



(Photo by Staff Sgt. Jeffrey Smith, 25 Infantry Division PAO)

A Stryker combat vehicle from the 1st Battalion, 5th Infantry Regiment, 1st Stryker Brigade Combat Team, 25th Infantry Division, idles on a snow-covered route 31 January 2014 at Joint Base Elmendorf-Richardson, Alaska. The Stryker unit from the "Arctic Wolves" Brigade made the nearly 400-mile trip from Fort Wainwright in support of a nine-day field training exercise for its sister brigade, the 4th Infantry Brigade Combat Team (Airborne).

Stryker Packages Allow the Army to Achieve Its Rapid Deployment Goal

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“Be ready” is the standard that the 1st Stryker Brigade Combat Team (SBCT), 25th Infantry Division strives daily to achieve. The constant “be ready” attitude not only ensures the “Arctic Wolf” Brigade can respond to the nation’s call to

“fight tonight” if necessary, but also supports the Army chief of staff’s (CSA) top priority of maintaining a globally responsive Army “to protect U.S. interests and those of our Allies.”¹ The CSA further defined a responsive force as one that is “globally engaged and capable of rapidly

employing scalable force packages from the smallest to the largest depending on the demands of the situation.”²

The Arctic Wolf Brigade received the opportunity to demonstrate its readiness when it was directed to provide 2nd Brigade Combat Team (BCT), 82nd Airborne Division with the Stryker component of the Global Response Force (GRF) package. Similar to the division ready brigade concept employed prior to the Global War on Terrorism, the GRF is the Army’s contemporary strategic rapid response force. Unlike the division ready brigade concept, the GRF is comprised of numerous components that offer a variety of capabilities from across the entire Army to provide joint commanders with scalable force packages tailored to meet the demands posed by specific situations. Thus, the GRF ensures that the Army can provide globally responsive forces that are agile enough to deliver decisive results in today’s uncertain and complex operating environments.

The 3rd Battalion, 21st Infantry Regiment was ultimately assigned the mission to provide one Stryker infantry company in support of the GRF for a period of seven months. Accordingly, 3-21 Infantry constantly trained decisive action to prepare soldiers for possible deployments to unpredictable environments, while also sustaining a high level of equipment and personnel readiness during the duration of the mission.³ Consequently, lessons captured during an emergency deployment readiness exercise (EDRE) conducted at Joint Base Elmendorf–Richardson, Alaska demonstrated that the Stryker slice of the GRF affords response force commanders with an extremely credible combat force capable of arriving anywhere in the world immediately upon notification.

Response Force Mission Rehearsal

In September 2013, 3-21 Infantry participated in an EDRE with 1st Battalion, 501st Infantry Regiment (Airborne) that included a forced entry scenario. 3-21 Infantry received a no-notice alert and immediately began preparing for aerial deployment from Fort Wainwright, Alaska. Air Force C-17 cargo planes arrived at Ladd Army Airfield several hours later, and loaded the 3-21 initial response platoon (IRP) for the 60-minute flight to Elmendorf Air Force Base. Simultaneously, 1-501 Infantry jumped into Malemute Drop Zone on Fort Richardson, Alaska, and subsequently seized a fictional U.S. consulate under threat by civil unrest in Baumeister Village (the installation’s urban terrain training area).

Upon arrival at Elmendorf Air Force Base, the 3-21 IRP off-loaded from the C-17 cargo planes and immediately reconfigured their Strykers from air loads to combat loads. Once reconfigurations were complete, the platoon executed a tactical road march to Baumeister Village, conducted linkup with 1-501 Infantry, and received an order to seize a terrorist training camp located several kilometers east of the fictional U.S. consulate (see figure 1). Following a brief troop-leading-procedure process, the 3-21 IRP began a movement to contact toward the camp. Though the 3-21 IRP was completely unfamiliar with the terrain, they used map data and operational graphics posted on their situational awareness screens (Force XXI Battle Command Brigade and Below, or FBCB2, equipment) to successfully maneuver their Strykers to support-by-fire positions overwatching the camp.

The 3-21 IRP lacked sensors capable of identifying exact enemy locations since it did not deploy with company unmanned aerial vehicle assets. However, 1-501 Infantry provided intelligence updates of likely enemy actions via tactical messaging. Armed with anticipated enemy actions, an awareness of the terrain, and an understanding of his own capabilities, the platoon leader immediately seized the initiative as the 3-21 IRP assaulted the terrorist camp. As always happens when facing a thinking opponent, the enemy presented a few surprises as the platoon fought to seize its objective. However, the dismounted infantry squads with their Strykers in direct fire support quickly achieved overmatch and successfully closed with and destroyed the enemy.

This exercise, dubbed Operation Rapid Response, was the first in which U.S. Army Alaska employed Stryker and airborne infantry capabilities working in concert to accomplish multiple objectives in a complex and dynamic tactical environment. Furthermore, Operation Rapid Response supported the CSA’s strategic vision by rapidly employing a force specifically scaled to deal with the threat existing in Baumeister Village. Numerous joint mobility, mission command, and operational goals were achieved during the exercise. For the explicit purpose of this article, the most relevant goals achieved were those that demonstrated the capacity of Stryker units to provide response force commanders with an enhanced strategic package that is rapidly deployable, sustainable, and capable of overwhelming any potential foe.

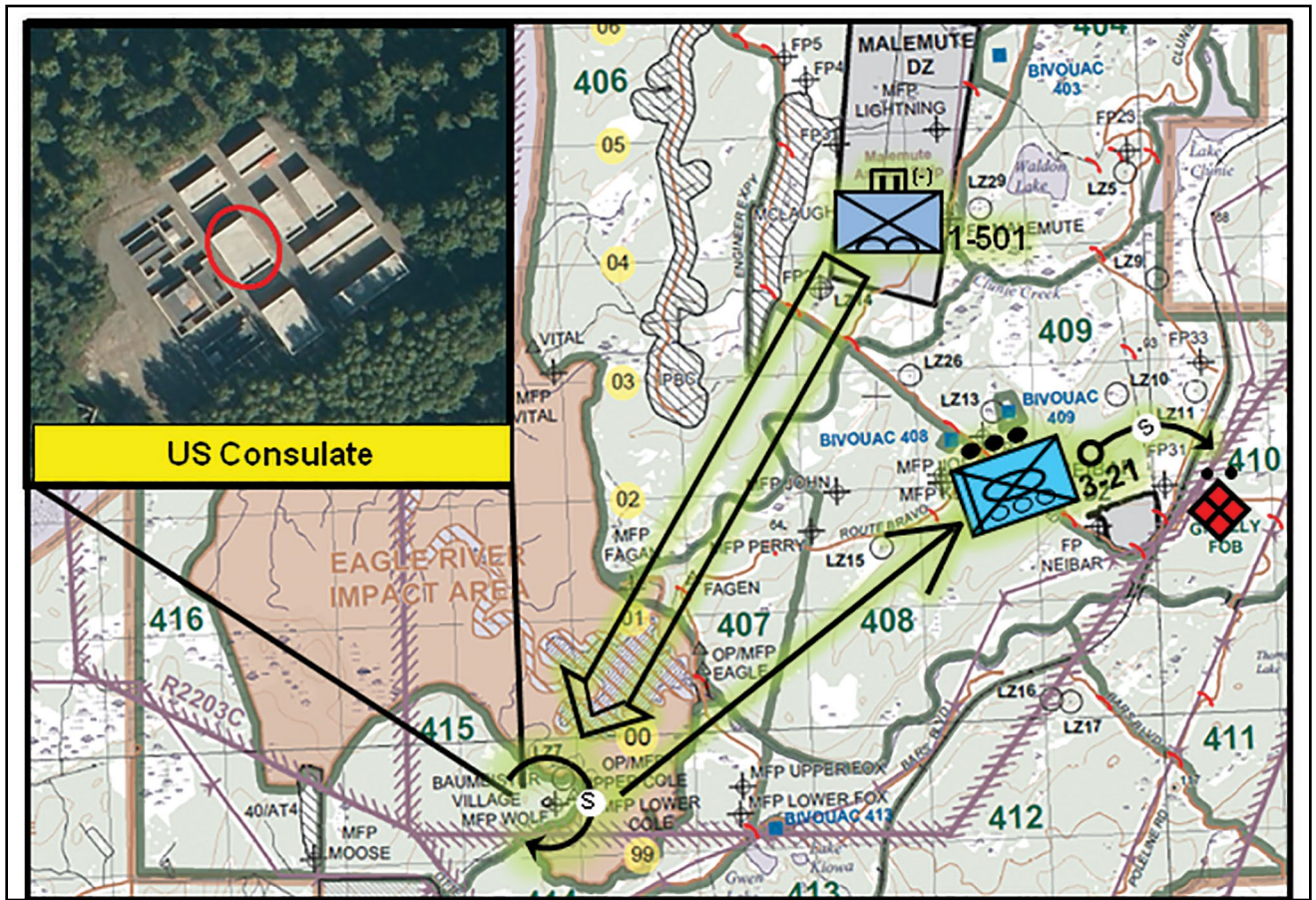


Figure 1. Operation Rapid Response Tactical Concept Sketch

Rapid Deployability

The Stryker was conceived to fill a capability gap between difficult to deploy heavy forces and inherently vulnerable light forces. Appropriately, the combination of strategic and operational deployability, with tactical mobility and survivability, are critical capabilities that Stryker platforms provide to battlefield commanders.

Weighing about 19 tons each, two combat-loaded Strykers can be transported by a single C-17 cargo aircraft. The Stryker's relatively light weight also makes it C-130 transportable (excluding double V-hull versions) to a range of approximately 860 miles, which allows for swift intratheater transport to smaller airfields located in remote areas.⁴

Finally, the Stryker's compact size allows it to disembark from aircraft already prepared for immediate combat operations.⁵ Thus, unlike M1 Abrams tanks (68 tons) or Bradley fighting vehicles (33 tons), whose weight and size exceed C-130 lift capabilities, the Stryker provides an ideal option to response-force commanders requiring the prompt introduction of mobile packages into any hostile arena.

The key to bridging the gap between strategic aerial deployment and immediate tactical employment of combat-ready Stryker formations is envisioning the efficient assembly of desired combat power upon arrival at the aerial port of debarkation (APOD). 3-21 Infantry assumed the worst case scenario of instant combat employment upon disembarkation (e.g., expand a lodgment scenario) during the initial planning phases of the GRF mission. Consequently, air load chalks (a chalk is a single aircraft load of troops and equipment) were sequenced to enable the arrival of an infantry platoon (the IRP) in the lead aircraft, followed by the sequential arrival of indirect fire capabilities, mobile gun systems, follow-on infantry platoons, and crucial logistical assets spread among several chalks (see figure 2). This combat-power-build methodology supplied the company commander with requisite direct and indirect fire capabilities to achieve near-instant fire superiority. It also ensured the company would receive timely sustainment capabilities to attain self-supportability. Finally, this methodology afforded maximum flexibility of asset arrival to mitigate possible aircraft delays,

unanticipated redirection of aircraft, or any other unforeseen events that inevitably occur once mission execution begins.

The soldiers of 3-21 Infantry staged the vehicles in chalk order within a secure facility for the entire duration of the mission. Additionally, secondary loads were pre-packaged on each vehicle, and ammunition was pre-palletized in accordance with chalk order. Maintaining the GRF equipment package in a constant deployment posture was necessary to ensure the company could depart in accordance with prescribed time lines. This posture also ensured the Stryker company was prepared for immediate combat operations upon disembarkation at the APOD, if required.

The accelerated deployment timeline also required 3-21 Infantry to maintain personnel on a constant six-hour recall status. Maintaining personnel in prolonged states of elevated readiness can quickly exhaust soldiers and overburden families, which can eventually lead to reduced deployability. For these reasons, 3-21 Infantry chose to rotate the GRF assignment among all three infantry companies instead of requiring one company to endure the entire mission alone. Rotations were conducted on a monthly basis with one company assigned as the GRF, one company assigned as *push* (available to assist the GRF with its outload), one company held in reserve, and the Headquarters and Headquarters Company in a

direct support role. The monthly rotation scheme kept companies fresh during their assigned GRF windows because it afforded them opportunities to refit and enjoy hard-earned rest periods when performing duties as the battalion reserve.

The air-load sequence depicted in figure 2 is one way to design the efficient assembly of combat power on both sides of the strategic deployment vs. tactical employment gap. Near limitless combat power build permutations exist for commander selection. However, the important takeaway is that the establishment of a combat power delivery methodology based on an early visualization of the fight is vital in ensuring the Stryker company can accomplish any mission immediately upon arrival.

Sustainability

It is well documented that “Stryker brigades do not have sufficient organic assets to self-sustain combat operations beyond a few days.”⁶ Stryker brigade limited sustainment capacity was a trade-off the Army consciously made to maximize deployability. Even though Stryker brigades will significantly increase their combat service support capabilities with the fielding of forward support companies during 2015, Stryker units will continue to rely on the integration of external logistical infrastructure to sustain prolonged deployments.

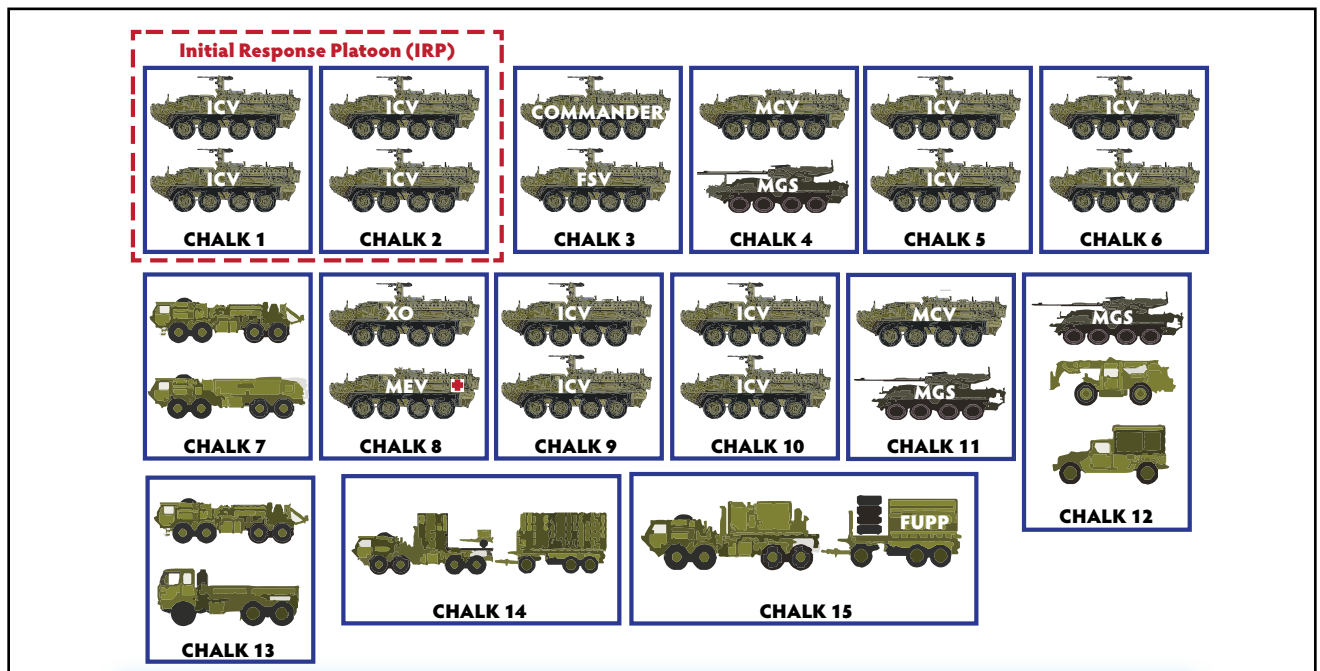


Figure 2. 3-21 Stryker GRF Company Air Load Methodology

Be that as it may, the purpose of this discussion is not to deliberate the difficulty Stryker brigades have with self-sustainment operations due to limitations imposed by their modified table of organization and equipment. Rather, this discussion focuses on the relative ease of sustaining the Stryker platform, which ultimately complements its deployability. Appropriately, 3-21 Infantry focused GRF planning efforts on tactical resupply to ensure the company possessed adequate capability to fuel, arm, and fix the fleet until able to integrate external logistical support.

Fuel. A Stryker infantry company consumes approximately 1,000 gallons of fuel per day during tactical operations. Comparatively, an M1A2 Abrams tank company consumes approximately 10,000 gallons of fuel per day. Also, compared to the M1A2 tank, the Stryker requires significantly less quantities of other petroleum, oils, and lubricants to sustain operability. Accordingly, the Stryker's superior fuel efficiency lessens the burden on extended supply lines established to sustain contingency operations. 3-21 Infantry added an M978 fuel tanker to the Stryker fleet to further ease refuel demands. This ensured the company was self-supportable with fuel for the initial 72 hours, thus mitigating the urgency to integrate external logistical assets.

Arm. Lethality is the signature capability the Stryker organization provides to battlefield commanders. However, sustaining lethality requires ready access to ample supplies of ammunition. Again, an early visualization of the fight during initial planning is key to ensuring the right ammunition is available to vehicular and dismounted weapon systems upon arrival at the APOD. 3-21 Infantry accomplished this by matching exact types of ammunition with the specific weapon systems associated with each chalk. For example, Chalk 1 (see figure 2) consisted of an infantry platoon mounted on infantry carrier variants. Accordingly, authorized unit basic loads of .50 caliber ammunition, 40 mm grenades, and vehicle smoke grenades were allocated to support each vehicle's respective weapon systems. Additionally, Javelin missiles, hand grenades, and various types of linked and ball ammunition were allocated to support the various individual and crew-served weapons assigned to infantry squads. Finally, authorized combat loads of linked and ball ammunition supporting squad automatic weapons and individual weapons were issued directly to soldiers during flight manifest activities. Correct allocation of requisite

ammunition for every weapon system associated with each chalk ensured the company had the capacity to gain fire superiority immediately upon disembarkation.

Fix. The several vehicle variants assigned to a Stryker infantry company have common engines, drive trains, suspensions, and tires. Furthermore, the Stryker's forward unit power pack is a Caterpillar diesel engine also found in the family of medium tactical vehicles. Consequently, Stryker commonality means fewer repair parts and specialty tools are required to maintain the fleet, further lessening the burden on extended supply lines. Appropriately, 3-21 Infantry dedicated an M7 Forward Repair System, a very small aperture terminal, a spare full-up power pack, and various other critical repair parts to the GRF package. These capabilities ensured the company could conduct independent field repairs within their field trains to regenerate combat power levels in a timely manner, allowing the company commander to achieve tactical objectives.

As demonstrated, logistical assets must be included in the GRF Stryker package to ensure the company is self-supportable until they integrate external assets. Furthermore, ammunition stocks must be thoughtfully included in air load plans to ensure the company can gain and maintain fire superiority until resupply is available.

Combat service support considerations are paramount whenever any unit, especially vehicular-based units, are deployed for decisive action. However, unlike mechanized platforms, the Stryker's economical consumption rates provide response force commanders the advantage of employing an extremely survivable, lethal, and mobile package that is also sustainable in austere locations.

Credible Combat Force

The Stryker's speed, protection, precision fire power, optics, robust communications suite, and capacity to deliver a nine-man infantry squad to close with and destroy the enemy epitomizes the symbiotic relationship that soldier and machine must attain to survive and win on today's dynamic and complex battlefield. The Army's fundamental conception of Stryker brigade combat teams was to create a "unit that could fight like Rangers and think like Special Forces, with better mobility than mechanized and armored forces."⁷ Results from Operation Rapid Response clearly illustrated Stryker organization capacity to realize this innovative vision.

Attaining soldier-Stryker synergy requires a deliberate training program that allows the mounted and

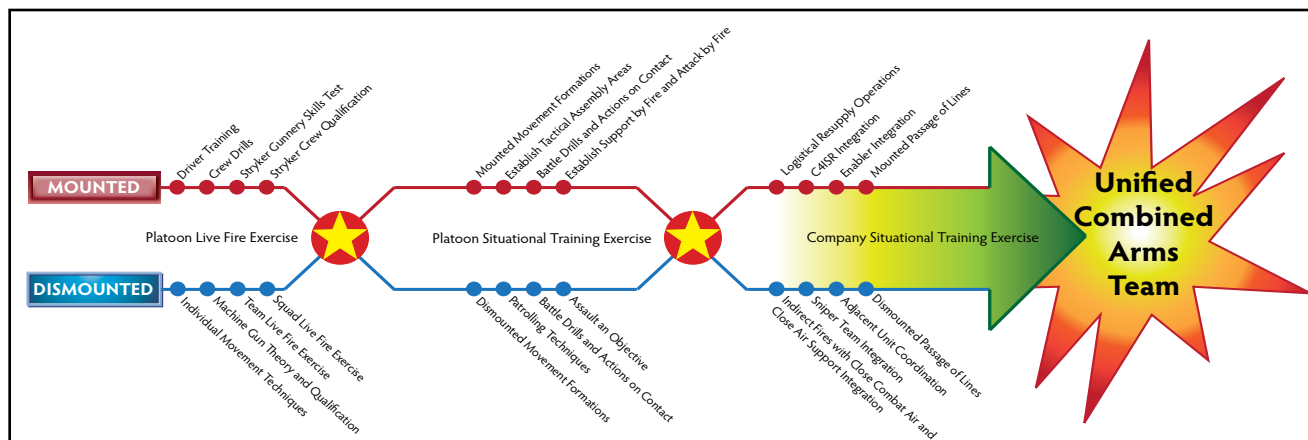


Figure 3. Example of 3-21 Infantry's GRF Training Glide Path

dismounted components to master their respective skill sets, while also integrating cross-training events that bond the two components into a tightly coupled fighting system. Using this philosophy as a guiding principle, 3-21 Infantry designed a training methodology that sought to develop Stryker platoons into unified combined arms teams capable of offsetting each component's weaknesses by enhancing each other's inherent strengths.

The battalion chose to focus primarily on offensive tasks as its mission essential task list when designing the glide path for the GRF mission. This decision was based on an assumption that the Stryker slice would most likely participate in a GRF package scaled specifically for combat operations. As depicted by figure 3, the glide path was divided into mounted and dismounted lines of effort. Each line was comprised of mutually supportive individual, crew/team, and collective-level tasks that hastened skill transfer when the two components combined. The touch points denoted by the stars signify training events that cross-pollination between the two components, and served to validate total team competency.

Figure 3 represents a simplified model describing the overall training construct. The two touch points merely denote larger exercises used to certify overall proficiency via external evaluations. In reality, countless cross-training events executed at crew, fire team, and squad levels in virtual, live, and constructive environments were continually conducted to foster teamwork and develop expertise through constant task repetition. Despite an entire company's worth of Strykers being sequestered in a secured facility, 3-21 Infantry continued to execute field training and live fire exercises during the entire seven-month mission by creating "training sets" from vehicles belonging to other

companies within the battalion. Companies would simply inventory, sign for, and maintain the training set during their iteration of an event. This technique allowed the battalion to continuously hone mounted and dismounted skill sets. Most importantly, 3-21 Infantry's training methodology ensured the GRF company had the confidence and capacity to successfully overwhelm any potential foe, as evidenced during Operation Rapid Response.

Key Lessons Learned

Any undertaking consisting of the length and complexity posed by the GRF mission presents abundant challenges. Overcoming each challenge invariably yields important lessons that must be incorporated in standard operating procedures, tactics, techniques, and procedures, etc. in order to improve efficiency and overall performance. The following three lessons highlighted by this article were chosen because of the operational risk that each one posed toward the overall conduct of the mission.

Level III vehicle protection. Cage armor is perhaps the most enduring image of the Stryker during Operations Iraqi and Enduring Freedom. Cage armor was developed to defeat rocket propelled grenades, quickly followed by the development of hull protection kits which provided better protection against improvised explosive devices. Proof of their effectiveness lie in the number of lives that cage armor and hull protection kits saved.

Not enough sets of add-on armor kits exist to outfit every Stryker brigade. Therefore, add-on armor kits are primarily housed in pre-positioned stocks such as the one located at Auburn, Washington. Due to their limited availability, and the cost associated with transporting sets to different destinations as GRF assignments change, the



(U.S. Air Force photo by Staff Sgt. Dayton Mitchell)

Soldiers destroy an abandoned compound 18 February 2010 near Highway 1 in Huta, Afghanistan. The soldiers are with 2nd Battalion, 1st Infantry Regiment, 5th Stryker Brigade Combat Team, 2nd Infantry Division.

decision to outfit Stryker slices with add-on armor will be made upon notification to deploy. Given the accelerated deployment timeline, the most likely course of action is that the add-on armor kits would be installed at an initial staging base en route to the APOD. Then again, the extra weight and size associated with the inclusion of add-on armor significantly increases the amount of aircraft required to transport a Stryker company. Additionally, Strykers with attached add-on armor kits cannot fit in C-130 cargo planes. So, although add-on armor kits enhance Stryker protection and survivability, they also decrease deployability. Consequently, 3-21 Infantry prepared companies to deploy without the benefit of add-on armor.

Digital interoperability. History is replete with examples of military ventures seriously hampered by the inability to establish dependable communication networks between multiple units merged together during contingency operations. Modern information technology has in many ways further complicated the ability to establish reliable communications. Fittingly, 3-21 Infantry

had to overcome a considerable interoperability problem to ensure the company could establish connectivity with higher headquarters immediately upon deployment.

The 1st SBCT, 25th Infantry Division digital architecture is built on line-of-sight, terrestrial-based communications platforms. Conversely, GRF mission analyses revealed that 2nd BCT, 82nd Airborne Division communications architecture was satellite based, and the two architectures could not communicate with one another. In light of this discovery, 3-21 Infantry submitted an operation needs statement (ONS) for Blue Force Trackers to fully meet 2nd BCT's operational requirements. PM Stryker subsequently installed 22 Blue Force Trackers on the GRF Stryker fleet. Like all requests for finite resources, considerable time elapsed between the ONS approval, sourcing, and eventual equipment installation process. Thus, units must identify equipping gaps requiring ONS fill early in planning processes to successfully mitigate risks prior to assuming the GRF mission.

Immediate combat employment. As stated earlier, the Stryker's compact size and relatively light weight

allows it to disembark from aircraft already prepared for combat operations. Additionally, the air load methodology depicted in figure 2 illustrates 3-21 Infantry's attempt to ensure companies could fight immediately upon arrival at the APOD. However, experiences during Operation Rapid Response revealed that mismatches will invariably exist between air load requirements and combat load requirements.

Incompatible explosive mixtures and weights caused by the comingling of various ammunition types constitute the primary friction between the different load plan requirements. This is especially true when considering how the transportation of main gun rounds for mobile gun systems, mortar rounds, Javelin missiles, and other high explosives can easily violate joint travel regulations. Furthermore, load plans that alter outer vehicle dimensions, such as the affixing of personal bags and other equipment on Stryker bustle racks, often exceed physical constraints posed by tight aircraft cargo bays. Consequently, planners must account for the fact that crews will have to reconfigure load plans upon arrival at the APOD before they are fully prepared to execute combat operations. However, detailed analyses

of authorized secondary load plans can mitigate the amount of effort required for reconfiguration, ultimately allowing the company commander to employ his force in a timely manner.

Conclusion

Retaining credible ground forces that can rapidly respond to any situation wherever they may occur around the world is one of the Army's top priorities. The GRF is the Army's concept to rapidly project scalable force packages capable of meeting specific mission demands. The Stryker organization is the physical embodiment of a credible ground force. 3-21 Infantry maintained the Stryker slice of the GRF package for seven months, and designed comprehensive training and staging plans that not only ensured the company could deploy immediately upon notification, but was also prepared to fight upon disembarkation at the APOD. Results from a forced entry EDRE conducted at Joint Base Elmendorf-Richardson validated that Stryker formations provide response force commanders with an enhanced strategic package that is rapidly deployable, sustainable, and capable of overwhelming any potential foe. ■

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Notes

1. 38th Chief of Staff, U.S. Army, "CSA Strategic Priorities", (October 2013), online presentation at the U.S. Army website, <http://usarmy.vo.llnwd.net/e2/c/downloads/316390.pdf> (accessed 13 January 2015).

2. Raymond T. Odierno, "The Force of Tomorrow" *Foreign Policy Magazine*, 4 February 2013, http://www.foreignpolicy.com/articles/2013/02/04/the_force_of_tomorrow (accessed 13 January 2015).

3. Army Doctrine Reference Publication 3-0, *Unified Land Operations* (Washington, DC: U.S. Government Printing Office [GPO], 2012), Glossary-2. Decisive action is defined as "the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks."

4. Office of the Secretary of Defense and Joint Staff, *Selected Acquisition Report, Stryker: 31 December 2011*, 4; United States Government Accountability Office, "Military Transformation: Fielding of Army's Stryker Vehicles is Well Under Way, but

Expectations for Their Transportability by C-130 Aircraft Need to be Clarified" *GAO Report 04-925*, August 2004, 4, <http://www.gpo.gov/fdsys/pkg/GAOREPORTS-GAO-04-925/html/GAOREPORTS-GAO-04-925.htm> (accessed 8 January 2015).

5. *Ibid.*, 1.

6. James H. Fortune and Christopher L. Budihas, "Logistics and Sustainment in the Stryker Brigade Combat Team: Logistics-Support Team, or Forward Support Company?" *The Cavalry & Armor Journal* (April-June 2013): 28, http://www.benning.army.mil/armor/eARMOR/content/issues/2013/APR_JUN/Articles/FortuneBudihasArticle.pdf (accessed 30 December 2014).

7. Association of the United States Army, "Accelerating Momentum: The Stryker Brigade Combat Team as a Learning Organization" *Torchbearer National Security Report* (June 2006), 9, http://www.ausa.org/SiteCollectionDocuments/ILW%20Web-ExclusivePubs/Torchbearer/TB-NSR_06-6.pdf (accessed 8 January 2015).