Thinking Outside the Airbox: Creative Ways to Integrate SUAS into Small Unit Training

by COL Gregory W. McLean and LTC Mitchell Payne

While the nature of war – a violent contest of wills between two forces – remains unchanging, the character of war constantly evolves as new technology develops. The reality of small unmanned aerial systems (SUAS) in large-scale combat operations is a relatively immutable aspect of the current character of war. In the current and future fight, all elements on the battlefield must operate under the assumption that they are under observation. The prevalence of SUAS drones is quickly becoming a defining characteristic in the modern fight.

Given this assumption, it stands to reason that military units at all levels must consider ways to train in this new environment. Simply put, Soldiers at every level must internalize the impacts of the prevalence of SUAS on the modern battlefield. While the U.S. Army's acquisition processes may often prohibit the purchase of commercial off-the-shelf SUAS for training, there are multiple ways that unit leaders can creatively "think outside the [air]box" to reach the desired training outcomes. This article discusses some training methodologies that leaders can consider when integrating SUAS into their training guidance. Also, it offers suggestions on ways that leaders can integrate SUAS into their training.

Training considerations in integrating SUAS

Before considering integrating anything new into training, unit leaders may consider stepping back and clearly articulating what their desired training endstate is for the training. Put another way, leaders should first ask themselves "What is the training outcome for this training?" Specific to the integration of SUAS, this might be "We want Soldiers who are conditioned to look upwards as well as outwards, and who understand how enemy SUAS relates to the enemy kill chain." Alternatively, however, the integration of SUAS into blue operations might produce a training outcome like "We want Soldiers who are confident and knowledgeable in how and when to employ SUAS."

Figure 1: A small, unmanned aircraft system (SUAS) is shown in flight at Dugway Proving Ground. *(U.S. Army photo by Becki Bryant)*

The two differentiated training outcomes – whether considered as "red air" or "blue air" represent two distinct ways that units can integrate SUAS into their training. As the characteristics of the modern battlefield continue to be shaped by changing technology, unit leadership should be challenged to consider both outcomes and determine how best to implement both sets of outcomes. Each distinct training outcome requires a similarly differentiated approach in applying the 8-step training model.[1]

Once the unit commander has established the training objectives, they should employ a training strategy that incorporates the methodologies laid out in doctrine. In October and November of 2023 the Maneuver Center of Excellence published several products that establish doctrine for small-scale (dismount squad and platoon) units reacting to SUAS.[2] Of particular note is that both the battle drill and the entire training support package are available online from the Army training website.[3] The training support package includes lesson plans, performance checklists, and instructional videos[4] to aid commanders in determining the best approach to developing training to reach their training objectives. While the training material at hand is sponsored by and designed for dismounted infantry, many of the considerations are directly applicable to dismounted cavalry scouts and can be indirectly applied to mounted maneuver forces.

Specific to the Armor community, however, there is further work to be done in the codification of react to SUAS battle drills for mounted forces. While current doctrine and tasks exist that discuss the appropriate actions for lower echelon (i.e., section and platoon) reaction to air attacks,[5] there is nothing that captures doctrine for how a mounted force should react to SUAS contact. This distinction is important because the nature of the mounted force differs significantly from the dismounted force. For example, scouts in an observation post (OP) along a screen line

may not want to engage SUAS with direct fires because doing so could give away their location. Similarly, tanks in a hide position (while conducting a defense) may be better able to survive if they do not engage or disperse, provided their vehicle camouflage is sufficient to the task. Either way, as unit leaders consider how to accomplish the training objectives considering the current doctrine on reacting to SUAS – which is focused primarily on dismounted infantry forces – it bears noting that the mounted force mission brings inherently different focus areas than our light or dismounted infantry counterparts.

Approaches to Integrating SUAS

Considering the two broad uses of SUAS – as either red air (aggressor) or blue air (defense) – suggests several approaches to integrating SUAS into unit level training. It stands to reason that these approaches will be dependent on the size, scale, and type of SUAS involved – one cannot integrate a RQ-11B Raven the same way as a small-scale drone quadcopter.

First, and perhaps the most obvious approach, is simply to get your unit level SUAS into the air. This applies equally to red air or blue air training objectives. While this approach may be the most obvious approach, however, it may not be the simplest approach. To fly SUAS in support of either red or blue training, units must often navigate several hurdles. One of the most difficult hurdles to navigate may simply be the lack of available SUAS. Even if the equipment is on hand, it still requires qualified personnel to operate the SUAS. Even with equipment and operators on hand there is no guarantee that the equipment will work, meaning that units must execute regular maintenance on their SUAS and proper pre-combat checks and pre-combat inspections prior to using it.

Barring equipment, maintenance, and trained operators, other unit leaders must also consider other factors such as airspace requests, land requests, and weather, all of which may detract from a units' ability to effectively employ its SUAS. Once the SUAS is employed, however, units can begin achieving their training objectives, whether it is conditioning dismounted forces to look up and listen while on patrol or validating vehicle "air guard" positions during mounted maneuver.

Figure 2. T-Swarm 800 drones, experimental drones currently in a beta phase, undergo testing in a training field for Allied Spirit 24 at the Joint Multinational Readiness Center, Hohenfels, Germany, March 10, 2024. Allied Spirit

24 is a U.S. Army exercise for its NATO Allies and partners at the Joint Multinational Readiness Center near Hohenfels, Germany that develops and enhances NATO and key partners interoperability and readiness across specified warfighting functions. *(U.S. Army National Guard Photo by PFC Ayden Norcross, 153rd Public Affairs Detachment)*

The second approach applies primarily to use of SUAS in a "red air" context. Often individual Soldiers and unit leaders do not fully appreciate the importance of maintaining movement spacing or basic noise and light discipline. One way to reinforce these fundamental basics is to fly the SUAS over friendly forces and start audio/visual recordings. The unit leadership can then pull aside the training audience and show them the audio/visual recordings to help them understand what an enemy SUAS could have seen. This is a similar practice to what observer/coach/trainers (O/C/Ts) at combat training centers do when they pull unit leadership aside to show them just how far their noise and light signatures travel at night.

Third, if the training, equipment, or weather conditions do not allow for the use of SUAS, units can still achieve some of their training objectives by replicating the audio signatures of SUAS's from a red air perspective. One example of this could include using small-scale gas-powered engines (i.e., weed eaters) or other audio recordings for stationary units. Whether or not the training audience sees a visual SUAS, the audio signature should trigger a similar response and help achieve the training objective.

Fourth, and from a primarily blue air perspective, the continued prevalence of SUAS on the modern battlefield means that blue forces should feel equally comfortable requesting and employing SUAS. This means that SUAS integration into training should not be limited to "react to SUAS," but it also should include "employment of SUAS." Our dismounted cavalry scouts should feel equally comfortable employing an SUAS drone as they do an M240 in a dismounted OP. Vehicles in a concealed position should feel comfortable using SUAS to cover dead space in a defense or screen. If we accept the premise that SUAS is a valid sensor, then mounted and dismounted scouts in a screen should be trained to use SUAS to initiate and observe indirect fire missions. The need to integrate SUAS into this is further exacerbated in urban operations, which present significant challenges to mounted maneuver forces. The integration of small-scale disposable SUAS drones into our mounted forces should be considered to mitigate combat losses in urban terrain.

Fifth, and lastly, integration of SUAS from a blue air perspective should also consider how SUAS can be used as a diversion or deception operation. Much like individuals can telegraph their movements, the use of SUAS to clear areas can potentially telegraph future movement of mounted or dismounted forces. Based on this, however, the use of small-scale disposable SUAS drones as a deception element can cause the enemy forces to reallocate forces to disadvantageous positions. Similarly, the current doctrine on reacting to SUAS includes the passive measure of dispersal when reacting to SUAS.[6] Blue forces may look at using SUAS to similarly displace entrenched enemy forces as a precursor to direct fire engagement. If we currently have quad-copter drones that can deliver packages,[7] those same drones can drop grenades and other munitions to disrupt or displace enemy maneuver forces.

Conclusion

The unchanging nature of war means that military leaders at all levels must always be able to think creatively and be willing to apply violence in a contest of wills. The continually changing characteristics of war mean that modern military leaders must be willing to remain adaptive in their thinking and continually innovate to provide well-trained forces that can close with and destroy the enemy on the modern battlefield.

Today, the prevalence of SUAS on the battlefield means that military leaders must assume they operate under almost continual visual observation. Those same military leaders have a duty to provide creative and adaptive ways to offer tough realistic training – to do otherwise is to betray the contract of trust they have with the American people.

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Notes

[1] Field Manual 7-0, ***Training***, U.S. Army, June 2021.
[2] U.S. Army Training Network. 07-PLT-D8015 "React to Aircraft while Dismounted – Platoon;" https://rdl.train.army.mil/catalog-ws/view/100.ATSC/C17A21F3-CAFB-4591-BCC6-E2543F2CFE59-1688735194590/report.pdf, and U.S. Army Training Network. 19-SQD-D0111, "React to Enemy Air Attack while Mounted;" https://rdl.train.army.mil/catalog-ws/view/100.ATSC/E2C4AB96-08E2-4D18-916A-C782CCFD81FC-1507131239517/report.pdf.
[3] U.S. Army Central Command Registry, Central Army Registry (CAR).
[4] U.S. Army Central Command Registry, "React to Aircraft While Dismounted – Platoon (Training Support Package)." https://atiam.train.army.mil/catalog-ws/zip/100.ATSC/8256B086-39F9-4163-AAED-568D4ADD4BD5-1696966520210/1701709258.zip.
[5] U.S. Army Central Command Registry. 19-SQD-D0111, "React to Enemy Air Attack While Mounted," and 19-PLT-D8005, "React to Air Attack while Mounted – Platoon," https://rdl.train.army.mil/catalog-ws/view/100.ATSC/E2C4AB96-08E2-4D18-916A-C782CCFD81FC-1507131239517/report.pdf.
[6] Army Techniques Publication (ATP) 3-01.81, ***Counter-Unmanned Aircraft System***, U.S. Army; August 2023.
[7] Amazon.com. Oct. 18, 2023. "Amazon announces 8 innovations to better deliver for customers, support employees, and give back to communities around d the world." Accessed Dec. 4, 2023. aboutamazon.com/news/operations/amazon-delivering-the-future-2023-announcements.

Acronym Quick-Scan

O/C/T – observer/coach/trainer
OP – observation post
SUAS – small unmanned aerial system