

The Lethality Imperative: Training Cavalry Squadrons to Fight for Information

by LTC Scott Pence

The voice came from the center speaker box in the tactical-operations center (TOC): "Contact, four enemy personnel, west, out."

My furthest scout element had made contact and compromised their position. I knew what would come next. The opposing force (opfor) at Joint Readiness Training Center (JRTC) is ruthless – they know every inch of the training area, and I knew we had been fortunate for too long.

After the joint forcible entry (JFE), the dismounted scout team had advanced off the roads and through swamps, succeeding in establishing an observation post (OP) overlooking a critical intersection. Up to this point, this scout team was the single most successful team in the brigade. Now, it seemed, the opfor had engaged them in a movement-to-contact.

My proactive command sergeant major leaned toward the flap of the TOC tent. In an instant, he would lead the recovery and casualty-evacuation effort with the medics outside.

I did not expect the next report: "Engaged and destroyed four military-aged males. Continuing mission."

Cavalry squadrons must be lethal. After many counterinsurgency deployments in which brigade combat teams (BCTs) employed cavalry squadrons as "smaller infantry battalions," today's cavalry squadrons are returning to their designated role as masters of reconnaissance and security (R&S). We see improvements in reconnaissance tactics at each combat-training center (CTC) rotation; after-action reports no longer bemoan the lack of scout fieldcraft and now focus on advanced collection management and priority information requirement (PIR) refinement.

An idyllic scout mission includes undetected movement to an OP, occupation, timely and accurate reports that satisfy the commander's PIR, and subsequent destruction of the enemy by indirect fire. The scouts, of course, inflict this humiliation on the enemy without ever being detected or using their individual weapons. This might be the case in some missions, especially at CTCs, but in our warfighting history we have often returned to the art of fighting for information.

COL Curtis Taylor, commander of 1st Stryker BCT, 4th Infantry Division, the R&S BCT, addressed this phenomenon in his seminal 2005 article, "Trading the Saber for Stealth."¹ He wrote that CTC trends often create a false security in the ability of stealthy light reconnaissance to slowly and deliberately achieve reconnaissance objectives. The 1987 and 1996 Goldsmith Studies from RAND Corporation concluded that the opfor at the National Training Center (NTC) were able to effectively use stealth to win the reconnaissance fight against rotational units. The opfor used light humvees to quietly and slowly occupy dismounted observation points, gain visual contact and harass the rotational unit with indirect fires.

Taylor contrasted this with historical examples from both 1943 North Africa and 2003 Iraq to prove that warfare requires high tempo and thus rarely lends the commander the luxury of time. He demonstrated that higher tempo brought light-reconnaissance forces into an unacceptable level of risk and made movement-to-contact the primary form of reconnaissance.

"The greatest lesson of the North Africa campaign was that direct combat was virtually unavoidable if a reconnaissance force was to be effective at all," Taylor wrote.

Taylor linked high tempo with a heightened need for rapid and forceful reconnaissance.

Multi-domain battle

The very nature of multi-domain operations implies that the tempo will be on overdrive. In the best conditions, national assets and unmanned aerial systems (UAS) provide copious data on the operational environment (OE) prior to a JFE (airborne operation). In theory, the operational commander should have full situational awareness of conditions on the ground before delivery of paratroopers. In the worst conditions, however, the enemy will

deny the U.S. joint force's asymmetric advantages from overpowering his defenses through electronic and cyberattacks that jam, spoof or exploit mission-command systems.

The 2014 Army Operating Concept noted that "Army forces will have to support joint operations through reconnaissance, offensive operations or raids to destroy land-based enemy space and cyberspace capabilities."² It is in this challenging environment that the role of the cavalry squadron in an airborne infantry BCT (IBCT) thrives in support of the multi-domain concept.

In a reversal of the relationship we have operated under for years, U.S. Army Training and Doctrine Command's (TRADOC) recent whitepaper on multi-domain warfare suggests that U.S. Army forces must be prepared to conduct operations that set conditions for the employment of Air Force and/or naval operations.³ Vertical-envelopment capacity by U.S. Army airborne IBCTs offer a method to defeat units that prevent joint forces (Integrated Air Defense System, anti-access and aerial denial, mission-command nodes) without exposing friendly lines of communication to the effects of the enemy's protected considerable artillery assets.

In a JFE, each element of the IBCT needs to be able to fight and win decisively without support from enablers. Fires from the field-artillery (FA) battalion are limited to only a few suppression missions due the limited amount of ammunition dropped; attack aviation and close air support are unlikely to be available due to the nature of JFEs; and, in many environments, we can expect our mission-command systems to be monitored, jammed or spoofed. Therefore, especially in those vulnerable first few hours after the airborne operation, the cavalry squadron must use its organic direct and indirect fires to overpower the select enemy forces it encounters. This requires careful intelligence preparation of the battlefield before the mission to mitigate the risk of encirclement and defeat in detail. And once the mission begins, operations will resemble the battles of our forefathers more than those of the recent past.

For offensive reconnaissance operations, we have much to learn from our World War II veterans. At 82nd Airborne Division's All-American Week in May, retired LTC Bill Collier – a reconnaissance scout in World War II in 106th Cavalry Squadron – offered: "We were taught in the schoolhouse to sneak and peak, but in combat we were fighting for information."⁴

Collier executed in Normandy what would today be described as rapid and forceful reconnaissance to detect the enemy and enable destruction by heavier units behind him. "You get involved, and you soon learn how much they have. You learn how [much] they will fight for a roadblock," he said.⁵

When engaged against a determined near-peer adversary, scouts fight for information. If a reconnaissance objective is of value to us, it is of value to the enemy as well, and he will fight for it. These might be the enemy's reconnaissance units; however, they are more likely to be enemy infantry elements.

Earlier this year the author of *The Bear Went Over the Mountain*, Dr. Lester Grau, and retired LTC Charles Bartles published *The Russian Way of War* out of the Foreign Military Studies Office at Fort Leavenworth, KS. The authors make clear that, all other things being equal, a BCT cavalry squadron vs. a Russian squadron has three times the amount of trained reconnaissance professionals. Not every adversary will follow Russian doctrine, but this organization is instructive as a model.

Figure 1 shows that Russian reconnaissance battalions are comprised of just one company of ground-reconnaissance professionals; the other companies are radar and technical collection.⁶

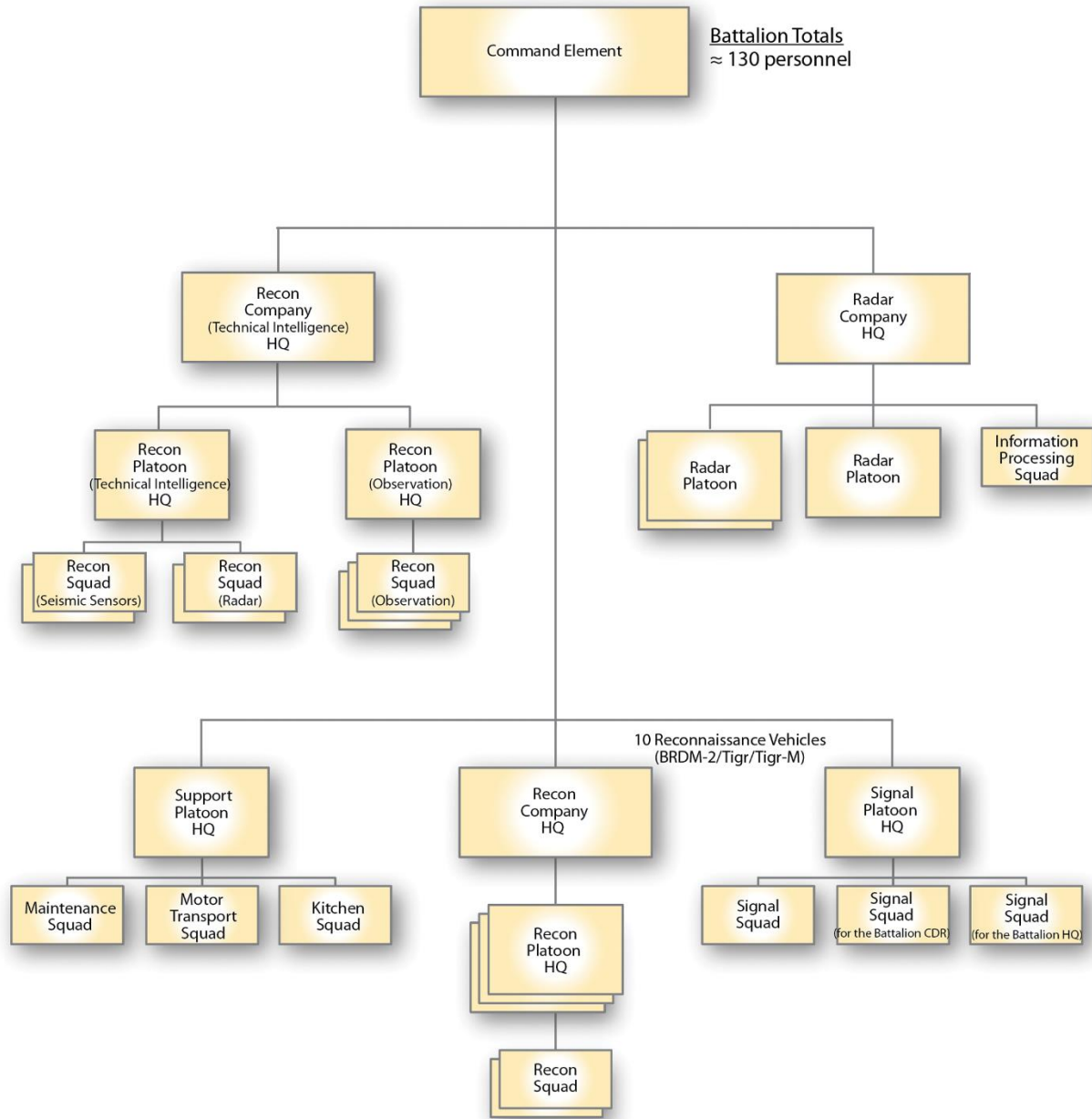


Figure 1. The Russian reconnaissance battalion. (from *The Russian Way of War*)

Grau and Bartles note: “At the battalion level, most maneuver units do not have dedicated reconnaissance assets; regular units from the battalion are assigned for this purpose on an *ad hoc* basis.”⁷ Regular units, not scout units, are trained to engage and destroy the first enemy forces they encounter. Therefore each scout team should be prepared to react-to-contact and continue to reconnaissance objectives. This is a method with which Israeli scouts of the 1973 Arab-Israeli War (Yom Kippur War) would be familiar.

During the Yom Kippur War, Israeli reconnaissance forces detected a gap in the Egyptian defenses along the Sinai Peninsula.⁸ On Dec. 9, 1973, the division commander, GEN Ariel Sharon, directed his 87th Reconnaissance Squadron to move forward and probe the edges of the Egyptian front. That night, the 87th found a sizable gap between the Egyptian 2nd and 3rd Armies; the Egyptians had left a mile-long stretch unprotected.⁹ Sharon would use this gap days later to execute his division counterattack.

Sharon's fellow division commander to his north, GEN Avraham Adan, wrote in his memoirs, "No columns of dust were raised due to the sand dunes. Thus unnoticed by the enemy, the unit discovered the open 'seam' between the Egyptian Second and Third Armies."¹⁰ However, Adan was wrong. He assumed the scouts advanced stealthily and undetected all the way to the Suez Canal. In actuality, they were in a running gunfight with Egyptian forces.

A firsthand account of the battle from the Israeli scouts recalled: "We moved toward the canal, keeping up a constant shooting match with the Egyptian positions to our north. This way we pinpointed their southernmost positions."¹¹

The Israeli 87th Reconnaissance Battalion fought for information. The scouts succeeded in moving all the way to the Suez Canal and then returned and gave a full report. Later, the squadron led Sharon's division through the gap during his counterattack.

The addition of mobile protected firepower (MPF) to the IBCT enhances its ability to fight for information. The 5-73 Cavalry Squadron – which is currently responsible for developing tactics, techniques and procedures (TTP) for employing MPF organic to an IBCT – has one platoon of LAV-25s to employ in support of infantry units as well as to employ with reconnaissance units. Recent experience with the LAV-25 Excursion allows our squadron to test new techniques for employing heavier firepower with scouts to fight for information.

At Normandy, Collier's cavalry troops were organized with one jeep platoon, one anti-tank platoon and one tank platoon.¹² Our current organization is enough to execute aggressive reconnaissance missions against lightly armored enemy forces. The dismounted reconnaissance troop, in mutual supporting range of the mounted troops, can identify enemy forces and allow the mounted troops' uparmored humvees to destroy the lead elements with .50 Cal, MK19, Improved Target-Acquisition System or organic 120mm mortars. With MPF platforms, the IBCT's cavalry squadron can fight for information through detection and destruction of enemy forces in the OE.



Figure 2. 5-73 Cavalry LAV-25 platoon leader 1LT Christian McCollum engages targets at the March 2017 platoon LFX. 5-73 Cavalry supports the LAV-25 Excursion to test TTPs for MPF platforms in support of airborne IBCT operations. (U.S. Army photo by SPC Zackary Nixon)

Training scouts for lethality

"Conduct a guard" is a mission-essential task (MET) for the cavalry squadron. Field Manual (FM) 3-96 notes that "guard is a security task to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body."¹³ To reach

training proficiency in the guard task, a squadron must be able to engage and destroy targets that threaten the protected force.

FM 3-96 continues: “A guard force differs from a screen in that it routinely engages enemy forces with direct and indirect fires.” In an airborne IBCT, JFE conditions allow limited indirect-fires capabilities in the hours following the airborne insertion. Only select gun tubes can be air-dropped, and there are limits on the amounts of ammunition. During this period of maximum vulnerability, the cavalry squadron is simultaneously without its most lethal partner, the IBCT FA battalion. This reality is another reason why airborne cavalry squadrons must be trained and ready to engage threats with their organic weapons.

Until a higher headquarters designates an area of operations (AO), cavalry squadrons must train for all environments and specialize in those that are most dangerous. Figures 3-5 show concepts, mounted and dismounted, that one cavalry squadron executed to validate platoon leaders and troop commanders in their ability to manage lethality across a broad spectrum of conditions. These examples might be a good start point or provide an idea for integration into existing plans. As in all training, the concepts are not perfect but bring individuals, units and leaders closer to combat readiness.

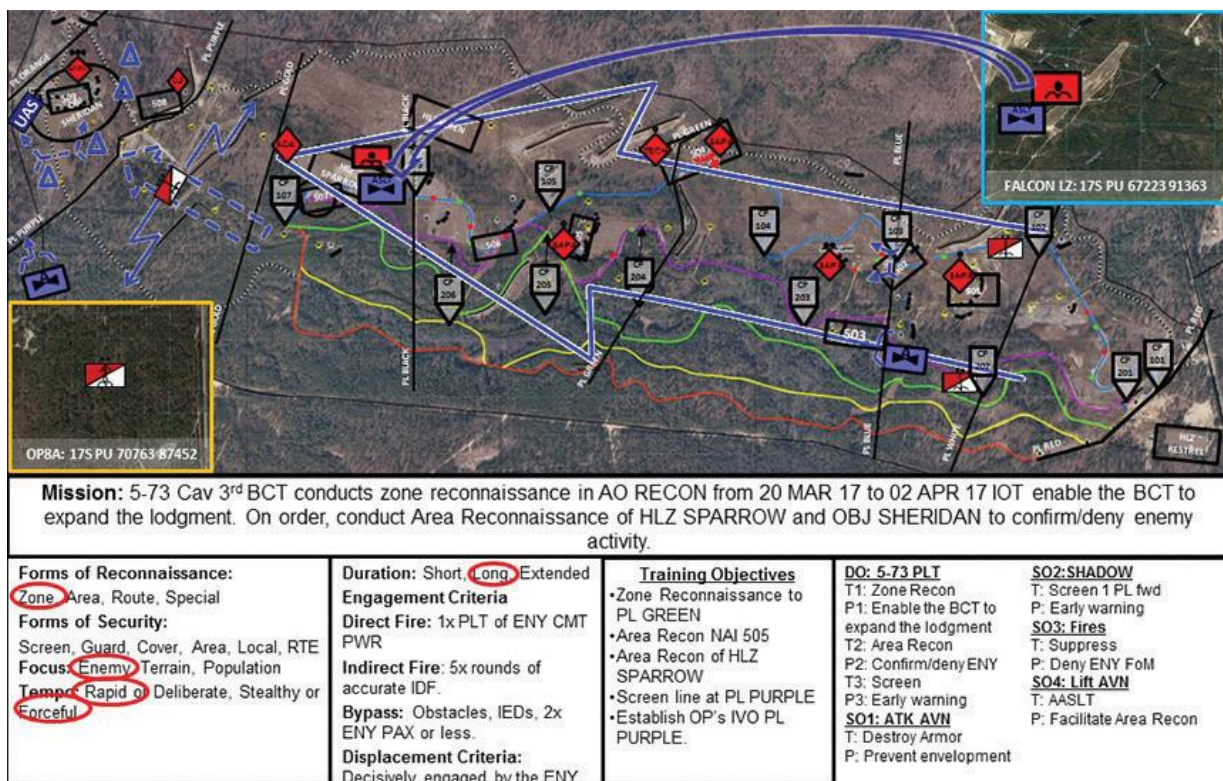


Figure 3. 5-73 Cavalry’s mounted-platoon LFX concept.

The 5-73rd Cavalry Squadron executed an ambitious platoon live-fire (LFX) concept in March 2017 at Fort Bragg, NC. The situation took the platoon from a deliberate link-up with a BCT infantry battalion’s lead elements to react to improvised explosive devices (IEDs), supported by BCT engineers. The platoon reacted to contact with direct fire on enemy forces overwatching the IED site and then exfiltrated to a covered and concealed site to call their nine-line medical-evacuation (medevac) report and coordinate for evacuation.

Then the platoon received intelligence on an anti-tank team in a combat security outpost, which required scouts to dismount and call for fire (CFF) from the FA battery’s M777s. Once destroyed, the platoon was hit by a non-persistent chemical attack with live CS gas and engaged several targets “under mask.”

The platoon consolidated, reorganized and downgraded its mission-oriented protective posture level only to receive a report from higher headquarters about an enemy air-defense-artillery (ADA) site nearby. The platoon

leader organized his sections to conduct an aggressive hasty mounted attack by bounds to destroy enemy ADA site and security.

Finally, the platoon established OPs and executed air-ground operations (AGO) with live Apache gunships. They called for fire with live troop mortars. Then multiple motorized targets appeared, which triggered displacement criteria. The dismounted OPs bounded back in coordination with mounted platforms that provided suppressive fires to support their displacement.

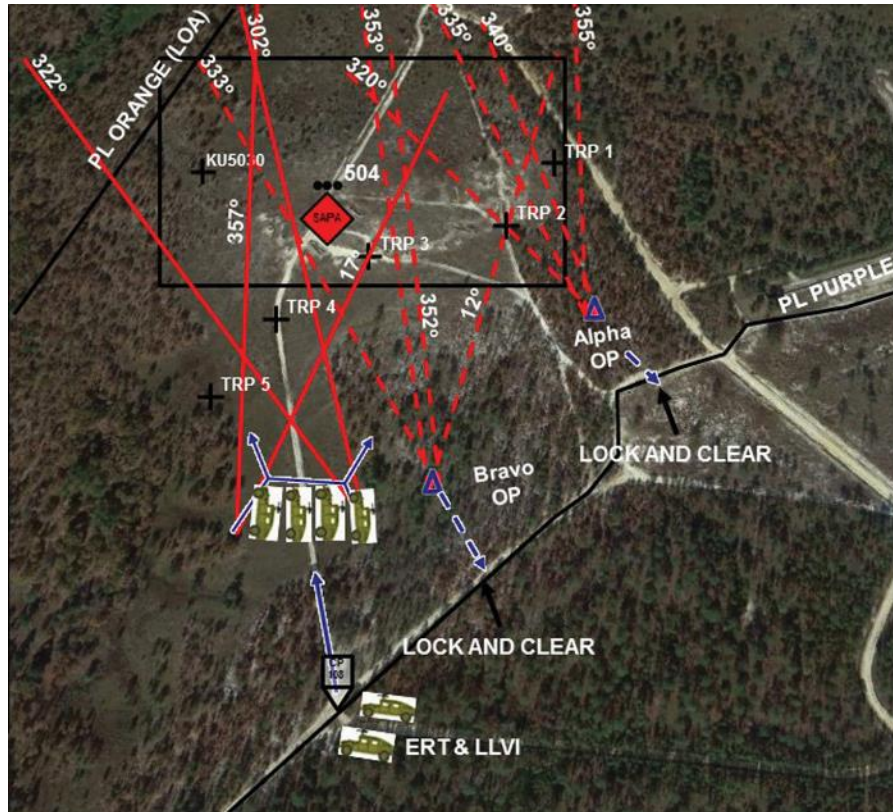


Figure 4. LFX break-contact concept. Scheme of maneuver: Once rounds begin landing in the impact area and vehicles are prepared to move, Bravo Section's OP shifts fire to only Target-Reference Point (TRP) 3 to open SDZs for the occupation. Alpha Section's OP will continue to engage. When the SBF initiates fire, Bravo OPs will cease fire, begin bounding back to Phase Line (PL) Purple and lock and clear (confirmed by an observer/coach/trainer (O/C/T)). Alpha's OP will engage from TRP 1 to TRP 2 until Bravo OP has called they are set at PL Purple. This will trigger Alpha's OP to cease fire, bound to PL Purple and lock and clear. Once both OPs are at PL Purple, the SBF will begin to retrograde. Risk mitigation: Vehicles will not be cleared to fire until they are established in their SBF locations. O/C/Ts traveling with the SBFs will confirm that the gunners have positively identified their TRPs before engagement. O/C/Ts with the dismounted elements will confirm they shift fire prior to the SBF occupying its position. When the dismounted OPs break contact, they will stay in their assigned lanes while retrograding to PL Purple.

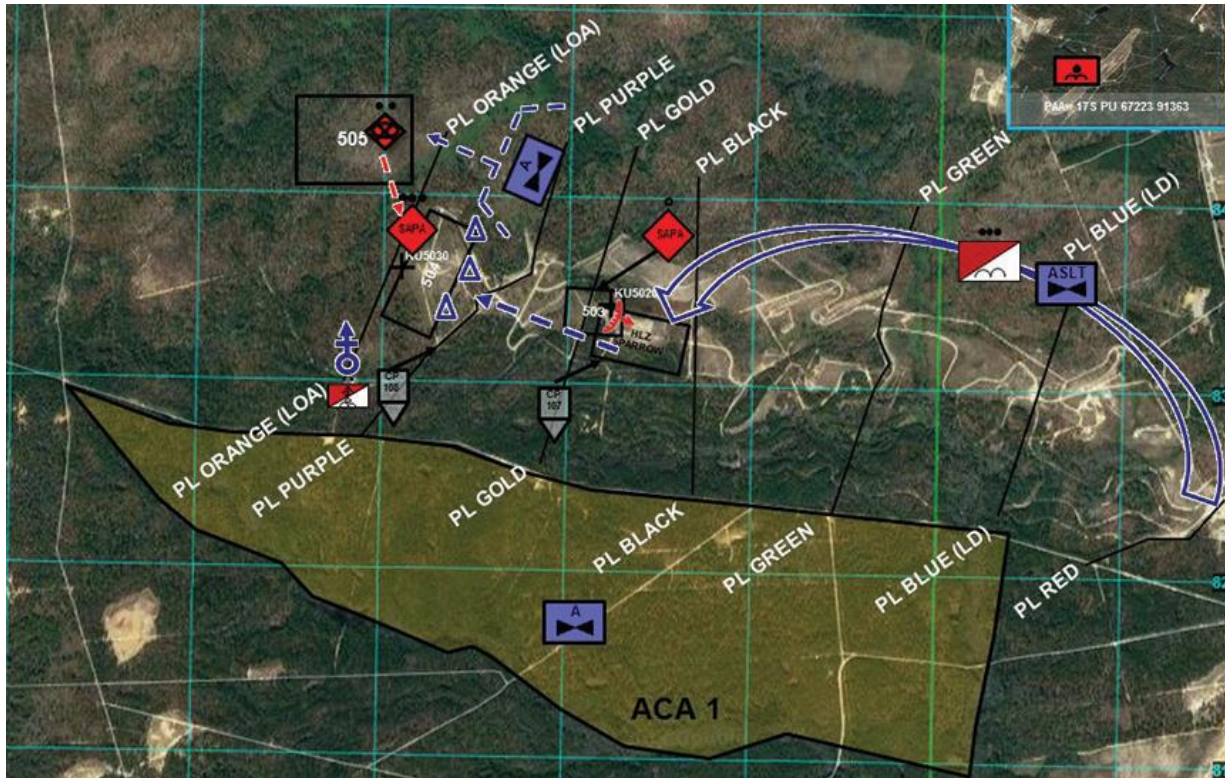


Figure 5. Dismounted platoon LFX concept.

The 5-73 Cavalry's dismounted platoon LFX concept validated skills uniquely suited to the dismounted reconnaissance troop. The platoon entered the AO via air assault. After the platoon moved off the landing zone (LZ), they reacted to contact from a force that fell within its engagement criteria (a two-man team). The platoon maneuvered to destroy the enemy security outpost and then executed a nine-line medevac and secured the flight. From there, the dismounted platoon moved through concealed routes and reacted to a non-persistent chemical attack with live CS gas. The culminating event was three short-duration OPs oriented on a named area of interest (NAI). The scouts executed AGO with live Apache gunships, called for fire with the BCT's M777 FA battery and broke contact under fire once displacement criteria was met.



Figure 6. A 5-73 Cavalry vehicle engages targets at the March 2017 platoon LFX. (U.S. Army photo by SPC Zackary Nixon)

This concept, though physically and mentally grueling for the platoon leader, provided a crucible to evaluate the platoon and platoon leader as a fighting element. It also validated the platoon for operations in which they would be required to destroy air-defense radars to allow attack aviation to enter the area. Each platoon leader finished the exercise (after a few were given more opportunities) capable of employing our habitual enablers (engineers, low-level voice intercept (LLVI), electronic warfare, FA, mortars and attack aviation) as well as be able to destroy critical high-value targets with direct fires to enable joint fires and beyond.

Troop combined-arms maneuver LFX

To reach “trained” readiness status, the new Objective T standards require cavalry squadrons in all BCTs to complete squadron live fires. This mandate created an urgency to design and execute a troop combined-arms maneuver LFX (CAMLFX) at Fort Bragg prior to squadron live fires at Fort Polk, LA.

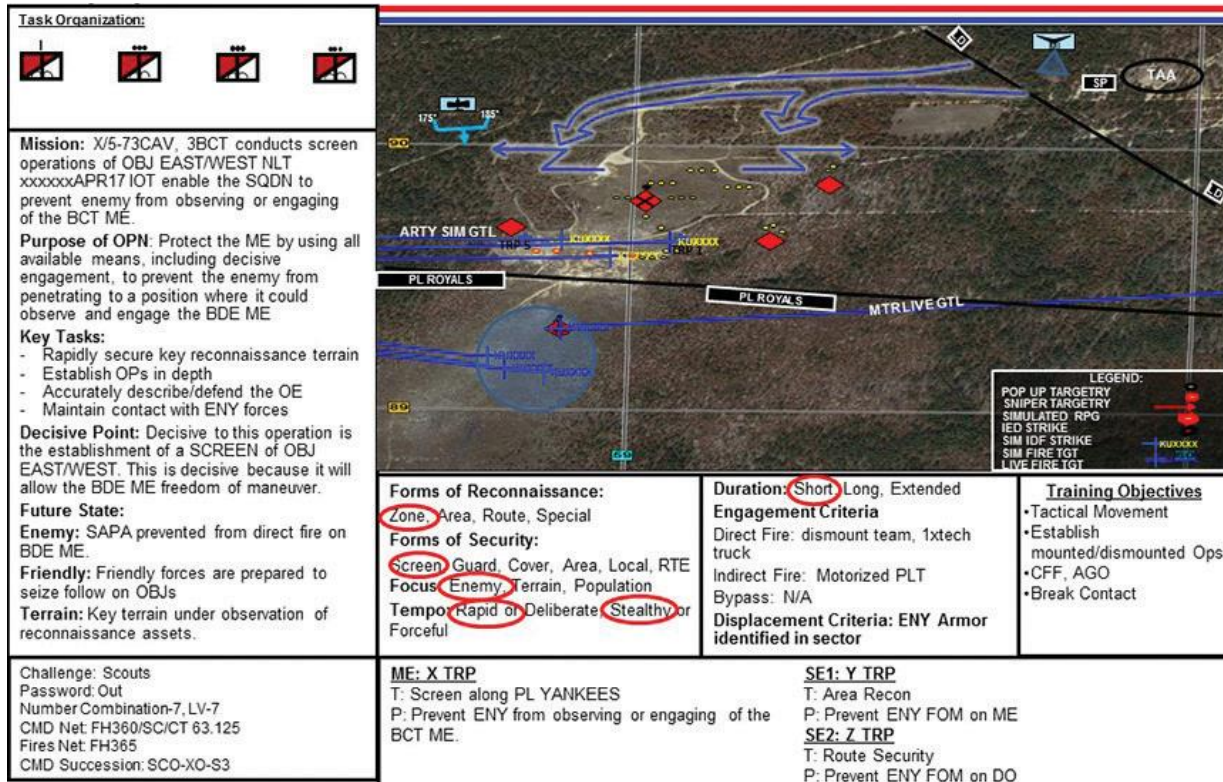


Figure 7. Mounted troop CAMLFX concept.

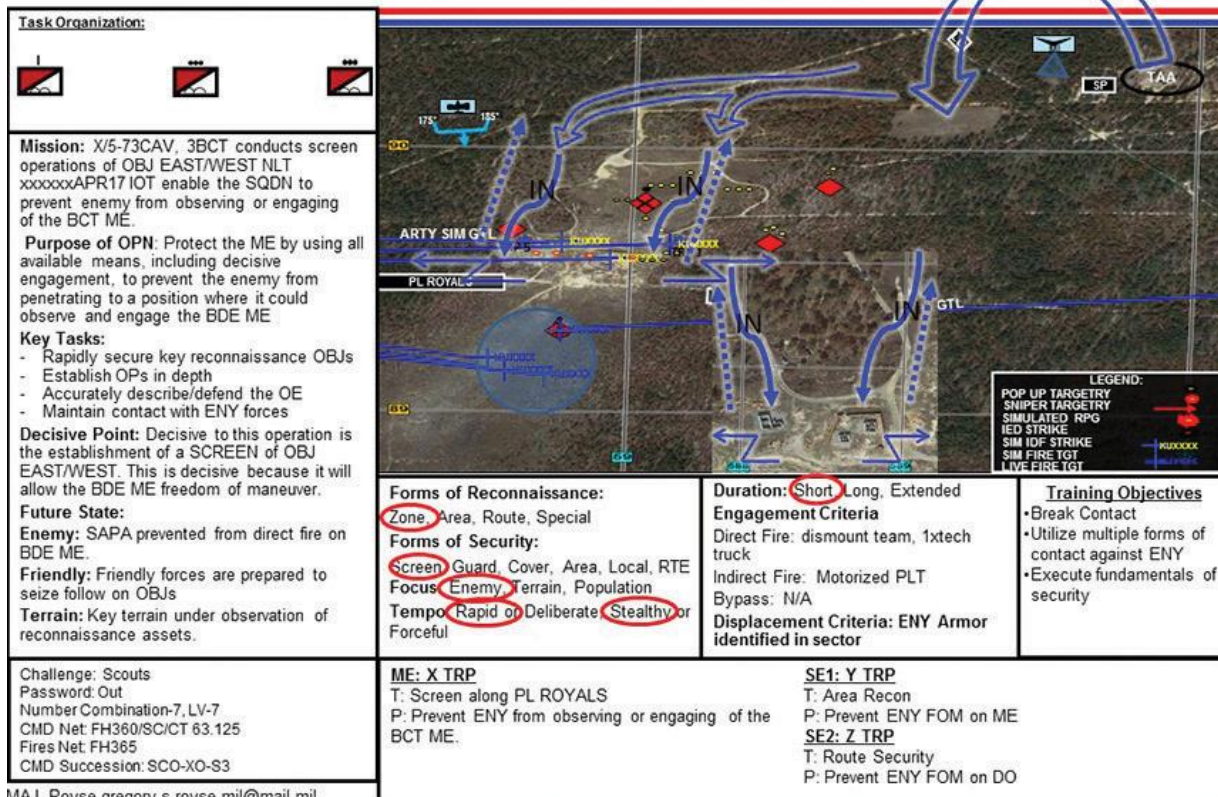


Figure 8. Dismounted reconnaissance troop CAMLFX concept.

In May 2017, 3rd BCT, 82nd Airborne, supported our troop CAMLFX at Fort Bragg. This exercise validated the cavalry squadron’s ability to execute the “conduct a guard” MET. Multiple platoons led with their dismounted teams into concealed OPs. Lead elements detected enemy forces and suppressed with FA and 120mm mortar fires. Once motorized enemy forces arrived, the lead scouts cued the mounted reconnaissance vehicles to move into positions to destroy them with direct fires. Once OPs detected an armored force, the platoons each executed final protective fires, which suppressed the targets while sections bounded backward, broke contact with the force and moved to ensure continuous reconnaissance.



Figure 9. Squadron scouts arrive via CH-47 at the May 2017 troop CAMLFX. (U.S. Army photo by SPC Zackary Nixon)



Figure 10. Squadron scouts fire at dismounted targets at the May 2017 troop CAMLFX. (U.S. Army photo by SPC Zackary Nixon)

Lessons learned

Individual:

- **Rusty direct-fire skills.** Training for lethal operations demonstrated shortcomings in individual movement techniques, controlling fires and timely and accurate reports.
- **Strong indirect-fire skills.** Individual scouts demonstrated high proficiency in live CFFs and AGO with attack aviation.
- **Urban TTPs.** Scouts learned how to occupy firing positions in buildings to engage targets while reducing their signature from outside (getting out of the window). Also, our scouts troubleshot “sniper blinds” with black felt strips and tape, which concealed the firers in the structure.

Collective:

- **High learning curve.** We observed an initial lack of familiarity with signals and code words for lifting and shifting fires. Before long, platoon leaders effectively integrated flares, smoke and whistles, which enabled effective operations.
- **Berm drills.** Gunners and drivers practiced berm drills to minimize their exposure. Ideally, practice these in earlier training iterations to allow crews to arrive at the live fire ready to maneuver.
- **Using infantry’s targetry.** Planners learned that most infantry collective-training concepts can be used for scouts – the planner just needs to reverse the order. For example, an infantry platoon routinely sits

in a support-by-fire (SBF) position, then occupies an attack-by-fire position, then initiates fire and shifts and lifts the SBF's fire as the assault element closes on the objective. For scout training, the mission starts at the objective with scouts in an OP. Targets may be presented for indirect-fire missions until scouts demonstrate proficiency. Local, closer targets then are presented within the OP's engagement criteria (a four-man team and maybe one vehicle) as if an enemy force is attempting to seize their position. The scout team engages and destroys the enemy. Then, progressively more targets appear, which trigger displacement criteria. Mounted vehicles, if integrated, move into an SBF position to suppress targets while the scout team displaces by bounds. If vehicles are not integrated, nearby dismounted teams provide suppressive fire. Alternatively, platoons call for fire and obscuration to cover their moves. Once the dismounted teams are out of sector, the vehicle SBFs bound back to covered and concealed routes and recover the dismounted teams at pre-planned rally points.

- **Maximizing OP training through placement.** Selecting OP locations on the edge of impact areas allow live CFF training before executing live direct-fire training.

Leader:

- **Pre-global war on terrorism range concepts.** Our planners worked closely with Fort Bragg Range Operations to design scenarios with surface danger zones (SDZs) that supported the overall concept. Concepts from 2003 and earlier were optimal for our requirements, and the oldest Range Operations staff members were happy to recreate and certify them.
- **Tactical exercises without troops (TEWTs).** During TEWTs, scout-platoon leaders exhibited initial reluctance to engage targets with direct fires. We regularly use NTC's *Scouts in Contact* series of tactical exercises.¹⁴ Each platoon leader completed a vignette with the squadron commander in the room and his/her troop commander outside demanding reports over the radio. As the squadron focused on lethality, I increased the TEWTs in which the situation called for the platoon to destroy enemy forces with their direct-fire weapons. Platoon leaders often delayed as they attempted to CFF or use attack aviation, even when immediate lethal action would have eliminated the threat.

Conclusion

All units must be proficient in their assigned weapons; this comes as no surprise. With renewed mandate for R&S operations, however, we must not overcorrect our training too far toward stealth at the expense of lethality. Of all the units on the battlefield, it is the scouts who most need to eliminate their adversaries the quickest.

The mission of cavalry squadrons requires scouts to gain and maintain contact with a cunning enemy, an inherently risky task. The scout team who instinctively eliminates the JRTC opfor threat with Multiple Integrated Laser Engagement System lasers must also do so with their 5.56 bullets. To mitigate the risk and allow scouts to provide continuous reconnaissance, their training must allow them to fight and win upon chance contact. While stealth remains important, it is imperative for scouts to be experts in lethal direct-fire engagements. The return of R&S expertise does not replace lethal operations. Rather, the capability for lethality is imperative to complete reconnaissance missions against the modern threat.

LTC Scott Pence commands 5th Squadron, 73rd Cavalry (Airborne), 3rd BCT, 82nd Airborne Division, Fort Bragg, NC. He previously served as brigade S-3, 173rd Infantry BCT, Vicenza, Italy; battalion S-3, 2nd Battalion, 503rd Infantry, Vicenza; company commander, 75th Ranger Regiment, Fort Benning, GA; and tank-company commander, 1st Battalion, 72nd Armor, Republic of Korea. LTC Pence's military education includes the School of Advanced Military Studies, intermediate leader education, Scout Platoon Leader Course, Armor Basic Officer Course, Advanced Armor Officer Course and airborne and Ranger schools. He holds a master's of business administration degree from Webster University, a master's military art and science from the U.S. Army and a bachelor's of arts degree in organization psychology from the University of Michigan. LTC Pence was the first Armor officer to serve with 75th Ranger Regiment. His operational deployments include one in Iraq and three in Afghanistan.

Notes

¹ COL Curtis D. Taylor, *Trading the Saber for Stealth: Can Surveillance Technology Replace Traditional Aggressive Reconnaissance?*, land-warfare paper, Arlington, VA: The Institute for Land Warfare, Association of the United States Army, September 2005.

- ² TRADOC Pamphlet 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World, 2020-2040*, Headquarters Department of the Army, Washington, DC, October 2014.
- ³ TRADOC whitepaper, "Multi-Domain Battle: Combined Arms for the 21st Century," Headquarters Department of the Army, Washington, DC, Feb. 24, 2017.
- ⁴ Author's interview with retired LTC William H. Collier, May 26, 2017, Fayetteville, NC.
- ⁵ William H. Collier, *The 106th Cavalry's Story: The History of the 106th Cavalry, an Illinois National Guard Unit from 1898 to the Present*, Bloomington, IN: Trafford Publishing, 2012.
- ⁶ Lester W. Grau and Charles K. Bartles, *The Russian Way of War: Force Structure, Tactics and Modernization of the Russian Ground Forces*, Fort Leavenworth, KS: Military Press, July 2017. The electronic version is at <https://community.apan.org/wg/tradoc-g2/fmso/p/fmso-bookshelf>; click on the book cover to download it (it's 402 pages and graphics intensive). A limited printed run will be available around Labor Day.
- ⁷ Ibid.
- ⁸ John J. McGrath, *Scouts Out! The Development of Reconnaissance Units in Modern Armies*, Fort Leavenworth, KS: Combat Studies Institute Press, 2008.
- ⁹ Abraham Rabinovich, *The Yom Kippur War: The Epic Encounter That Transformed the Middle East*, New York: Doubleday, 2007.
- ¹⁰ Avraham Adan, *On the Banks of the Suez: An Israeli General's Personal Account of the Yom Kippur War*, London: Arms and Armour Press, 1980.
- ¹¹ Zeev Schiff, *October Earthquake: Yom Kippur 1973*, London: Transaction Publishers, 2013.
- ¹² Collier, *The 106th Cavalry's Story*.
- ¹³ FM 3-96, *Cavalry Squadron*, Headquarters Department of the Army, Washington, DC, May 2016.
- ¹⁴ LTC J. Frederick Dente and LTC Bradley S. Nelson, *Scouts in Contact: Tactical Vignettes for Cavalry Leaders*, Cobra Team, NTC, 2016.

Acronym Quick-Scan

- ADA** – air-defense artillery
- AGO** – air-ground operations
- AO** – area of operations
- BCT** – brigade combat team
- CAMLFX** – combined-arms maneuver live fire
- CFF** – call for fire
- CP** – command post
- CS gas** – a gas causing tears, salivation and painful breathing; used in civil disturbances. Chemical name: ortho-chlorobenzal malononitrile. CS from the surname initials of its U.S. inventors, Ben Carson and Roger Staughton.
- CTC** – combat-training center
- FA** – field artillery
- FA** – field artillery
- FM** – field manual
- IBCT** – infantry brigade combat team
- IED** – improvised explosive device
- JFE** – joint forcible entry
- JRTC** – Joint Readiness Training Center
- LD** – line of departure
- LFX** – live-fire exercise
- LLVI** – low-level voice intercept
- LoA** – line of advance
- LZ** – landing zone
- Medevac** – medical evacuation
- MET** – mission-essential task
- MPF** – mobile protected firepower
- NAI** – named area of interest
- NTC** – National Training Center
- O/C/T** – observer/coach/trainer
- OE** – operational environment
- OP** – observation post
- Opfor** – opposing forces
- PIR** – priority information requirement
- PL** – phase line

R&S – reconnaissance and security
SBF – support by fire
SDZ – surface danger zone
TEWT – tactical exercise without troops
TOC – tactical-operations center
TRADOC – (U.S. Army) Training and Doctrine Command
TRP – target-reference point
TTP – tactics, techniques and procedures
UAS – unmanned aerial system

Further reading

In addition to works cited in “Notes,” primary sources for this article are:

- Mohamed Abdel Gahni el-Gamasy, *The October War*, Cairo, Egypt: American University in Cairo Press, 1993.
- Chaim Herzog, *The Arab-Israeli Wars: War and Peace in the Middle East from the War of Independence through Lebanon*, New York: Vintage Books, 1984.
- S.L.A. Marshall, *Bastogne: The First Eight Days*, Washington, DC: Infantry Journal Press, 1946.

Secondary sources include:

- John J. McGrath, “Sinai 1973: Israeli Maneuver Organization and the Battle of the Chinese Farm,” *An Army at War: Change in the Midst of Conflict*, Proceedings of the Combat Studies Institute 2005 Military History Symposium, Fort Leavenworth, KS: Combat Studies Institute Press, 2005.

In addition to NTC’s *Scouts in Contact* tactical-vignette handbook for cavalry leaders and TRADOC’s whitepaper on multi-domain battle, both cited in “Notes,” doctrinal publications include:

- FM 3-20.96, *Reconnaissance and Cavalry Squadron*, Headquarters Department of the Army, Washington, DC, March 2010.
- FM 3-90-1, *Offense and Defense, Volume 1*, Headquarters Department of the Army, Washington, DC, March 2013.
- FM 3-98, *Reconnaissance and Security Operations*, Headquarters Department of the Army, Washington, DC, July, 2015.