Engineer Qualification Tables:
A New Training Methodology

By Second Lieutenant Patrick O. Corr

In March 1997, the 10th Engineer Battalion at Fort Stewart, Georgia, conducted its annual Skybridge Focus field training exercise in preparation for deployment to the National Training Center. During this exercise, squads were qualified using Table VIII from the battalion's newly developed Engineer Qualification Tables (EQTs).[1] Engineer equipment crew certification was integrated into the EQT sapper training. This was the first time the unit used this qualification method, and we saw dramatically improved results.

Inspired by the success of armor and infantry gunnery tables (and previous combat engineer vehicle [CEV] gunnery tables) and the need for an organized method of sapper qualification, the 3rd Infantry Division Engineer Brigade introduced EQTs to the brigade's engineer battalions. These tables link existing programs such as the MTP, marksmanship training, and engineer battle drills into a sequential battle-focused qualification process. They build from individual tables through platoon live-fire tables and roughly correspond to armor and infantry gunnery tables.

The proficiency of squads and platoons was previously tested through exercise evaluations (EXEVALs) based on fragments of the mission training plan (MTP) and local drills. However, these EXEVALs were not well standardized or systematically resourced, tasks were not arranged or tested in an ascending degree of complexity, and individual tasks were not specifically grouped to be practiced before squad or platoon tasks. No program exists to justify a standard package of resources that can be accurately projected through the Standards-in-Training Commission (STRAC). Adequate amounts of ammunition and demolitions are rare, and most posts do not have areas large enough for demolitions training. There is no priority for logistical requirements for training engineers, because we do not have a system that speaks the same language to our maneuver brothers. These conditions do not facilitate quality engineer training. All this changes when individual units are given priority, because they train under a system of qualification tables recognized by installation and unit commanders.



During Exercise Skybridge Focus, soldiers are rated on how quickly they successfully reduce a surface-laid minefield.



Combat engineers construct a wire obstacle.

Execution of EQT VIII

Exercise Skybridge Focus was the test bed for EQT VIII, and it provided significant evidence of EQT success. Eighteen squads from six line platoons were qualified on EQT VIII tasks. Four of those squads received 100 percent first-time GOs and were rated as "Killer Squads."

Sapper squads and assault and obstacle crews performed mobility, countermobility, or survivability tasks each day. The training was set up using scenario-based lanes and grouped into drills based on mobility, countermobility, and survivability. Each line company set up and evaluated a portion of the lanes based on the EQT and crew certification tasks.

Throughout the week, mobility drills were run and evaluated by A Company. Individual lanes were planned by the company, and internal leadership served as observer/controllers for each lane. It is important that NCOs provide input concerning lane planning, because their squads are being trained and evaluated. The mobility lane included a combination of squad drills and crew certification tasks. The tasks were not part of the EQT but complemented the sapper lane training well. They provided an excellent opportunity for the battalion to certify all armored combat earthmover (ACE), armored vehicle-launched bridge (AVLB), small emplacement (SEE), and Volcano operators. Each drill lasted approximately three hours. The following paragraphs briefly describe each drill and certification task :

Mobility Table VIII Drills

- **Clear a footpath with a bangalore torpedo.** Since this drill requires live demolitions, a three-hour dry rehearsal was conducted. Each squad was first certified on inert demolitions.
- **Breach a surface-laid minefield, dismounted.** Squads were rated on speed and the successful completion of a dismounted breach of a surface-laid minefield while using live demolitions. This drill was performed on the same lane as the bangalore breach to simulate a complex obstacle and on terrain where such obstacles might be emplaced (not the demolitions range).
- **Conduct minesweep operations.** Minesweeping is a lost art, and this drill proved to be extremely challenging. We found that doctrinal rates for minesweeping are twice as fast as those normally achieved on the ground. Four to five hours were required to properly execute this drill.

Mobility Crew Certification Tasks

- **Proof a vehicle lane using an ACE.** This task requires significant operator training before certification because herringbone operations are a challenge for operators.
- **Reduce an antitank ditch.** This lane was very successful. We used the same ACEs to reconstruct the antitank ditch after they reduced it. A maintenance team should be kept on site when digging with ACEs, because one downed ACE can bottleneck the crew certification lane.
- **Defeat a wire obstacle.** We seldom use this task at the NTC, but it can be very effective and has minimal impact on the ACE.

B Company executed the countermobility lane. They provided evaluators and did the planning for four EQT drills

and three crew certification tasks. Each lane lasted three hours except for the antitank ditch lane, which lasted six hours.

Countermobility Table VIII Drills

- **Construct a wire obstacle.** This is an old staple for combat engineers. Every squad qualified at night using double the normal time. Nearly all of the squads received first-time GOs.
- **Create a hasty road crater.** Live demolitions were used on this lane. To add realism, the operation was conducted on a tank trail, not a range. Because a nonstandard area was used for demolitions, all entries to the area were blocked. Additionally, the lane officer-in-charge coordinated use of an ACE to fill the craters after each squad went through. A dry-fire rehearsal of this drill was conducted before it was executed with live demolitions. This helped ensure safety and squad success since not enough demolitions were available to retrain with live demolitions.
- **Emplace a row in a deliberate minefield.** Inert mines were used during this task. This is an easy drill to set up, and the squads performed it proficiently.
- **Emplace a nuisance minefield with the modular pack mine system (MOPMS).** The 10th Engineer Battalion used the MOPMS for this drill since it is a critical task that supports our mission essential task list. This task is very technical and required the most retraining. It was most responsible for squads falling short of obtaining "Killer Squad" status.

Countermobility Crew Certification Tasks

- **Emplace and mark a Volcano minefield.** Our crews were certified, but we encountered problems with maintaining the Volcano. Operators must perform preventive maintenance checks and services on the racks as well as the vehicle to help prevent the Volcano from going down during certification.
- **Construct a tank ditch.** All ACE operators were certified. A lot of digging is involved, which presents ideal conditions for an ACE

10th Engineer Battalion Engineer Qualification Table Program

EQT training is conducted in three phases: basic (individual), intermediate (squad), and advanced (platoon).

The *basic* phase, Tables I-IV, establishes the lowest level of sapper skills and culminates with weapons, mines, and demolitions qualifications. These are stand-alone events involving sapper teams or individual soldiers. This training is normally executed during "sergeants' time," range weeks, demolition ranges, and other unit training.

The *intermediate* phase, Tables V-VIII, builds on the skills developed during the basic phase. This phase develops team and squad skills and culminates with a battle drill certification and live-fire qualification course.

The *advanced* phase, Tables IX-XII, develops platoon coordination and execution. It culminates with a platoon qualification course for both offensive and defensive scenarios.

The following tables are included in the EQT Program:

Table I - *Leader Certification.* 12B NCOs and line platoon leaders are certified in mines and demolitions within 90 days of their assignment to the unit.

Table II - *Individual and Crew Certification (Inert).* Squad leaders conduct individual training on mines and demolitions using inert training devices. Individuals must be certified before Table IV training is conducted.

Table III - *Individual and Crew Weapons Qualification (Live).* Squad leaders conduct preliminary marksmanship instruction for individual and crew-served weapons, and squad members qualify with their assigned weapon.

Table IV - *Mine and Demolitions Qualification (Live).* Companies certify squads on mine and demolitions training using live mines and demolitions.

Table V - *Squad Battle Drill Training.* Squads train on seven drills: construct a wire entanglement; create a hasty crater obstacle with explosives; emplace a row in a minefield; emplace a point minefield; breach a surface-laid minefield, dismounted; clear a footpath with a bangalore torpedo; and conduct minesweep operations.

Table VI - *Squad Battle Drill Certification.* The platoon leader evaluates and certifies squads on the seven sapper drills based on Table VIII conditions without live ammunition. Squads will not execute Table VII until they are certified by the platoon leader.

Table VII - *Squad Battle Drill Qualification Course (Dry Run).* Squads execute sapper battle drills in a tactical scenario using blank ammunition and realistic demolition-effects simulators. Tasks are performed on terrain similar to the training area used for live certification.

Table VIII - *Squad Battle Drill Qualification Course (Live).* Squads execute sapper battle drills in a tactical scenario using live ammunition and demolitions and inert mines. The company commander evaluates and certifies squads. Additionally, all ACE, AVLB, SEE, and Volcano crews are certified on their equipment.

Table IX - *Platoon Battle Drill Training.* The platoon trains on six tasks: conduct an in-stride breach with a MICLIC, conduct an in-stride breach dismounted, establish a mine dump, emplace a tactical minefield, emplace wire entanglements, and site and mark a Volcano minefield.

Table X - *Platoon Drill Certification.* The company commander evaluates and certifies the platoon on six platoon drills without live ammunition or live demolitions.

Table XI - *Platoon Drill Qualification Course (Dry Run).* The platoon executes the drills in a tactical scenario using blank ammunition and demolition-effects simulators. Tasks are performed on terrain similar to the training area used for live certification.

Table XII - *Platoon Drill Qualification Course (Live).* The platoon executes the drills in a tactical scenario using blank ammunition, live demolitions, and inert mines. The battalion commander evaluates and certifies the platoon.



The 10th Engineer sappers complete the breach.

breakdown. Make sure a maintenance team is on site to repair ACEs.

- **Construct a tank berm.** This lane is very intensive and requires a maintenance team on site.

Survivability Table VIII Drills

The survivability lane did not have any Table VIII drills but concentrated on key tasks that directly supported crew certification—a combination of survivability and force protection tasks. D Company planned and executed this lane. All the company nuclear, biological, chemical (NBC) NCOs were attached to D Company, headed by the battalion NBC NCO, to run a complex NBC lane. The line squads executed two lanes lasting two hours each. The first lane was centered on bivouac force protection, while the second lane was an NBC lane. The crew certification lanes lasted four hours each.

Survivability Crew Certification Tasks

- **Construct a fighting position for the M1 with an ACE.** Again, a maintenance team must be on site to conduct repairs.
- **Construct a modified two-tier M2 position with an ACE.** Due to the similarity to Lane 1, the same site and observer/controller were used.
- **Construct crew-served fighting positions with the SEE.** This lane was successful, and all operators were certified.

Sapper Drills

These drills are not a part of Table VIII but provide direct support.

- **Conduct NBC skills procedures.** This training is necessary for every soldier. Squads conducted dismounted movement and performed unmasking procedures with and without an M256 kit. Each squad faced several different NBC scenarios with realistic effects. Most soldiers said they wanted more NBC training conducted this way.
- **Perform bivouac procedures.** During this lane, each squad performed multiple tasks ranging from practicing camouflage techniques to constructing battle positions, occupying a squad sector and employing an M8 alarm, setting up wire communications, and preparing range cards and sector sketches.

Training Success

Skybridge Focus proved the effectiveness of EQT VIII. The EQTs are an excellent way to efficiently measure sappers' proficiency and resource training. During the quarterly training brief before Skybridge Focus, the 3rd Infantry Division commander saw what the resource requirements were for the EQT program and that the normal engineer Standards in Training Commission (STRAC) did not support those requirements. Since no training area supported this lane training, he gave instructions to find suitable real estate on Fort Stewart. The G3 was directed to provide real estate and ammunition support to the maximum extent possible. Because the EQTs are similar to gunnery tables, the commander understands their importance and supports changing future STRAC allocations. He also supports constructing an area to conduct the EQTs.

The 10th Engineer Battalion was extremely successful with this new approach and significantly improved training development in preparation for the NTC. The organization of the tables yields a solid foundation for instructing and evaluating soldiers, squads, and platoons. Each soldier trained with the EQTs is fully capable of performing all sapper tasks to standard. The EQTs proved invaluable throughout our recent NTC rotation. They are a great tool for both Active and Reserve Component units.

Endnote:

[1] The battalion developed these qualification tables (shown on page 30) for their heavy engineer unit. During the second quarter of FY98, the U.S. Army Engineer School will publish a training circular with qualification tables covering all combat engineer units.

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