Seven Breaching Habits of Highly Effective Units

By Lieutenant Colonel Thomas H. Magness

Mobility is Job No.1. Without it our forces will go nowhere. However, enemy forces throughout history have found numerous methods of blocking roads, creating barriers, and limiting the movement of advancing forces. In turn, great armies have conducted combined arms breaching operations to overcome these obstacles to press the fight and destroy the enemy. The orchestration and execution of this task may be the toughest job a maneuver commander will ever face. The purpose of this article is to assess breaching operations based on lessons learned at the National Training Center (NTC), Fort Irwin, California, while also revealing the "Seven Breaching Habits of Highly Effective Units."[1]

In 1999, the Training and Doctrine Command (TRADOC) developed a trends-reversal program to review unit execution of numerous mission-essential tasks. One task, combined arms breaching, was high on the list for review and assessment. TRADOC designated NTC Rotation 00-10 as a combined arms breach-focused rotation and coordinated with the U.S. Army Engineer School to assess negative trends in breaching operations. This onerous task, executed by some tremendous maneuver and engineer leaders, validated one thing—the trend has not been reversed.

Combined arms breaching operations are difficult and remain a negative trend. This is no surprise to warfighters anywhere and is echoed by the Sidewinder (Combat Engineer) Observer-Controller Team at NTC. Opposed combined arms breaching, under fire, against a capable opponent like the NTC Opposing Force (OPFOR), is tough but not impossible.

Field Manual (FM) 3-34.2, *Combined Arms Breaching Operations* (formerly FM 90-13-1), says that breaching "is perhaps the single most difficult combat task a force can encounter."[2] The May 2001 issue of *Engineer* indicates that it took the U.S. Marines 2.5 to 9.5 hours to clear two lanes through an Iraqi obstacle belt during Operation Desert Storm.[3] It took another 24 to 48 hours for friendly elements to pass through the obstacle and continue their movement toward the enemy. This was an unopposed breach with the best available equipment, personnel, and planning and had been rehearsed for weeks.

We can and must reverse this trend. Many rotational units with great leaders, adequate equipment, and strong motivation culminate at the breach and never pass combat power to destroy the enemy. Some units never even get to the breach or cannot identify where or how to breach. This is despite the fact that breaching is the top deliverable for combat engineers and brigade combat teams (BCTs) in mid- to high-intensity combat operations. Combined arms breaching may be the ultimate team sport, and success relies on the skill, techniques, and training of all the players, not just the engineers.

Trends – What We See

First, I'll present a quick review of the combined arms breaching trends seen at NTC, based on observations during the planning, preparation, and execution of combined arms breaching operations. Repeated failures occurred in:

Planning

- Reconnaissance and surveillance (R&S) planning, and intelligence requirements are unfocused.
- Poor terrain analysis fails to answer the "So what?" question.
- Units fail to perform reverse breach planning.

- Units do not make detailed plans to set the conditions for breaching.

Preparation

- Observers fail to provide detailed obstacle intelligence.
- Units fail to interdict enemy engineer defensive preparations.
- Engineer and combined arms units fail to rehearse adequately.

Execution

- Breach execution is unsynchronized.
- Maneuver forces lack mass and move forces into the breach piecemeal.
- Maneuver forces "stumble" into obstacles.
- Engineers are not in position when conditions are set.
- Units fail to consider traffic control or expansion of lanes.

> "I approve of all methods of attacking provided they are directed at the point where the enemy's army is weakest and where the terrain favors them the least."
>
> Frederick the Great

Habit No. 1 – Mass Kicks A**!

Quite simply, most units lack sufficient mass to succeed in penetrating prepared enemy positions. Success or failure can often be predicted at the line of departure (LD) based on this fact alone. In fact, most brigade combat team attacks will effectively mass no more than one company team at the point of penetration. This is clearly not enough to penetrate the prepared fortifications of an enemy who conducts this defense mission three times to every one OPFOR regimental attack. This enemy is good. We should expect no less from our next enemy, wherever we may meet him. We should expect complex obstacle fortifications with antitank and antipersonnel mines, ditches, wire, booby traps, anti-handling devices, and whatever else the enemy can muster. Behind this line of obstacles, we can expect prepared fighting positions for both vehicles and personnel with interlocking fires, interior repositioning lines, and the massed effects of as many forms of contact as possible. We should not expect to be successful in this scenario without the massed effects of fire, maneuver, and every Battlefield Operating System (BOS) in the unit.

The standard for mass is articulated clearly in FM 3-34.2:

- Breaching is conducted by rapidly applying concentrated efforts at a point to reduce the obstacle and penetrate the defense.
- Massed combat power is directed against the enemy's weakness.

Seven Breaching Habits of Highly Effective Units

Habit No. 1 – Mass Kicks A**!

Habit No. 2 – Focus on the Enemy Engineers.

Habit No. 3 – The "Orchestrated Ballet of Farm Implements" Doesn't Just Happen.

Habit No. 4 – Don't Call Them Farm Implements!

Habit No. 5 – Obstacles Are Like Rivers; Learn to Breach or Learn to Swim.

Habit No. 6 – Use All Available Smoke Assets; Someone Is Always Watching.

Habit No. 7 – Breaching Operations in Restricted Terrain Are Not "Business as Usual."

- The location selected for breaching depends largely on weakness in the enemy's defense, where its covering fires are minimized.
- If friendly forces cannot find a natural weakness, they create one by fixing the majority of the enemy force and isolating a small portion of it for attack. [4]

Tactics, techniques, and procedures (TTP): Conduct detailed terrain analysis. Answer the "So what?" question. We are beginning to see units leveraging the technological advances of terrain visualization tools. The products from TerraBase®, the Digital Topographic Support System, and other visualization tools are just that—products. But with analysis comes answers to the question that maneuver commanders must demand: Where can we concentrate efforts against an enemy weakness, and where are the enemy's covering fires minimized? If a weakness is not identified, where must we create one? Where does the terrain facilitate the positioning of support forces? Where is the enemy's "red zone," and how can we stay out of it? The scheme of maneuver, scheme of fires, task organization, and BOS focus await the answers to these questions.

TTP: Plant the big fat tack (BFT). Mass on the point of penetration. We use a BFT (an extraordinarily big-headed pushpin) to help focus the planning and execution on the point of penetration. It is a great tool to ensure focus at the point where we must have massed effects. Take a look at your plan—how many maneuver units are focused at that point? Is every BOS focused at that point to ensure success? Is that point an enemy weakness? If not, how are we creating one there?

- When do we place the BFT? Early enough to ensure the massed effects of maneuver, fires, and every other BOS. In other words, before we finalize the friendly course of action (COA).

- Who (which BOS) is focused at the BFT? Who isn't?
- Can we adjust the BFT location? Of course. As information changes our understanding of the enemy, we will adjust the BFT location. Use this to trigger a resynchronization of the plan. Tactical operations center (TOC) battle captains and executive officers must ensure that we have a battle drill to confirm focus at the BFT through execution.

TTP: Isolate the point of penetration. Wherever we penetrate the enemy, we must ensure that the remainder of the OPFOR remains fixed. We do this with fires, close air support, maneuver, and scatterable mines. We must do this, however, without violating the principle of mass. The OPFOR has great success in the offense, fixing its Blue Force (BLUEFOR) enemy with motorized rifle companies and scatterable mines. The OPFOR does so without significantly reducing its ability to mass at the point of penetration. All too often, BLUEFOR units commit battalion task forces to this task—often one-third to two-thirds of their total BCT combat power.

TTP: Mass engineers at the breach. Breaching doctrine basically requires one engineer platoon (with attachments) to execute one lane. There is also a requirement for redundancy—typically 50 percent. In a maneuver task force supported by an engineer company, most of that company is required at the breach. Develop a scheme of maneuver and a task organization that masses engineers at this critical point. Identify triggers to change task organization as required to mass engineers at the breach and incorporate them into the decision support matrix.

Habit No. 2 – Focus on the Enemy Engineers

In postmission summaries at NTC, we often quote from FM3-34.2: "An unverified enemy template can lead to disaster because the force may aim an attack at the wrong place. Units may deploy to reduce expected obstacles early, wasting mission time to feel their way into nonexistent obstacles; or they may blunder into an unexpected obstacle or an enemy engagement area."[5] Attacking units routinely have little or no knowledge of how the defending enemy is shaping terrain with obstacles, and engineers are usually committed to breaching operations with very little information on the obstacles they are tasked to breach. It is this shaping of the terrain that will tell the story of how the enemy is defending, and where. Engineers, even enemy engineers, don't lie. They cannot—it simply goes against their nature. An obstacle on the ground means something. It probably means that, were you to back up to two-thirds of maximum effective enemy weapons range (typically 1,200 to 2,000 meters), there will probably be an enemy position. Terrain visualization tools can help confirm or deny these locations (more "So what?" questions).

Too often, we do little to find these enemy obstacles even though they are the one component of the enemy defense that can most easily be detected. They can be spotted during the day or night and are most easily detected during the construction of the obstacle. Men and machines are working, vehicles with supplies are forward, and the terrain is changing shape. Finding precise enemy positions, however, is very difficult. Most OPFOR positions are occupied for only a brief period during defensive preparation (position proofing, rehearsals, security operations), and then not occupied again until just before contact. Most R&S efforts focused on finding the enemy in those positions are unsuccessful because the enemy is simply not there.

TTP: Kill the enemy engineers. Enemy engineers will die. Kill them. Position observers early to detect and disrupt the enemy's defensive preparations. Target bulldozers, caches of construction material and ammunition, engineer soldiers and equipment, and all obstacle emplacement activity. The enemy's ability to disrupt our attacking formations and reduce our momentum is directly related to his ability to successfully emplace his obstacles. He knows he cannot defeat the BLUEFOR in a direct-fire battle without his battlefield shapers. Deny him this advantage. Mine emplacement now is a low-risk, high-payoff mission. We must reverse this, making it a high-risk mission for enemy soldiers to employ mines. When an enemy soldier gets the mission to emplace mines, he must tremble with the thought of his impending destruction.

TTP: Find the obstacles. This cannot be just an engineer reconnaissance task. This is something on which we must focus combat observation lasing teams (COLTs), Stryker vehicles, brigade and task force scouts, unmanned aerial vehicles, the Joint Surveillance Target Attack Radar System (JSTARS), and any other available "lookers." Find the obstacles to confirm or deny the enemy COA. Confirm the proposed point of breach or penetration. Consider layering reconnaissance assets by sending in initial forces to identify obstacles, with subsequent forces to obtain (before committing breaching forces) precise information such as—

- Obstacle location and type.
- Gaps and bypasses.

- Specific minefield composition, which may dictate what breach assets to use and in what sequence.
- Soil conditions, which may indicate suitability for plowing.

We do not have the technology to detect buried mines and many other low-cost, low-technology explosive devices. Therefore we must compensate for this with TTP, task organization, and focused reconnaissance. To be successful, we must focus all available lookers to let us detect mining activity and enemy obstacles before they are emplaced. (See "Kill the enemy engineers" on page 46.)

Habit No. 3 – The "Orchestrated Ballet of Farm Implements"[6] Doesn't Just Happen

FM 3-34.2 indicates that the "commander ensures synchronization through proper planning and force preparation. Fundamentals to achieve synchronization are—

- Detailed reverse breach planning.
- Clear subunit instructions.
- Effective C2.
- Well-rehearsed forces."[7]

The first two are fairly straightforward and are articulated very well in our breaching doctrine. Reverse breach planning works—do it! Determine the force ratios required on the objective and work backward through the breach to the LD. Assign clear tasks and purposes to all subunits with graphic and fire-control measures and triggers that take the unit from LD through the objective.

TTP: Command and control (C2). Ensure, as a minimum, that the following are clearly addressed in the plan and then rehearsed:

- Who determines that conditions are set?
- Who initiates the smoke (artillery and mechanical)?
- Who adjusts and controls the smoke?
- Who chooses the specific breach location?
- Who controls the breach assets?
- Who shifts suppressive fires?
- Who guides assault forces to the breach?
- How and when do we communicate this information, and on what nets? How do we do this digitally?
- Who is the breach force commander, and have we resourced him (without exceeding span-of-control considerations) to be successful?

> "A poor plan, well rehearsed and violently executed, is better than a perfect plan late and unrehearsed."
>
> General George S. Patton

TTP: Conduct combined arms, mounted suppress, obscure, secure, and assault (SOSA) rehearsals. You may be surprised to see the "R" (reduce) missing from the breach fundamentals acronym SOSRA. This is the one component that least needs rehearsal. It is the bread-and-butter battle drill for the engineers, but it is the one that has received the most attention when units indicate that they have conducted rehearsals. Where synchronization usually fails, and where rehearsals need the most focus, is in setting the conditions (suppress, obscure, secure) and in rapidly projecting combat power (assault) through the breach and onto the objective. Make this the focus of mounted rehearsals. Work through timing, triggers, positioning, and the C2 issues identified in the previous paragraph. Get the engineers to the breach, and they'll do fine.

Habit No. 4 – Don't Call Them Farm Implements!

We all (engineers, maneuver commanders, and Army leadership) recognize that our breaching assets are slow, old, and often inadequate for the assigned breaching tasks. But they're the best the Army gives us, so make them work. Generally, engineer and maneuver leaders fail to understand the capabilities and limitations of our breaching systems, do not identify appropriate commitment criteria for specific systems, and generally underestimate or undersell the capabilities of the most powerful breaching force on the combined arms battlefield—the sapper.

TTP: Fire the mine-clearing line charge (MICLIC). The lethality of the MICLIC should not be understated. It consists of 1,950 pounds of composition A4 and is capable of defeating most pressure-activated mines, clearing a 14- by 100-meter lane. Unfortunately, until sappers go to NTC (or are deployed to a combat theater), they generally have not fired a live MICLIC. Continental United States-based units are authorized only inert line charges, and even then not enough for one per MICLIC crew. This is the equivalent of tank crews achieving "qualification" having fired only practice rounds or, not having fired one themselves, reaching qualification by watching their buddy fire one. Needless to say, there are a host of issues associated with the firing of 1,950 pounds of explosive attached to 550 feet of cabling and electrical wiring. Work through them. Consider the following:

- In the rough, broken terrain that will likely characterize much of the ground surface on current and future battlefields, slow down. Consider putting the MICLIC on a good road or trail, or pick a point of breach that is suitable for the speeds and launch angle you require (more "So what?" questions for your terrain analysis).
- The MICLIC will destroy most pressure-activated mines in the 14- by 100-meter lane. Some mines in the lane may be unaffected by the blast effect of the charge. That is why we proof, using either rollers, mine plows, or sappers. That is also why we conduct detailed, specific reconnaissance at

the point of breach—to determine the type of mine and the suitability of the MICLIC as a primary breaching system.

- Until the Army fields a better system, the MICLIC is still the most capable breaching asset in the inventory that allows breaching without exposing soldiers to the risks of dismounted breaching operations. Know and understand its capabilities and limitations, and find opportunities to increase the tactical and technical proficiency of the soldiers who use it.

> "I've on many occasions wondered what it would be like to be a real soldier…if only I was an engineer."
>
> General George S. Patton

TTP: Never underestimate the breaching capability of a single sapper. There is no obstacle known to man, and certainly none seen on the NTC battlefield, that cannot be breached by an engineer soldier. We use mounted systems (MICLICs, tank plows/rollers, armored combat earthmovers) to provide speed or mitigate the risk to dismounted soldiers. There may be cases where the sapper is the best available breaching option (rough, restricted terrain, for example). And while there are certainly implications for timing, if the sapper is the only available breaching option, we should all be prepared to wait. The alternative—mission failure—is much worse, of course. This relates to the importance of gaining specific intelligence about the obstacle at the point of breach before the sappers arrive. Configuring an appropriate breaching package without losing momentum depends on timely and precise information. Your sappers demand it.

Habit No. 5 – Obstacles Are Like Rivers; Learn to Breach or Learn to Swim

Our breaching tenets, while all appropriate, probably should borrow a few bullets from FM 90-13, *River-Crossing Operations*:

- Surprise.
- Extensive preparation.
- Flexible plan.
- Traffic control.
- Organization.
- Speed.[8]

If units viewed the obstacle as a river that requires the passage of not just the lead maneuver formation but perhaps the entire BCT, division, or corps on one or two narrow lanes, perhaps we would be less inclined to "hand wave" the details of the breach or to push the requirement to "execute the breach" down to the lead task force or company team. There is little margin for error. If successful, we might have one or two 14-meter-wide lanes through which to project combat power. Smoke, dust, direct and indirect fires, scatterable mines, and chemicals all further narrow this margin for error.

TTP: Avoid the frontal attack. While our doctrine indicates that the frontal attack is the least desirable form of maneuver, it is the one most frequently seen at NTC. Find a flank and mass on it. Exploit a weakness or create one. Isolate the point of penetration. BLUEFOR units rarely if ever surprise the enemy but rather "telegraph" their intentions long before the LD. Find a way to tell a deceptive story without losing the ability to mass effects at the BFT. It's no easy task but one the OPFOR routinely executes. Use obscuration during preparations and movement to, through, and beyond the LD to make it difficult for the enemy to determine friendly intentions.

TTP: Plan for traffic control. Get the military police into the fight. Traffic control is a traditional task for military police but one they rarely execute at NTC. There must be a trigger to hand over the cleared lane from the breaching unit's engineers to follow-on military police and/or engineers. BCTs should plan for a forward passage of lines if more than one unit is passing through the lane. Consider detailed march tables with graphic control measures, much like those for a river crossing, that will facilitate the passage without losing momentum.

TTP: Shifts happen. Build flexibility into the plan. Most plans do not survive first contact with the enemy, let alone make it very far beyond the LD. Most units identify branch plans for alternate COAs but generally fail to include BOS implications as they develop these alternate plans. This is also where the TOC battle drill that refocuses all BOS at the revised BFT location must be in place. Regardless of where we breach, all team members must be refocused at the new breach location if it is to be successful.

Habit No. 6 – Use All Available Smoke Assets; Someone is Always Watching

Of the breach fundamentals—SOSRA—the most challenging may be obscuration. Mechanical smokers (wheeled or tracked smoke generators) rarely create the conditions necessary to allow maneuver formations to get into position to breach. Units rarely identify triggers to transition from artillery-delivered smoke to mechanical smoke and even to hand-emplaced smoke (smoke pots). This is one of the most critical components of the breaching operation that needs synchronization and rehearsal.

TTP: Give a clear task and purpose to mechanical smokers. Generally, orders to smoke units read like this: task—smoke; purpose—to provide smoke. Chemical units need a specific target (antitank systems, motorized rifle company- and platoon-sized formations), location (north wall of the valley, map coordinates NV123456), and desired effect (haze, blanket, curtain) to better use their capabilities. Rehearse their positioning within the formation as well as the triggers for employment and transition from one task to the next. There may be several: one to facilitate the movement of support forces into position, another to ease breaching operations, and perhaps a third to help assaulting forces moving through the breach and onto the objective.

TTP: Expend all ammunition. Most units identify appropriate targets and triggers for artillery-delivered smoke. Fewer use mechanical smokers during the approach to the obstacle or at the breach. Very rarely do units employ smoke pots and smoke grenades at the breach—perhaps because it adds to what already is a complicated menu of tasks. Units fail to do so at their own peril. Assume someone is watching and use every available asset to create the necessary conditions for committing soldiers to and through the breach.

Habit No. 7 – Breaching Operations in Restricted Terrain Are Not "Business as Usual"

Too many units fail to account for the implications of restricted terrain in the planning, preparation, and execution of breaching operations. Units cannot approach breaching operations in a defile as if it were an open valley floor. The implications for breach timing, maneuver unit positioning, observer positioning, and breach assets are too critical to overlook. For those who have trained in "Mojavia," visualize breaching operations in Alpha or Bravo Pass, and think about the applications for breaching in Korea, Kosovo, or Afghanistan. FM 3-34.2 (Appendix D) is a good place to begin to examine the implications of restricted terrain and to develop unit TTP and standard operating procedures (SOPs).

TTP: Restricted terrain operations are slow. Plan accordingly. The implications on the time required to maintain suppression, obscuration, etc., while working through a defile are tremendous and must be planned and rehearsed in detail. These are often dismounted operations to clear high ground and, quite possibly, to set support forces on the far side of the obstacle. The terrain may restrict the ability to execute mounted breaching operations, further adding to the timing challenges. All of these details point to a slow, deliberate process.

TTP: Traffic control is critical. Not only is the river long, it's wide and deep. Because defiles may not allow for two-way traffic and may extend for hundreds of meters, or even for kilometers, there is even less margin for error as units move to and through the breach. March tables are critical as are deliberate controls for entering and exiting the breach area.

Making the "Seven Habits" Habits

The challenge for most units is how to translate these habits into executable tasks. In a word—repetition. Units that practice these TTP—incorporating them into battle drills, SOPs, and mission plans—will develop these breaching habits. Multiple repetitions with all members of the combined arms team will make the successful execution of this extraordinarily complex combined arms task more likely.

These habits are designed to facilitate success in the most complicated scenario possible—breaching in contact. The goal must be to set the conditions, according to these seven habits, to breach out of contact with the enemy. Destroy every enemy in and around the point of breach and every enemy that can influence the point of breach—and then breach. Is this scenario possible? Yes. Is it possible without multiple repetitions and the total focus of every team member? Maybe, but not likely.

Ultimately, however, these habits are the responsibility of the breach orchestrator—the unit commander. Translate the TTP and breach habits into clear guidance and intent that focus the entire unit on penetrating the enemy and his obstacles. And while the use of the seven habits will not guarantee success at NTC or on any other future battlefield, their application—coupled with the warrior spirit that our soldiers consistently display—may help units begin to reverse a negative trend and give our force the mobility it requires.

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Endnotes

[1] Apologies to Steven Covey, author of *The Seven Habits of Highly Effective People*, Simon and Schuster, New York, NY, 1989. Combined arms obstacle breaching likely requires effective people as well as effective units.

[2] FM 3-34.2, *Combined Arms Breaching Operations*, 31 August 2000, Introduction, p. 1-1.

[3] Colonel Michael K. Asada, et al, "The Grizzly: A System of One," *Engineer*, May 2001, p. 41.

[4] FM 3-34.2, p. 1-11, para. 1-35.

[5] Ibid., p. 1-5, para. 1-6.

[6] Major Harry Green, "The Grizzly and the Wolverine: Alternatives to an Orchestrated Ballet of Farm Implements," *Engineer*, August 1996, pp. 2-6.

[7] FM 3-34.2, p. 1-13, para. 1-46.

[8] FM 90-13, *River-Crossing Operations*, 26 January 1998, p. 1-4.

(Note: A variation of this article was published in the May 2002 issue of *Armor*. The author wrote it while assigned to the Sidewinder Team at NTC. The opinions expressed are those of the author and do not represent the official position of NTC. Even though nearly two years have passed since they first appeared in print, the lessons of the "Seven Breaching Habits of Highly Effective Units" remain relevant. They are consistent with the concept of assured mobility, as well as the lessons learned on our most recent battlefields.)