

AN INNOVATIVE APPROACH TO COMBAT LOGISTICS:



Low Cost, Low Altitude Airborne Resupply in Afghanistan

LIEUTENANT COLONEL MICHAEL PETERMAN
MAJOR PAUL J. NAROWSKI II
MAJOR ERNEST LITYNSKI
SERGEANT FIRST CLASS EDWIN CLOUSE

History has shown that without combat service support and sustainment operations, the warfighting capability of any unit is certainly diminished, and potentially leads to interruption of combat operations. Hence, the ability to develop innovative, adaptive combat service support sustainment processes remains a strong principle within contingency operations.

The 782nd Brigade Support Battalion (BSB) has brought such innovation to the modern battlefield of Afghanistan. Due to the expertise and initiative of the Soldiers of the 782nd BSB, 4th Brigade Combat Team, 82nd Airborne Division, the Army has a new aerial resupply capability in the form of the Thestral “Speedball” Low Cost, Low Altitude (LCLA) Aerial Delivery System.

The LCLA program is a new and innovative means of aerial delivery currently being employed throughout portions of Afghanistan. The program differs from the Air Force high velocity container delivery system (CDS) drops in that bundles are smaller in size and delivered at a very low altitude from a smaller civilian-style aircraft with almost pinpoint accuracy — usually within 20 meters of the established point of impact (PI).

CONCEPT

If you have never seen LCLA firsthand, you would not understand the true disposable nature of this system. This system is truly “low cost,” based on parachutes made of sandbag materials, risers made of swingset plastic rope, and the total cost of the system is less than \$100 each. These systems are truly expendable as well. In other words, there is no need to backhaul air items for reuse based on the high consumption rate. Ultimately, the Soldier on the drop zone (DZ) can cut the lashings, take the supplies, and leave the chute and lashings behind.

LCLA bundles can comprise virtually all classes of supply and have ranged in weight from 250 to 560 pounds. Bundles are constructed on 2-foot by 4-foot wooden skids using A-7A cargo straps to attach the loads to the skids as well as to hold the loads together. The three parachutes used in conducting the LCLA drops are the T-10 personnel parachute, the T-10R reserve parachute, and the Stalker (Cross) parachute. The T-10 parachutes are beyond their useful lifespan for personnel use and are taken from Defense Reutilization and Marketing Office (DRMO) inventories and utilized in this disposable fashion. They are a one-time use parachute and are “free of cost,” per se. The Stalker parachute is made of extruded polypropylene (much like sandbag material) and is also considered disposable.

The LCLA system is designed to provide a “one-time” solution that is reliable and inexpensive. LCLA also was designed to require NO rigger support. The intent of LCLA was to improve the “speedball” method of airdrop and was intended for units that don’t have rigger support (non-airborne units). If this intent is maintained, then the requirement for rigger and jumpmaster (JM) support increases the opportunities for units that typically don’t have riggers/JMs. This is a topic of discussion amongst the test evaluators back in the United States. However, the 782nd BSB’s current stance is that LCLA missions should have one JM-qualified paratrooper on the aircraft to ensure safe delivery of the bundle. However, we do see utility of non-airborne units taking advantage of this method of aerial resupply. To bridge this gap we see some form of application training course being developed in one of the combat service support proponents.

FROM CONCEPT TO COMBAT OPERATIONS

The 782nd BSB is the only unit within the U.S. Army that has fully planned, tested, and executed LCLA operations in a combat

environment. With full testing at Fort Bragg, North Carolina, and the Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, the organization has gained approval from the Army Research, Development, and Engineering Center, Natick, Massachusetts, for execution within the Afghanistan area of responsibility (AOR). In the first six months of its deployment, the battalion conducted more than 55 LCLA resupply missions and delivered more than 620 bundles of all classes of supply. As a result of this capability, it is now common for maneuver units to plan, request, and execute LCLA operations during normal mission planning and concept of operations (CONOP) development.

The aircraft used to conduct LCLA drops in Afghanistan is the CASA 212. At home station and at Fort Polk, C-23 Sherpas were used. Changing aircraft necessitated adaptation of rigging procedures. The aircraft in Afghanistan are flown by Blackwater Corporation pilots, who primarily transported personnel and mail across the battlefield before getting the LCLA contract. The aircraft can carry up to six bundles and a jumpmaster team to deliver the bundles on the drop zone. Depending on the temperature, altitude and flight time, the total weight of cargo and crew is approximately 3,500 pounds.

Currently, LCLA aircraft teams consist of four airborne-qualified personnel, at least two of whom need to be qualified jumpmasters. During the flight to the drop zone, the jumpmasters will verify the loads are properly hooked up to the anchor line cable and prepared for delivery. As the aircraft approaches the DZ, the jumpmaster team positions the bundles to be dropped by pushing them onto the ramp of the aircraft. Two personnel hold the bundles in place while the other two prepare to push the loads. The loadmaster, in concert with the pilots, calls one-minute, 30-second, and 10-second warnings and then "execute." Upon the command to execute, the jumpmaster team pushes the rear bundle along the roller systems on the floor of the aircraft which deploys all bundles and their parachutes.

The DZ setup includes a modified version of the raised angle marker (RAM). The modifications made to the RAM were

based on the differences in delivery between the Air Force CDS and the LCLA. The standard RAM is designed for high performance aircraft to deliver the bundles from 800 feet above ground level (AGL), which gives the pilots visibility of the DZ a mile or so away. Since the CASA 212 is traveling at roughly 30 feet AGL during transit and 120 feet AGL during the drop, the RAMDA (Raised Angle Marker Developed for Afghanistan) is raised to a height of roughly 20 feet to ensure visibility and give the pilots maximum time to acquire the DZ. This DZ can subsequently be utilized in an omni-directional manner to minimize the enemy threat to aircraft during the operation.

An air mission briefing is conducted prior to the operation where the air crew is briefed by the battalion S2 on weather, terrain and any enemy threats, using past enemy patterns, drop zone imagery and current situation report (SITREP) analysis.

PURPOSE AND BENEFITS (REASONS TO CONDUCT LCLA OPERATIONS):

Simplicity:

■ LCLA operations can resupply platoon-size units during missions when normal sustainment delivery means are

impossible due to the factors of METT-TC (mission, enemy, terrain, troops, time, civilians). Furthermore, the 782nd BSB has tailored these droppable bundles in a matter that allows for a two-man lift into the back of a trailer or variants of the HMMWV guntruck (M1025/M1151/M1152, for example).

■ Bundle design that does not require de-rigging by the ground unit at the drop zone. This allows the maneuver unit to quickly receive the resupply with minimal exposure time at the drop zone.

■ As an evolving process that has become quite refined by the 782nd BSB, LCLA operations are quite simplistic in nature. Hence, opportunities exist to cross-train other units in LCLA operations. Currently, the jumpmasters of the BSB are cross-training the 173rd Airborne Brigade (the other BCT currently deployed in CJTF-82) with the SOPs and lessons learned by the 782nd BSB over the last six months in theater.

■ Based on the simplicity of the bundle design and parachute rigging, the system offers the sustainment organization an inexpensive and efficient system of aerial combat resupply.

Versatility:

□ Small unit operations, especially



Courtesy photos

Bundles of fully rigged 105mm ammunition are prepared to be dropped from a CASA 212 aircraft. The bundles are configured to allow a two-man team to lift them into the back of a trailer or variants of the HMMWV.

small units in maneuver (such as CJSOTF, ETTs and conventional platoon and below operations), are easily supported by LCLA.

□ LCLA operations deliver all classes of supply, to include larger bundles such as Class III fuel blivets and Class V ammunition up to 155mm rounds, that would not be possible by other means due to the factors of METT-TC.

□ LCLA operations do not require drop zone surveys prior to delivery. This allows these operations to take place in merely any terrain condition on the battlefield, to include drops on hillsides, mountain tops, and valleys.

□ LCLA operations provide the U.S. Army the capability to conduct organic aerial resupply operations via Army fixed-wing (Army C-23 Sherpa or Casa 212) or rotary-wing (UH-60 Blackhawk or CH-47 Chinook) assets if other joint capabilities (Air Force, Navy, or Marine Corps assets) are unavailable. The versatility of these airframes has proven to be a combat multiplier in the harsh and hostile environmental conditions of Afghanistan. Thus these airframes are subsequently proven candidates for the expansion of future LCLA operations within the AOR and other worldwide contingency operations.

□ Similarly, using the CASA 212 aircraft for logistics missions has not only opened up a new means of aerial resupply, but has also decreased the operational requirements on military rotary-wing assets utilized in other operational and transportation missions. Contracted STOL (short take-off and landing) aircraft do not take the place of military air assets, but they allow the maneuver commander more options to conduct full-spectrum operations across the battle space.

Risk Mitigation:

■ More than 620 bundles have been dropped to date (February-July 2007), and there have been no significant safety issues or parachute malfunctions based on the simplicity of the operation.

■ Due to low altitude of the aerial delivery platform (actual AGL withheld to maintain operational security), the resupply bundle descends to the drop zone within seconds; this short descent time limits the ability of the enemy to observe the “glide path” of the bundle, reducing the risk and potential exposure of the ground element.

■ With the development of a new marking system — RAMDA, LCLA operations are precise and have been within +/- 20 meters of the heavy impact point of impact (HEPI) on every delivery. Hence, this refinement makes the LCLA operation repeatable and reduces the risks associated with “misses” on the drop zone.

■ Currently, the LCLA drops that have been completed have taken place during the hours of daylight. Future LCLA operations will include night operations with the Blackwater air crews flying under night vision goggles (NVGs). This will make this method



Due to low altitude of the aerial delivery platform, the resupply bundle descends to the drop zone within seconds; this short descent time limits the ability of the enemy to observe the bundle.

of aerial delivery even safer from enemy threats. It will also avoid setting a pattern of delivery, allowing utilization of all hours of day and night for air drops.

LESSONS LEARNED:

Nearly every phase related to LCLA operations is a definitive lesson learned by the 782nd BSB, which is the only unit in the Army to successfully execute LCLA operations within a combat zone. Hence, all the SOPs, procedures, and appendices that accompany this observation, albeit in draft form, are in themselves lessons learned from the planning, preparation, and execution phases of LCLA operations both at Fort Bragg, and in the Regional Command – East (CJTF-82) AOR in Afghanistan.

Combat LCLA operations have grown exponentially and are now a common form of combat aerial resupply within 4th BCT, 82nd Airborne Division. All the lessons learned, to include all documentation, are currently being transferred to the 173rd Airborne Brigade via “train-the-trainer” instruction between both of the brigades.

LCLA operations in the 4th BCT’s AOR are fully institutionalized and are now planned via normal air mission request procedures (to include all necessary documentation and coordination, such as CONOP development and approval).

THE “WAY AHEAD:”

The 782nd BSB is continuing to collect data after each LCLA operation. This data should be subsequently reviewed by appropriate proponents prior to institutionalization of LCLA operations by the U.S. Army. Furthermore, with maturation of the program, the potential clearly exists to conduct LCLA operations without a jumpmaster, which will allow non-airborne units (armor, mechanized and other light infantry units) to conduct LCLA operations within the GWOT AOR.

All drops currently being conducted in theater have been, and are still technically experimental. The only trained personnel in-theater include paratroopers assigned to the 4th BCT that are

currently conducting LCLA drops. Furthermore, the 782nd BSB continually reviews all safety notifications/requirements developed by the Airborne Special Operations Test Directorate (ABNSOTD), the U.S. Army Developmental Test Command, and the Natick Soldier Center; these safety issues are continually vetted in Afghanistan through the 4th BCT safety team and jumpmasters.

As a result of these efforts, the 782nd BSB has developed robust documentation that is has codified them as the "LCLA" appendix to the 82nd Airborne Division's "Airborne SOP," as outlined below:

LCLA Operations SOP:

- Chapter 1 – General Overview
- Chapter 2 – Unit Training and Sustainment
- Chapter 3 – Drop Zone Safety Officer Duties
- Chapter 4 – Jumpmaster Duties
- Chapter 5 – Rigging
- Chapter 6 – Loading Aircraft
- Chapter 7 – Exiting Procedure
- Chapter 8 – Recovery of Equipment
- Chapter 9 – Reports

LCLA SOP Appendices:

- Appendix A – CONOP
- Appendix B – Joint Inspection Checklist
- Appendix C – Strike Report
- Appendix D – Load Data Card

Other Documentation:

Chute Consumption: Growth of LCLA operations

LCLA Jumpmaster Card
LCLA Parachute Packing Procedures
Example CONOP from the Afghanistan AOR

Raised Angle Marker Developed for Afghanistan (RAMDA) Instructions
LCLA Training Standards
LCLA Training Timeline

Within continued coordination with the aforementioned proponents, training and institutionalization of LCLA operations becomes applicable in global contingency and humanitarian assistance and relief operations (for example: natural disaster relief or NGO-support operations), when and where applicable. All individuals are encouraged to recommend additions and/or changes to improve the program and its current SOPs.

CONCLUSION

Although doctrine and field manuals exist for airdropping supplies, there are no publications related to the LCLA operational concept. Hence, the aforementioned documentation, lessons learned, and TTPs developed by the 782nd BSB are a valuable source of information and should be treated as such.

The LCLA program is and will continue to be effective throughout the region. The challenges of Afghanistan's terrain, weather, and remoteness lend directly to this method of resupply. Whether it is a supply mission to a forward base or a platoon experiencing mechanical problems on the side of a road, the LCLA program offers the flexibility, responsiveness, and

accuracy to greatly improve the ability to resupply our maneuver forces. The program is one of the quickest and most efficient means to get the supplies to the battlefield with minimal cost in terms of equipment and personnel.

LCLA demonstrates great application of logistics technology that will continue to maintain the tempo of our fight in this theater. Again, thanks go out to many who have provided this capability to the 782nd BSB team and the paratroopers of 4th BCT. The 782nd BSB will continue to partner with Blackwater Corporation, the CJTF-82 staff, the Center for Army Lessons Learned (CALL), and the Army Research, Development, and Engineering Center during the upcoming months to ensure all TTPs are documented for the team and the U.S. Army.

Lieutenant Colonel Michael Peterman is currently deployed to Afghanistan and assigned as commander of the 782nd Brigade Support Battalion, 4th Brigade Combat Team, 82nd Airborne Division. He has served in a variety of Airborne and Special Operations assignments. His combat service includes deployments as part of Operation Just Cause as well as Operation Enduring Freedom.

Major Paul J. Narowski II is currently deployed to Afghanistan and assigned as the executive officer of the 782nd BSB, 4th BCT, 82nd Airborne Division. He has served in a variety of Airborne and Special Operations assignments. His combat service includes two deployments as part of Operation Enduring Freedom in Afghanistan and one to Operation Iraqi Freedom.

Major Ernest Litynski is currently deployed to Afghanistan and attached to the 82nd Airborne Division as the CALL liaison officer; he has worked extensively with the 4th Brigade Combat Team during the deployment. He has served in multiple Airborne assignments. His combat service includes deployments as part of Operation Enduring Freedom and Operation Iraqi Freedom.

Sergeant First Class Edwin Clouse is currently deployed to Afghanistan and assigned as the air NCOIC, 782nd BSB, 4th BCT, 82nd Airborne Division. He has served in a variety of Airborne assignments. His service includes six operational combat deployments to include Somalia, Haiti, two tours to Bosnia, and one each to Iraq and Afghanistan.

The authors would like to give special thanks to all the paratroopers, service members, and Blackwater aviators who have taken this conceptual idea through creation, documentation, and to current execution of combat-proven, LCLA airborne operations in Afghanistan. Airborne - All the Way.



The design of the RAMDA panel (above) provides the pilot with great DZ identification on the first pass and omni-directional DZ options for subsequent passes. This leads to more precise deliveries.