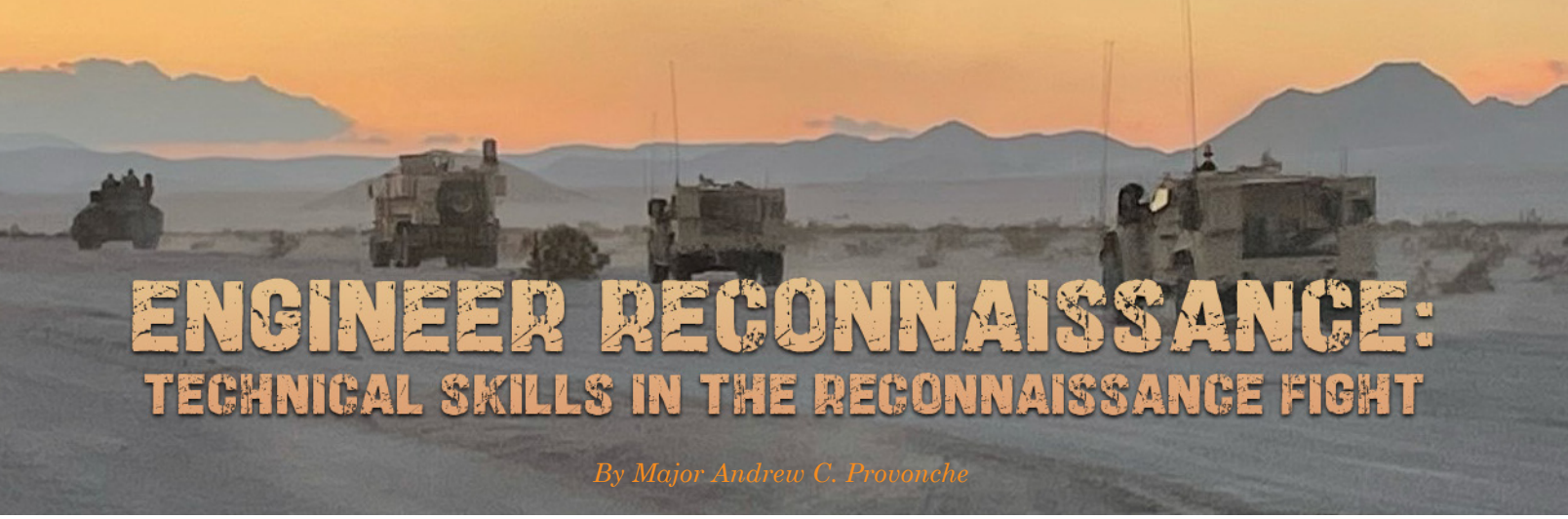

ENGINEER RECONNAISSANCE:
TECHNICAL SKILLS IN THE RECONNAISSANCE FIGHT

By Major Andrew C. Provonche

The purpose of engineers on the battlefield is to enable maneuver commanders to accomplish their missions while simultaneously protecting their forces. This constitutes a broad scope of actions that can be both awe-inspiring and fear-inducing. As war has continued to evolve, certain tasks within the engineer scope may have atrophied and may now need to be relearned and revalidated. One such task involves the ability of combat engineers to successfully conduct reconnaissance while supporting tactical operations. Referencing lessons learned at the National Training Center (NTC), Fort Irwin, California, this article examines how engineers must reinvigorate their ability to train and outfit engineer reconnaissance teams (ERTs) in support of large-scale combat operations.

Note: *For the sake of anonymity, names and timeframes have been omitted from the following vignette; however, the vignette was developed from more than 10 years of experience, with first-hand accounts from observers, coaches, and trainers at NTC.*

It was a chilly winter night and getting colder by the minute. As soon as the sun had set, the temperature had begun to drop and the Santa Ana Winds began their nightly trek across the Mojave Desert. The sky was crystal clear and offered an exceptionally bright view of the enemy obstacles near Red Lake Pass at NTC. Soldiers from a brigade combat team cavalry squadron methodically moved across the terrain to get a closer look. Attached to the squadron was a small team of engineers (under operational control of the brigade engineer battalion [BEB]) tasked to identify the scope and depth of the enemy obstacles. Hopefully, the information retrieved by the team would help shape the eventual breach of the obstacles within 24 hours.

Sergeant First Class Jones was the lead engineer for this operation. He had been an ERT member several times during his military career and had multiple NTC rotations under his belt. He had also been part of a route clearance platoon (RCP) on more than one occasion. During the previous couple of years, the BEB RCP had seen less use as a deterrent in conventional fights; in recent iterations, the RCP had task-organized squads into ERTs to keep them implemented and on the battlefield to support reconnaissance missions.

Sergeant First Class Jones had experienced one of his first assignments as a member of an ERT when he was just a junior Soldier in a BEB. He had been part of a rotational unit in which three ERTs had been created—each with three Soldiers under operational control of the cavalry troops to support reconnaissance missions in a hybrid threat environment. However, the cavalry troops did not utilize the ERTs as intended; instead, they placed the ERTs into javelin fighting positions for the duration of the rotation and failed to use their technical skills to support reconnaissance operations.

Six years later, Jones, along with most of his rotational RCP, was under operational control of another cavalry troop. Many of the RCP members were not well-versed in the doctrinal requirements for conducting engineer reconnaissance, nor were they equipped to conduct the mission. The platoon was to have been provided pre-position route clearance equipment and one medium mine-protected vehicle to serve as a command and control vehicle. The route clearance equipment was not received, and the unit was forced to operate from the medium mine-protected vehicle and a single organic Buffalo mine-protected vehicle. The RCP was also equipped with M24 binoculars and night vision devices so that they could traverse the battlespace at night. The terrain consisted of sandy hills, which the medium mine-protected vehicles and M1151 high-mobility, multipurpose, wheeled vehicles were able to traverse with minimal difficulty. However, the Buffalo (with its dedicated purpose to support route clearance missions) routinely got stuck, requiring external recovery assets for rescue. The engineers never got into the fight and, therefore, never had an opportunity to conduct their tasks.

Sergeant First Class Jones used the lessons he previously learned to prepare for the current rotation. With support from his company leadership, training focus was adjusted away from route clearance to concentrate instead on engineer reconnaissance. The RCP had trained on the operation of Joint Light Tactical Vehicles (JLTVs); the use of laser range finders in the Instrument Set, Reconnaissance and Surveying (ENFIRE) kits; and the development of doctrinal reconnaissance reports. It had also adapted the doctrinal reconnaissance reports so that they could be reported via the Joint Battle Command–Platform and frequency modulation radio.

Once the RCP arrived at NTC, it was broken down into two ERTs, which were then integrated with the cavalry squadron to identify enemy obstacles during the rotation. The teams initially used their JLTVs to maneuver and keep up with the cavalry squadron. However, 4 days into the rotation, the JLTVs were damaged and unable to continue for the duration of the rotation. The engineers were then integrated into the M2 Bradley dismounts of the cavalry squadron. This allowed the engineers to remain at the front with the scouts and to provide reports and information concerning the type, depth, composition, and intent of the obstacles on the ground to the brigade headquarters. The ERTs were used sparingly throughout the rotation; however, when they were used, the reports they generated helped provide clarity to the brigade staff prior to breaching operations. Sergeant First Class Jones was on the ground when his Soldiers first obtained visual confirmation of the obstacles at Red Lake Pass. They compiled their reports accordingly and sent their recommendations through the squadron and BEB to ensure that the information was properly analyzed at the brigade level. As a result, the maneuver forces accomplished a very successful breach the following day.

A mine-resistant, ambush-protected vehicle gets stuck while attempting to traverse a semi-improved trail at NTC.

Engineer reconnaissance is "a focused application of special or unique capabilities supporting reconnaissance, and it is applicable to all forms of reconnaissance."[1] It is important to note that engineer reconnaissance is not a form of reconnaissance; instead, it is a focused application of technical capabilities supporting reconnaissance and is applicable to all forms of reconnaissance.[2] An engineer can conduct reconnaissance in two capacities—tactical and technical. When tasked to support reconnaissance operations, engineers task-organize into ERTs. Their focus is on the collection of engineer-specific information including, but not limited to, obstacles, bypasses, infrastructure, and river-crossing sites. Doctrinally, ERTs augment reconnaissance forces to help provide engineer expertise to support mobility and countermobility operations. Enemy obstacle intelligence is often incomplete or nonexistent; therefore, integrating engineers on the ground with those involved in the intelligence, surveillance, and reconnaissance plan helps fill gaps that planners encounter.[3] Closing these gaps in the battlespace enables commanders to make more informed decisions and can facilitate information collection that may be relevant to shaping operations, such as locating support-by-fire positions and covered and concealed routes to the points of breach. This often omitted or unrefined information then gets passed down from higher headquarters to the units conducting the breach.

ERTs are tools that are available to commanders to help lift the fog of war, but they are seldom used effectively when implemented. Numerous measures can be taken to address this problem. The following recommendations stem from NTC rotational units during the past 10 years and from what observers, coaches, and trainers witnessed during that time:

- First, engineers should implement changes to their modified tables of organization and equipment—changes that would enable underequipped Soldiers to conduct reconnaissance in a mechanized fight. The ease of using RCP equipment in support of the ERT mission leaves engineer Soldiers without the proper equipment. To keep up with cavalry troops, engineers should adjust the rolling stock intended for use in large-scale combat operations fights. For example, the Buffalo—with its rear-mounted gyroscopic camera used as an early detection system—has consistently demonstrated significant difficulties traversing terrain other than improved roads. Engineer leaders should be willing to accept that risk for the RCP mission and allow ERTs to adjust the equipment to enable them to traverse the battlefield. Equipment such as JLTVs, M1151s, and medium mine-protected vehicles have allowed ERT Soldiers to stay with the cavalry troops and traverse more inhospitable terrain. Also, most of the ERT Soldiers have only basic M24 binoculars; however, over-the-counter range finders can be used to help determine the location, frontage, and width of enemy obstacles, while the new M25A1 binoculars have better magnification and offer a better field of view than the older M24 models. ERTs may be able to successfully perform the skills on which they have been trained—but if they are unable to get to the battlefield and conduct reconnaissance with the proper equipment, those skills are moot.
- Second, engineer organizations must understand the importance of with whom ERTs are integrated. Over multiple rotations, ERTs have integrated either with cavalry squadrons or with scout platoons of their maneuver brethren. The integration decision should be based on the priority of efforts in the reconnaissance fight. When ERTs assume a command relationship with cavalry squadrons, their purpose and focus are to answer the commander's critical information requirements at the brigade level. This can be in support of combined arms breaches or to help determine maneuver corridors for brigade assets. However, when they integrate with maneuver battalions, their focus narrows to support operations in their engagement area or avenue of approach. They are then utilized to enable the maneuverability of the forces of that battalion. Again, the choice is dependent on the needs of the brigade, and engineers must be ready to respond accordingly.
- Finally, the willingness of engineers to adjust their training focus can be addressed in the short term. Within the BEB, engineer companies list Task 05-CO-0410, "Conduct Reconnaissance Planning" as a mission-essential task and supporting collective task that individual platoons can conduct. However, the training itself should require coordination with cavalry troops and other key information/intelligence personnel to determine—
  - How to use eyes-on information to help shape the battlefield.
  - How to integrate with units and understand their standard operating procedures prior to arriving at NTC.
  - How to develop unique and realistic training scenarios that allow engineers to properly train on specific tasks.

Once these questions are answered, the BEB and cavalry troops will be able to truly integrate their capabilities and adjust their shortfalls.[4] With the losses of BEBs and the refocus of training efforts on large-scale combat operations, engineers are more closely scrutinized as they attempt to get to the fight and conduct their missions to standard.

The ability of engineers to adapt to current and future battlefields has always been their strength. They continue to conduct reconnaissance when supporting technical inspections of infrastructure. However, as evidenced at NTC, the fog of war stifles the ability of brigade commanders to coordinate the most complex operations (combined arms breaches) without sufficient knowledge of the obstacles and enemy forces present at breach sites. In the past, rotational units have had little to no information on the actual size, depth, and composition of the obstacles at intended breach points, leading to the destruction of their assets before they get to the breach site or rendering them unprepared to execute the breach. Fortunately, with the technology and systems now in place at NTC, units can create environments in which to conduct breaches and demonstrate the significant costs to rotational units.

Units that are selected for ERTs at NTC are currently undertrained and ill-equipped to execute their mission in a mechanized large-scale combat operations fight. But ERTs are tools that can potentially help to clear the fog of war with on-the-ground assessments from technical experts. To continue to be a combat force multiplier, engineers must ensure that the proper training and equipping of combat power occur before arriving at NTC and the battlefield.

Endnotes:

[1]Army Techniques Publication (ATP) 3-34.81, *Engineer Reconnaissance*, 1 March 2016.

[2]Ibid.

[3]Center for Army Lessons Learned Handbook No. 17-11, *Brigade Engineer Battalion and BCT Integration: Lessons and Best Practices*, April 2017.

[4]Center for Army Lessons Learned Bulletin No. 17-28, *CTC Trends FY2016,* October 2017.

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