The Light Task Force Engineer

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Route clearance in restricted terrain is one of the most difficult and most common tasks a light engineer platoon will perform.

With the fast operating tempo of today's Army, new platoon leaders must "hit the ground running." For those fortunate enough to be in light, airborne, or air assault units, being a platoon leader is only part of the job. They must also fill the role of task force engineer for the infantry battalions they support, which is a full-time job in itself.

To help new platoon leaders perform their task force engineer missions as painlessly as possible, I have compiled lessons learned and suggestions garnered from the Joint Readiness Training Center (JRTC), the National Training Center (NTC), and other exercises I supported as a task force engineer.

The following information addresses how to prepare for an upcoming mission, staff planning, the engineer annex, and the tactical operations center (TOC). It is followed by three of the most common missions that engineers support. This article is not intended to replace doctrine or address all engineer missions. It is one soldier's perspective.

Mission Preparation

Proper preparation will save time later. For a field exercise, learn the scenario by reading everything distributed by the S2 and S3. Visit the infantry unit you support to get more information. Know your unit's capabilities. Use book times for obstacle preparation and route clearance only until you have worked with the platoon long enough to determine how much time these tasks actually take.



Soldiers in the TOC at JRTC prepare for an upcoming mission.

Rehearse staff planning skills by working with the infantry in both staff and field exercises. Staff rapport is more a function of your desire to help and learn than your technical knowledge. Obtain a copy of the infantry battalion's tactical standing operating procedures (SOP) and understand how they operate. To communicate effectively, understand your battalion, brigade, and division SOPs. Know the staff planning sequence (mission analysis, course of action development, etc.), your requirements to support the planning process at each stage, and what other staff officers are doing. FM 101-5, *Staff Operations*, and the Command and General Staff College manual, ST-101-5, *Command and Staff Decision Processes*, describe the sequence of tasks. Include the platoon sergeant and squad leaders in the planning process by bringing them to staff exercises with the infantry. Meet the people you support to build a better working relationship and a more cohesive team.

Once you know the basic scenario and your requirements, conduct battlefield preparation and prepare a shell for the engineer battlefield assessment (EBA) and engineer annex before the exercise begins. Prepare the written requirements as soon as possible to allow more time for troop-leading procedures once on the ground. After completing preparation and rehearsals, begin the actual planning process.

Planning and Coordinating

The staff sets the conditions of success for every mission through the PCISE (plan, coordinate, integrate, synchronize, execute) process. Execution is the culmination of all previous events, and following the PCISE process improves the likelihood of a successful operation.

Intelligence Preparation of the Battlefield (IPB). The S2 starts the planning process by developing the IPB. Task force engineers play a critical role in its development, because they are the staff experts on terrain analysis and enemy and friendly engineer assets and capabilities. Give the S2 initial information based on the EBA and fill in the gaps later. This allows him to begin constructing the IPB without being overwhelmed by extraneous information. The likely enemy course of action and the enemy engineer role in it are critical pieces of information the S2 needs. During wargaming, wear a red hat often to portray the enemy engineer and give the staff a better feel for their adversary.

Engineer Annex. As the task force engineer, you have a wealth of knowledge to give the staff, but you must use the proper vehicles to relay it. Fortunately, many assets (vehicles) are available. The brigade prepares an engineer annex, which should include an overlay and possibly a "trap map," which is a list of potential enemy ambush or mining sites within the sector. After you receive the brigade engineer annex, make a copy of the obstacle overlay so you can brief the infantry battalion commander. It may help to carry a personal map board with a small overlay.

Engineer Estimate. Develop your engineer estimate, then create and post execution and survivability matrices. Although you know what your squads are doing at any given time, a matrix helps the commander and the rest of the staff quickly see how engineers are supporting the fight.

Risk Assessment. Finally, conduct a risk assessment and be proactive in briefing the commander on risk management in areas where engineers are working. This will save time and possibly lives. Once you understand the plan, coordinate with other staff members to help solidify the engineer role in the scheme of maneuver.

Relay Information. The staff lives or dies with the passing of information. Since everyone immediately grabs his own annex from the brigade operations order, give the rest of the staff a summary of your annex. Share the trap map with the fire support officer (FSO) so he can target those locations. Information benefits no one if you keep it to yourself, so share it with others, including other platoon leaders, higher headquarters, and subordinates.

When passing information, remember that you have two chains of command to inform: the infantry task force and the brigade engineer. Send your target and obstacle lists to higher headquarters, using specific grid coordinates. Finally, don't wait for information to come to you. Acquire information from adjacent units on routes, obstacles, and displaced civilians who may affect traffic flow on main supply routes (MSRs) in your sector.

Integration. Although the commander and the rest of the staff want you to be part of the team, only you can ensure that engineers are integrated into the task force plan. When working with the staff, pace yourself. Marathon planning sessions are often necessary to produce the operations order in a timely manner. To remain effective, work to expand your staff planning span of attention. This requires sorting critical information from the less important, as well as learning to focus on the task at hand. Be assertive with the staff in getting your voice heard. Don't be intimidated because you are the lowest-ranking member. The staff is a team, and as the engineer, you are a critical member. While the commander makes the final decision, everyone must contribute so he can make that decision wisely.

Synchronization. This is an important part of the planning process. Take an active role in synchronizing engineer assets, especially scatterable mines. It is essential to understand scatterable mine assets and firing procedures, as well as the approval authority.

"Producing a concise, informative (engineer) annex is critical to mission success."

The Modular Pack Mine System (MOPMS) and the Volcano are important to both the offense and defense, and you are the subject matter expert. Help prepare both the friendly and enemy decision support templates. Calculate trigger points for scatterable mines and reserve targets (remember that triggers include decision time plus execution time plus transmission time). Keep in mind that trigger points must tie in to named and targeted areas of interest to be successful.

When the staff finishes the operations order, read it immediately and identify information that has not been coordinated, especially information not coordinated with the other slice elements. This will avoid conflicts in the different annexes and in the information put out to company commanders. Continue to coordinate and synchronize until execution is complete.

Updates. Your job in the TOC is not finished when the staff disseminates the order. Maintain contact for intelligence updates and fragmentary orders to which you should contribute. Also, think about follow-on missions, because at some point you will return to the TOC to begin the planning process again. PCISE is a dynamic process that requires continual updating and constant attention to make it work.

Engineer Annex

The engineer annex to the task force operations order is an important tool for informing infantry company commanders and subordinate leaders. Producing a concise, informative annex is critical to mission success.

First, decipher the annex you receive from higher headquarters. Carefully examine the mission statement, which contains both a task and a purpose. Learn the doctrinal terms for task and purpose to better understand the mission, and use doctrinal terms in your mission statement. After analyzing the mission, review the commander's intent, which has three parts: purpose, method, and end state. Read them to determine exactly what you must achieve for mission accomplishment. The commander's intent revolves around the decisive point and how he defines success. Communicate the intent to all of your soldiers, so they can carry on in your absence.

When writing an engineer annex, remember that the engineer mission is not necessarily the same as the infantry mission. For example, the infantry mission may be to conduct counterreconnaissance operations, while the engineer mission may be to construct an engagement area. The mission directly affects the tasks you designate to subordinate units. Depending on the mission statement, subordinate tasks may address either your squads or the infantry units to which your squads are attached. If the platoon is under task force control, the tasks refer to individual squads. Include any attachments to your unit, especially heavy equipment. Remember that the engineer annex is not the same as the platoon operations order, which your platoon will require when the task force order is complete.

The engineer annex is a vital part of any maneuver operations order. Although the S3 may limit the amount of space allocated to the annex, always include information the battalion and company commanders need to properly use engineers when they execute the plan.

TOC Procedures

Most new platoon leaders want to spend as little time in the TOC, and as much time with



Sappers move to the breach site at the NTC.

their troops, as possible. To accomplish this, hone your TOC operations to increase efficiency.

Keeping abreast of current events is key to working in the TOC. A lot can happen in a short time, so use DA Form 1594, *Duty Staff Journal*, to keep a log with a brief description of each event and the time it occurred. Also, track requests for information that you send to higher headquarters. As the battlefield changes and fatigue sets in, a written record serves as a reminder. Others in the TOC need to know what is happening, so include both friendly and enemy obstacles on the battle captain's map. Update your overlay and inform higher headquarters of changes regularly.

Bring enough supplies (acetate, markers, etc.) to the TOC to avoid having to borrow from others. Also, bring applicable mission training plans and other pertinent manuals. An old demo box makes a good storage container for manuals and an effective way to carry and protect written materials. You can also use it to establish your area in the TOC or to sit on. After being in the TOC once or twice, you will determine exactly what you need. Ask fellow platoon leaders for suggestions.

At times, the planning process and task force TOC will seem chaotic. Develop a plan for operating with the staff to avoid getting caught up in the confusion and failing to produce a successful plan.

Engineer Missions

The planning process is dynamic. While no two operations orders are the same, there are many similarities among the various missions that engineers perform. The following tips pertain to three of the most common engineer missions: offense, defense, and stability and support operations.

Offense. An offensive mission for the light task force engineer can be extremely difficult, because you may have to plan an attack without knowing what is on the objective. Resist the temptation to split squads piecemeal, one per company, just so everyone has engineer support. You only have one platoon, so you will have the greatest impact by massing the forces.

The most important aspect of an attack is the initial obstacle intelligence received from reconnaissance elements and the scouts. Send one or two of your best soldiers with them to provide engineer expertise before the breach. While the intelligence collection efforts are taking place, concentrate on other tasks, such as route reconnaissance and clearance on MSRs and infiltration lanes and countermobility on your flanks to prevent enemy counterreconnaissance efforts. As part of the initial EBA, consider the effects of illumination, weather, and sleep deprivation on both the attacker and the defender, and use these factors to your advantage. Also, consider the enemy's use of scatterable mines. Decide how you would breach a scatterable minefield if one is discovered in your sector.

When planning an attack, consider the number of breaches and their separation distance. Doctrinally, a battalion task force requires a minimum of two breaches at least 100 meters apart. Unfortunately, the rest of the staff and the commander may not agree to this because of the amount of support required. Be prepared to support your position, but remember that the commander has the final say. Coordinate with the S3 and the FSO on the length and type of suppression and obscuration during the breach, and make sure you discuss the elements of SOSR (suppress, obscure, secure, and reduce) during the task force rehearsal. To increase command and control, consider positioning yourself at the breach site with the main effort.

Last, but not least, prepare for success. In other words, prepare for the transition to a hasty defense once an attack succeeds. Develop some realistic logistics requirements and time estimates to prepare the newly taken objective for the defense. Scatterable mines are one of the quickest and most reliable methods for repelling enemy counterattack forces. Short of that, using resupply convoys or helicopters to bring in Class IV and Class V supplies in preconfigured packages can be very effective, as long as you clear the route for the resupply convoy.

Defense. Every successful offense results in a defense, either hasty or deliberate.

Regardless of how long you expect to

defend the position, certain key concepts are relative to all defensive missions.

The most important elements of a defense are time and resource management. To speed the process, plan for a defense well in advance. It is better to build one obstacle to standard than to build several of them poorly. Ask the S3 to allocate infantry platoon hours to help with the countermobility effort.

After preparing a survivability matrix, ask the infantry battalion commander to sign it. This helps diffuse any problems your digging assets have with overzealous company commanders. Before digging, ensure that the supported unit sights in positions. Maintain strict accountability of the dig assets and carefully select who will be in charge of them. Based on experience, the infantry battalion command sergeant major is the best choice, but the maneuver commander must allow this.

Proper discussion of engagement area development warrants an entire article, but a few key concepts follow. Remember that your obstacle intent—block, turn, disrupt, or fix—must coincide with the maneuver commander's intent and that your obstacle plan must support his defense.

When planning tactical obstacles, be sure that counterattack lanes are open and have a plan for closing them. MOPMS works well for closing lanes, as long as the senior soldier on the site understands the firing procedures, trigger points, and safe distance. Determine casualty evacuation routes; some of these need to stay open during the entire engagement, and counterattack lanes may need to stay open as well. Coordinate with the infantry to provide security while emplacing obstacles, and try to walk the ground with the commander to ensure that the engagement area you create is fully used. At the same time, plan fires on all obstacles with the FSO.

Tactical obstacles are your responsibility, but also advise the company commanders on their protective obstacles and survivability positions. This is a good job for squad or senior team leaders. It also reminds the infantry to properly report their protective obstacles.

Locate yourself either at the TOC or in the sector with the counterattack force, so you can verify that lanes are open before the commander launches the reserve into battle.

Stability and Support Operations. These missions include peace-enforcement operations and low-intensity conflicts. As you struggle to keep abreast of the status and location of your assets, minefields are the greatest threat.

The primary engineer tasks during stability and support operations are route reconnaissance, route clearance, and force protection. Obtain minefield rules of engagement for the employment and removal of mines, as well as when to clear minefields and when to simply mark them and find a bypass. Clearing is not the same as demining, so do not clear everything since it wastes resources and puts soldiers at needless risk.

During stability and support operations, you probably will have to deal with static security points (SSPs), better known as checkpoints. Develop a plan that includes relieving existing SSPs and building new ones. Be prepared for other construction projects as well, since not all stability and support operations are hostile in nature.

Battle tracking is key throughout this type of mission. Everyone must know minefield locations and how they are marked. Try to include engineers with all convoys traveling through your sector. This requires extensive S4 coordination, because the tendency is to send vehicles down MSRs before they are cleared. Coordinate with the S2 to update the IPB continuously. Identify and disseminate information on any new enemy mines located within the sector, including their type and changes in their employment (for example, whether they are buried, booby-trapped, or equipped with anti-handling devices).

To prepare troops for this type of mission, SOPs for minefield marking and clearing must be up-to-date. Rehearsals are important, too. If possible, practice combined arms clearance with the infantry, such as using thermal sights from their antitank weapons for mine detection.

Communications during stability and support operations are crucial. Give your soldiers specific information through the use of good troop-leading procedures. Maintain communications with other platoons and coordinate with adjacent units when doing route clearance and convoy operations. The best place to maintain command, control, and communications is at the TOC.

Deployments to Haiti and Somalia, as well as exercises at JRTC, have shown that the task force engineer must manage assets all over the battlefield. While the enemy threat during stability and support operations may not be as great as in other missions, the danger is just as high.

Filling in the Blanks

The task force engineer's job is demanding, to say the least, and platoon leaders need help to accomplish everything the job requires. They must prepare and execute staff requirements effectively and efficiently to allow more time to lead their platoon. The information in this article will fill in some of the blanks that remain after the Engineer Officer Basic Course is completed and will give new lieutenants a base for working as a member of the combined-arms team.

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