



THE TACTICAL APPLICATION OF MILITARY MOUNTAINEERING

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Photos courtesy of 982nd Combat Camera Company

Two Ranger Students rappel from the top of Yonah Mountain, 3 June 2014 during Ranger Class 07-14.

Since the time of Alexander the Great, the battle-ridden mountain ranges of Afghanistan have proven to be some of the most harsh and extreme environments in which empires, warlords, and countries waged war. From the initial Special Operations units deployed in support of Operation Enduring Freedom to present day, countless units reported in their after action reviews (AARs) that the terrain significantly and adversely affected their Soldiers and missions. The rugged mountain terrain consistently challenged a unit's mobility and its ability to resupply while significantly reducing equipment capabilities. Through the training, implementation, and application of military mountaineering, commanders can enhance their units' mobility, capability, and survivability. The Mountain Phase of Ranger School is the only institution in the U.S. Army Training and Doctrine Command (TRADOC) that currently integrates technical mountaineering tasks and combat operations.

Operation Gowardesh Thrust

In the summer of 2006, the 3rd Squadron, 71st Cavalry Regiment of the 3rd Brigade Combat Team (BCT), 10th Mountain Division — also known as Task Force Titan — planned a clearance operation named Operation Gowardesh Thrust in the Gremen Valley located in the mountains of Nuristan, Afghanistan.¹ For this operation the squadron combined a combat observation and lasing team (COLT) section with a sniper section to establish surveillance on target areas and named areas of interest prior to the clearance operation. On the morning of 18 June, the unit began a three-day ascent up mountain 2610 along a narrow and rugged ridgeline, slowly traversing the near vertical terrain. The unit was now faced with the same type of terrain that had previously been the cause of deaths and

significant Soldier injuries due to falls.² Upon arrival at their final destination on 20 June, they established the observation post (OP) and began to conduct surveillance. The arduous movement with mission-essential equipment and 72 hours worth of provisions had taken a substantial toll, forcing the Soldiers to deplete nearly all food and water.³ The clearance of the Gremen Valley was delayed by an improvised explosive device (IED) attack on an adjacent unit, and the squadron chose to postpone the operation for 72 hours, leave the unit in place, and conduct an aerial resupply. That evening an enemy element of approximately 50-70 fighters initiated a coordinated attack with rocket-propelled grenades (RPGs) and sustained fire from PKM medium machine guns. After the 30-minute firefight, the unit sustained two Soldiers killed in action and one critically wounded. Due to the terrain and casualties, the unit was unable to withdraw from the mountain, and a medical evacuation (MEDEVAC) helicopter was launched. During the MEDEVAC, tragedy struck when the litter basket attached to the hoist began to oscillate rapidly causing the hoist cable to snap. The wounded Soldier in the litter basket and the attending medic fell to their deaths. On the morning of 22 June, the unit descended down the mountain on foot after defeating a coordinated attack conducted by a larger enemy element that was well trained and equipped.

The heroic Soldiers of Task Force Titan experienced firsthand the challenges of mountain warfare and the level of complexity combat operations can achieve. One challenge the Soldiers faced was being limited to the ridgeline on their infiltration and withdrawal route due to the complexity and steepness of the terrain. Another challenge was the lack of alternate evacuation assets and employment methods

available when Soldiers were injured on the side of a mountain. However, mobility and evacuation limitations could have been overcome if the Soldiers were trained in basic mountaineering tasks and equipped with mountaineering equipment.

Army Mountaineering Training

It is clear that the dismounted Infantryman feels the greatest effects of Afghanistan's mountainous terrain, an area where few vehicles can operate and the Soldier's basic load is carefully considered. Over the past 12 years, mission requirements forced Soldiers to accomplish tasks ranging from conducting OPs to clearing caves and subterranean water systems known as karezes. This broad spectrum of operations becomes the norm and mandates that units possess a firm foundation in the tactical application of military mountaineering techniques. Mountaineering training in the U.S. Army is traditionally focused on the technical aspect of mountaineering with limited application to combat operations. However, training cannot end with only an understanding of the individual and technical aspects; Soldiers and units must be able to safely and effectively plan, collectively train, and apply this skill set to combat operations.

U.S. Army mountaineering training was formalized in the early 1940s with the establishment of the Mountain Training Center at Camps Carson and Hale, Colo. This center's cadre was predominately recruited from the National Ski Association and from members of the Army with previous mountaineering and cold weather experience.⁴ The training center moved to Alaska in 1948 and eventually became known as the U.S. Army Northern Warfare Training Center (NWTC).⁵ Lessons learned from World War II, such as the 5th Ranger Battalion scaling the cliffs of the Hockerberg through the night to cross the Saar River, demonstrated that continuation of such schools is vital to the effectiveness of the U.S. Army.⁶

This spawned the creation of the Mountain Phase of Ranger School in 1952 and the Army Mountain Warfare School (AMWS) in Jericho, Vt., in 1983 as additional sources of mountaineering expertise.⁷ The NWTC and AMWS progressively train and certify Soldiers in basic and advanced military mountaineering techniques. The two mountaineering qualification levels are basic mountaineer and assault climber. Basic mountaineers are trained in three fundamental areas: traveling and climbing skills, use and care of equipment, and basic medical care and survival techniques. Assault climbers are qualified as basic mountaineers, and their training consists of advanced techniques that provide them the capability to rig complex systems, climb vertical terrain, and "supervise all high-risk training associated with basic

mountaineering."⁸ The focus of an assault climber within a combat unit is to advise commanders on planning and preparation for mountain operations and to lead particularly difficult and very technical mountaineering operations.⁹

The NWTC and AMWS develop and conduct training in both basic and advanced mountaineering, cold weather skills, and tactics employed by Soldiers during all climate conditions.¹⁰ The Mountain Phase of Ranger School teaches and utilizes the same mountaineering techniques to apply combat power in mountainous terrain at the squad and platoon levels. Soldiers who successfully complete these courses have the requisite knowledge to competently advise senior leaders, plan and execute training, and conduct combat operations in a mountainous environment.

Operations in Afghanistan led the Army to re-examine its training and equipping of units preparing for combat in mountainous environments. In 2007, the Army began the development of multiple equipment kits for issue to units as part of a basis of issue plan.¹¹ Each kit builds upon the previous and further increases the capabilities of a combat unit to move in adverse terrain. The High Angle Mountaineering Kit (HAMK) provides equipment and rope for 40 personnel to move through near vertical terrain by allowing Soldiers to set up fixed ropes, hauling systems, and belays.¹² The Assault Climber Team Kit (ACTK) contains all the necessary equipment to establish complex systems for climbing and rescue operations in extremely mountainous terrain.¹³ The Snow and Ice Mobility Kit (SIMK) is a specialty kit that contains the additional equipment necessary for a platoon to operate in an excessively snowy and/or icy environment.¹⁴ The Squad-sized Mountain Leaders Kit (SMLK) contains all necessary equipment for an expert mountaineering team to conduct operations in vertical terrain in all weather conditions.¹⁵ Basic or advanced mountaineer and Ranger-qualified Soldiers are



A Ranger student rappels from an overhang on Yonah Mountain on 3 June 2014.

trained in the proper use of the equipment included in the kits and its employment to traverse otherwise inaccessible mountainous terrain.

The rugged terrain of Afghanistan, seasonal flooding, and lack of infrastructure forced units to rely heavily on aviation assets in order to conduct resupply operations and patrol in their respective areas of operation. Furthermore, these factors forced units to operate and climb in terrain far more difficult and at altitudes far greater than any other location that they previously trained or operated in. Many of these units, just like Task Force Titan, were forced to operate in extremely demanding areas, to include class four and five terrain. The table below classifies the different types of terrain, including the mobility within the respective classes and the skill level required to safely traverse it with mountaineering equipment.

The establishment and occupation of OPs commonly force units to negotiate near vertical and vertical terrain. Throughout their deployment in 2009, the 3rd Battalion, 509th Parachute Infantry Regiment (PIR), 4th BCT, 25th Infantry Division, occupied multiple permanent OPs in the mountains of Paktika Province, Afghanistan.¹⁶ These OPs often required large amounts of provisions and specialized equipment to provide the necessary standoff for protection and early warning. These critical pieces of equipment and provisions were large and heavy, placing a significant strain on Soldiers and the unit to move to the respective OP locations. SFC Joshua Lothspeich, a platoon sergeant in the unit and former NWTC instructor, was tasked with rebuilding, manning, and equipping the battalion's OP 4.

Under his supervision, the platoon restored and utilized an existing steel suspension and traverse cable system with the use of mountaineering techniques and equipment, greatly increasing the platoon's efficiency. During combat patrols, SFC Lothspeich often installed simple fixed ropes during movement to enable his men with their equipment to move up and down steep terrain efficiently, effectively, and safely. Over time, 3-509th PIR overcame the steep terrain of Paktika Province with basic mountaineering techniques, initiative, and the use of limited mountaineering equipment.

Steep terrain is not the only obstacle leaders and units must account for when moving men and equipment. Linear obstacles such as rivers, streams, gorges, and canyons can require Soldiers to move significant distances in order to traverse them. Tragically, there are instances of Soldiers falling into a river and drowning under the weight of their gear. In some instances, these losses could have been prevented with the installation of a basic hand line across the water. The safe havens for the enemy in Afghanistan forced units to conduct high-risk missions clearing caves and karezes in their area of operations without the use of basic mountaineering equipment. Simple additions of mountaineering equipment, such as short ropes and individual sling ropes, can make traversing the hazardous terrain safer and more efficient while significantly increasing the mobility of a platoon.¹⁷

In addition to mobility, mountaineering-qualified Soldiers greatly increase the survivability of casualties. Injuries incurred in this environment can require additional assets

Terrain Classification Table

Class	Terrain	Mobility	Unit Mobility/Special Training Required	Mountaineer Skill Level Required
1	Gentle Slopes/ trails	Walking	<ul style="list-style-type: none"> No special training required other than general environmental acclimation 	<ul style="list-style-type: none"> None
2	Steeper/rugged	Walking, some use of hands may be required	<ul style="list-style-type: none"> Environmental acclimation recommended Unit movement/SOP/battle drill training on steep terrain 	<ul style="list-style-type: none"> Basic mountaineers helpful, but not required
3	Easy climbing/ scrambling	Easy climbing, fixed ropes where exposed or fall risk	<ul style="list-style-type: none"> Environmental acclimation Soldier load management Unit movement/SOP/battle drill training on steep terrain Unit movement on fixed lines 	<ul style="list-style-type: none"> Basic mountaineers are used to install simple fixed ropes and installations
4	Steep exposed	Fixed ropes required	<ul style="list-style-type: none"> Extensive environmental acclimation Soldier load management Unit movement/SOP/battle drill training on steep terrain Unit movement on fixed lines Negotiation of near vertical obstacles Route selection 	<ul style="list-style-type: none"> Basic mountaineers Assault climber may be required to establish anchors, fixed ropes, and hauling systems
5	Near vertical/ vertical	Technical climbing required	<ul style="list-style-type: none"> Extensive environmental acclimation Extensive Soldier load management Assault climbing Technical rope rescue Rope ascending/descending 	<ul style="list-style-type: none"> Assault climbers recommended to advise commanders and supervise complex rope systems

and evacuation teams to move the casualty safely. Minor injuries can become urgent due to harsh weather conditions and restrictive, obstacle-laden terrain that limits dismounted movement routes. Commanders at all levels must plan for the use of evacuation teams that have the training, special equipment, and capabilities to reach, stabilize, and evacuate casualties in mountainous terrain. Units operating in the mountains should be prepared to conduct steep slope (non-technical) and high-angle (technical) evacuations which can require the use of mountaineering-trained evacuation teams known as Mountain Casualty Evacuation Teams for injured and wounded personnel. Methods used by these teams for ascending and descending casualties and negotiating obstacles can range from conducting buddy rappels to establishing high-angle rescue and hauling systems. The teams are able to shorten evacuation routes, increasing the speed of the evacuation and survivability of the casualty. Without the necessary planning, training, and equipping, any injury could become catastrophic in the mountains. Throughout Ranger School, students are also often faced with the evacuation of a casualty from severely restricted terrain. They must be capable of planning, stabilizing, and safely moving the casualty to a suitable extraction site while maintaining security. However, this is only one facet of mountain warfare Ranger students are trained upon at the U.S. Army Ranger School.

Mountain Phase

The Airborne and Ranger Training Brigade produces technically and tactically proficient leaders trained to fight in any environment and under any conditions on the 21st century battlefield. The 5th Ranger Training Battalion conducts the Mountain Phase of Ranger School at Camp Frank D. Merrill near Dahlonega, Ga., to train Rangers to able to apply combat power in a rugged, mountainous environment. Due to the lessons learned from the mountainous regions of Afghanistan, the Mountain Phase of Ranger School refocused its military mountaineering instruction. Instruction shifted away from the highly technical mountaineering techniques taught in years past to training that focuses on platoon and squad mobility

on vertical and near vertical terrain and includes training on casualty evacuation. Students learn basic mountaineer tasks as well as some assault climber tasks. Ranger students are trained in the fundamentals of mobility and mountaineering techniques necessary to move units safely and efficiently in mountainous terrain. The training is progressive and can be divided primarily into crawl, walk, and run phases. The crawl phase is taught at Camp Merrill and is the most technical phase. This phase consists of basic individual skills such as tying knots, the use and care of military mountaineering equipment, belays, rappels, and basic collective tasks such as hauling systems and rope bridges. The walk phase is taught on nearby Yonah Mountain and is a combination of both technical training and tactical application. At Yonah Mountain, Ranger students are taught basic climbing skills and advanced individual skills such as lead climbing and rappelling from overhangs. They are also taught advanced collective tasks such as squad and platoon mobility, rotary wing hoist, and night mountaineering that includes the negotiation of a fixed rope and a 200-foot rappel under night vision goggles. In addition, Ranger students are taught to recognize and understand the different terrain classifications and their respective limitations to dismounted personnel in order to plan appropriate contingencies. Upon completion of military mountaineering training, Ranger students possess individual and collective skills that enable them to ascend or descend vertical terrain, cross a linear obstacle, or conduct casualty evacuation on vertical terrain. Once they have the necessary skills, they begin to learn how to put them into action.

The run phase occurs during the field training exercise (FTX) where students must apply technical mountaineering techniques to the combat operation in order to complete the mission and meet the commander's intent. Throughout the FTX, students must plan, rehearse, and execute the installation of rope bridges and fixed ropes to negotiate steep terrain and the construction of hauling systems to extract casualties from severely restricted terrain. Currently, four out of the 10 planned missions Ranger students conduct during the FTX require the application of technical mountaineering

Two Ranger Students prepare to conduct the "Balance Climb" on Yonah Mountain, 3 June 2014, during Ranger Class 07-14.



techniques to successfully complete the mission. Ranger students are given the freedom to plan, develop a course of action, and apply the previously learned mountaineering techniques to the tactical scenario.

During the FTX, Ranger platoons conduct a combat search and rescue (CSAR) mission of a downed pilot on steep vertical terrain under simulated combat conditions. Once the platoon locates the crash site, it must secure the area and conduct a search to locate the pilot. Once the pilot is found and discovered to be wounded, they must treat, stabilize, and package the casualty for evacuation. Once he is prepared to move, the platoon will begin movement to a suitable evacuation site. Students quickly realize that moving a casualty only a few hundred meters on near vertical terrain is a very complex task. Moreover the students realize that the traditional two-man aid and litter teams are insufficient to move even a single casualty. They must call upon teams with mountaineering training to assist in the construction of a hauling system to raise or lower the casualty over vertical obstacles. Once the casualty is moved to the extraction point, he can be hoisted, air lifted, or ground evacuated. The evacuation operation is manpower intensive as well as physically and mentally demanding.

As Ranger platoons integrate mountaineering tasks into their combat operations over the course of the FTX, they become more effective in accomplishing their missions and meeting their commander's intent. A Ranger platoon or squad with basic mountaineering equipment is able to effectively and efficiently install simple fixed ropes, execute body belays, safely transport casualties, and haul equipment up or down steep slopes. They are well versed in squad and platoon mobility and have the knowledge and ability to increase the capability of any platoon operating in rugged, mountainous terrain. The 5th Ranger Training Battalion provides Ranger students with the mountaineering skills required for combat operations in a mountainous environment and develops leaders capable of applying doctrine to this specific battlefield.

Critical to the success of any unit in mountain warfare is the proper training of technical mountaineering skills and their tactical application. Incorporating mountaineering tasks into platoon and squad collective training requires a detailed planning process. As teams, squads, and platoons reach proficiency in basic collective tasks for mobility and climbing, mountaineering tasks are added to combat scenarios during FTXs. As the unit trains these tasks, standard operating procedures (SOPs) are developed and refined to improve the unit's ability to conduct these tasks under fire and in adverse conditions. Mountaineering tasks are included in most mission essential task list (METL)-based individual and collective training, and commanders should strive to train and qualify basic mountaineers and assault climbers. Basic mountaineers at the platoon level, with at least one assault climber at the company level, can greatly increase the mobility and survivability of any unit through cross-training programs. Trained mountaineering teams that include basic mountaineers and assault climbers maintained at the battalion level and capable of supporting both battalion and company-level operations provide commanders with an

additional asset capable of traversing any class of terrain. The Army has identified the need to incorporate military mountaineering across its ranks and is currently developing a way ahead for documenting and implementing unit requirements and conducting training.

Military mountaineering training is a specialized skill set that is paramount to the success of combat operations in a rugged, mountainous environment. Throughout history, commanders have been faced with the challenges of maintaining combat effectiveness and efficiency in the mountains. The 5th Ranger Training Battalion integrates technical mountaineering tasks and combat operations to arm Ranger students with the necessary mountaineering skills, working knowledge, and experience to overcome these challenges faced in a mountainous environment.

Notes

¹ LTC John C. Mountcastle, "Firefight Above Gowardesh," *Vanguard of Valor: Small Unit Actions in Afghanistan*, Ed. Donald P. Wright (Combat Studies Institute Press, 2011): 1-3.

² *Ibid.*, 4.

³ *Ibid.*, 7.

⁴ CPT Thomas P. Govan, *The Army Ground Forces: Training for Mountain and Winter Warfare* (Washington, D.C.: Historical Section - Army Ground Forces, 1946).

⁵ Northern Warfare Training Center website, 17 May 2014, <http://www.wainwright.army.mil/nwtc/history.htm>.

⁶ Roger B. Neighborgall, "Trapped Behind German Lines for Nine Days, The 5th Ranger Battalion and the Battle of Irsh-Zerf," *On Point*, Fall 2009: 6-13.

⁷ Army Mountain Warfare School, *Basic Military Mountaineering Handbook* (2014): 5.

⁸ FM 3-97.6, *Mountain Operations* (Washington, D.C.: Department of the Army, 2000): 48.

⁹ *Ibid.*, 48.

¹⁰ NWTC website, 17 May 2014.

¹¹ Bob Reinert, "Taking the High Ground," *Army News Service*, 31 October 2011, http://www.army.mil/article/68360/taking_the_high_ground.

¹² "Army Mountaineering Kits and Team Stove," Research, Development, and Engineering Command website, 6 May 2011, http://nsrdec.natick.army.mil/APBI/Army%20Unique/Army_-_AMK,_TS_Ver_6_MAY_2011.pdf.

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ SFC Joshua Lothspeich, personal interview, 30 May 2014.

¹⁷ Asymmetric Warfare Group, "Mountain Warfare in Afghanistan," 29 February 2008, Powerpoint presentation.

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CPT Marcus Elledge is a platoon tactical trainer for A Co., 5th RTBn and is responsible for the technical and tactical proficiency of Ranger instructors and the standardization of instruction.

1SG (Retired) David O'Rear is a training specialist and primary instructor for military mountaineering at the 5th RTBn. He also serves as the Airborne and Ranger Training Brigade executive agent for reviewing military mountaineering doctrine and validating programs of instruction throughout the U.S. Army Infantry School.
