Aerial Delivery

Equipment Group

TACOM

Lethality, Survivability, Mobility and Sustainment for America's Army

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Aerial Delivery

Tri-Annual Publication For The Aerial Delivery Community

Volume 7, JUN 05

What's Fido Doing On The Drop Zone?

Going for a Three-peat Manufacturers' Week 2005

New Technology Makes Airdrops Safer

TACOM

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Published By Aerial Delivery Equipment Group, Integrated Logistics Support Center, Natick, MA

Aerial Delivery Magazine - ADM

Publisher's Corner

Springtime is traditionally viewed as a time of growth and renewal. For the Aerial Delivery Equipment Group, spring brings growth to our group as we welcome two new military personnel, Master Sergeant (MSG) William (Bill) Slaven and SSG (P) Wayne Schandelmeier and one civilian, Mike Tracy.

MSG Slaven comes to the Group from the Aerial Delivery and Field Services Department at Fort Lee, Virginia. MSG Slaven is currently serving as the Senior Airdrop Non-Commissioned Officer in the groups Aerial Delivery Equipment Support Office located at Fort Bragg, NC. MSG Slaven has over 17 years of experience in the Rigger field. He is both Static Line and Military Freefall qualified. His expertise in Static Line, Military Freefall parachuting and Heavy Drop procedures will be an invaluable asset to the group and the support given to its customers. His other duty assignments have included the 612th Quartermaster Company and the Joint Specialist Operations Command at Fort Bragg, North Carolina. He has also served as an Advanced Individual Training instructor and Drill Sergeant.

Master Sergeant (MSG) William (Bill) Slaven

SSG (P) Wayne Schandelmeier comes to the Aerial Delivery Equipment Group from the 101st Airborne Division (Air Assault), 4/647th, 196th Quartermaster Company, Fort Campbell, KY. As a Section Sergeant, SSG (P) Schandelmeier was responsible for the combat readiness and professional development of Non-commissioned Officers (NCO's) and Soldiers in his charge. He was also responsible for supervising and managing personnel who inspected, stored, packed and issued personnel and cargo parachutes to division and non-divisional units. SSG (P) Schandelmeier's vast knowledge of aerial delivery equipment products makes him a great asset to the Aerial Delivery Equipment Group. We are thrilled to welcome both of these highly knowledgeable and enthusiastic Senior NCO's.

SSG (P) Wayne Schandelmeier

Mike Tracy joined the group after recently retiring with more than 24 years in the Army, with most of his time spent serving in Airborne units. Mike amassed a great deal of aerial delivery experience while serving as the XVIII Airborne Corps Parachute Officer, the 82d Airborne Division Parachute Officer, 4th Quartermaster Rigger Company Commander, and was the Weapons Systems Management Officer for Aerial Delivery Equipment for the DOD. Mike will be working out of the Ft. Bragg liaison support office.

Mike Tracy

As for renewal, along with spring comes planning, and the Aerial Delivery Equipment Group is heavily engaged in planning the next Manufacturers Week 2005. This year, we are planning a variety of interesting and exciting events which will allow the attendees to see Soldiers and their equipment in action. More information regarding Manufacturers Week 2005 can be found in this edition.

As always, we thank each and every one of you for your tremendous and constant support for the men and women of our armed services.

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Submit your Airdrop photos to the *Aerial Delivery Magazine*, we could feature your photo on the Cover! e-mail at Michael.Maloney@natick.army.mil

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Aerial Delivery Equipment Group Mission

Provide streamlined, innovative and robust total life-cycle logistics and materiel readiness to DoD organizations, Foreign Military, and the Aerial Delivery community.

Aerial Delivery Magazine - ADM

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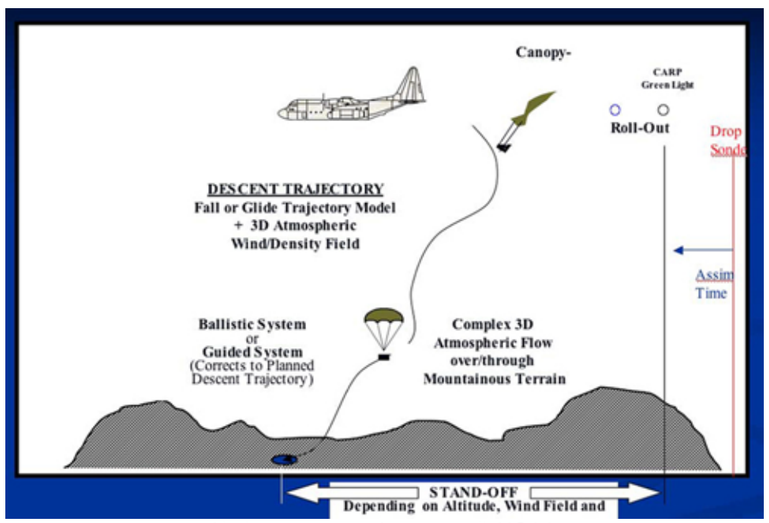
New Technology Package Makes Military And Civilian Airdrops Safer

March 11, 2005 — Accurately parachuting supplies and materiel from aircraft thousands of feet above the ground to those who need them is a notoriously tricky, if often vital, thing to do, heavily dependent on local wind and weather conditions for success. A laptop-based system developed in part by the NOAA Forecast Systems Laboratory allows military aircrews to combine high-resolution weather forecasts with local low-level meteorological data and terrain maps into a real-time picture of their operating area.

"The system has proven to vastly increase the accuracy of cargo airdrops, potentially making both military and humanitarian supply missions far safer," said NOAA researcher John McGinley.

"The system has proven to vastly increase the accuracy of cargo airdrops, potentially making both military and humanitarian supply missions far safer," said NOAA researcher John McGinley.

FSL researchers helped to create the Precision Airdrop System, or PADS, in response to a request from the U.S. Army's Natick Soldier Systems Center and the U.S. Air Force Air Mobility Command.



Air drop sequence Image credit NOAA

Planning Systems, Inc., headquartered in Reston, Va., was responsible for integrating the system components on the laptop and developed the mission-specific dropsonde—a specialized instrument that measures winds between flight level and the ground. PSI provides applied science and systems engineering expertise, information technology applications, and custom products to the federal government and commercial clients.

PADS allows aircrews flying at high altitude to gauge local conditions near the ground in order to make more accurate deliveries of airdropped cargo. Air operations in Bosnia, Kosovo and Afghanistan underscored the need for precision high-altitude aerial deliveries to avoid threats to aircraft and aircrews from the ground.

The technology could also be used by civilian aircraft on relief missions in dangerous areas, and there is some preliminary interest on the part of some governments in pursuing such applications, according to NOAA FSL officials.

Operational military aircrews already have conducted numerous tests that indicate that PADS significantly improves the accuracy of airdrops from altitudes as high as 25,000 feet. As a result, the Army plans to deploy PADS and selected guided parachute systems this summer.

Developing and applying new technologies, methods and models to increase the efficiency and accuracy of transportation-related products and services are among NOAA's strategic goals for the next five years.

Meeting Mission Goals

PADS runs on an altitude-resistant laptop computer aboard the airdrop aircraft. It incorporates high-resolution forecast fields from weather models, local atmospheric measurements, and a customized version of FSL's Local Analysis and Prediction System, or LAPS, to provide short-range forecasts to aircrews.

LAPS assimilates high-resolution four-dimen-

Photo Gallery

AL ASAD, Iraq-A dust storm similar to special effects on the big screen bellowed across the western desert of Iraq on April 26. The storm was spawned near the border of Syria and Jordan. Weather forecasters here described the dust storm as a downburst. The ensuing storm increased energy as the winds pushed over the desert, which created a wall of dirt. Weather officials say that a downburst this strong is extremely rare for this region of Iraq. As the storm moved closer the sky changed to a shade of orange until total darkness blanketed the ground. The storm passed over in about 45 minutes, leaving a heavy sheet of dust in its wake. Forecaster say the wall of dust may have reached 4,000 to 5,000 feet, based on the height of the clouds above it. Courtesy of US Marine Corps, Pictures taken by Gunnery Sergeant Shannon Aldredge, US Marine Corps photographer.

In dedication to the men and women paratroopers who defend this nation with honor.

Airborne Creed

I am an Airborne trooper! A PARATROOPER!

I jump by parachute from any plane in flight. I volunteered to do it, knowing well the hazards of my choice.

I serve in a mighty Airborne Force--famed for deeds in war--renowned for readiness in peace. It is my pledge to uphold its honor and prestige in all I am--in all I do.

I am an elite trooper--a sky trooper--a shock trooper--a spearhead trooper. I blaze the way to far-flung goals--behind, before, above the foe's front line.

I know that I may have to fight without support for days on end. Therefore, I keep mind and body always fit to do my part in any Airborne task. I am self-reliant and unafraid. I shoot true, and march fast and far. I fight hard and excel in every art and artifice of war.

I never fail a fellow trooper. I cherish as a sacred trust the lives of men with whom I serve. Leaders have my fullest loyalty, and those I lead never find me lacking.

I have pride in the Airborne! I never let it down!

In peace, I do not shrink the dullest of duty not protest the toughest training. My weapons and equipment are always combat ready. I am neat of dress--military in courtesy--proper in conduct and behavior.

In battle, I fear no foe's ability, nor under-estimate his prowess, power and guile. I fight him with all my might and skills--ever alert to evade capture or escape a trap. I never surrender, though I be the last.

My goal in peace or war is to succeed in any mission of the day--or die, if needs be, in the try.

I belong to a proud and glorious team--the Airborne, the Army, my Country. I am its chosen pride to fight where others may not go--to serve them well until the final victory.

I am the trooper of the sky! I am my Nation's best! In peace and war I never fail. Anywhere, anytime, in anything--I AM AIRBORNE!

Parachuting Dogs

"Man's best friend" — the dog — has a long history of working with humans and both have benefited immensely from that enduring relationship. And one of the canine roles is parachuting.

The March 2005 issue of Flying periodical published a feature titled "I Learned about Flying from That" and was subtitled "My Seat-of-the Pants Landing."

Author Ron Sirull's landing (made safely, but with a surprise for him) — with his miniature dachshund "Brutus" making its 65th jump safely carried in a pouch on Sirull's chest — was not with a conventional aircraft but with a sophisticated ram-air canopy of the sort used by skydiving enthusiasts. The canopy was not the hemispherical "round" form generally thought of at the mention of the word "parachute." Those configurations are still widely used as emergency bailout rigs for civilian and military aerial emergencies when an aircraft is no longer manageable, and are also a mainstay in military parachute inventories for large-scale tactical missions by soldiers of many nations.

Today's sport parachutists — "skydivers" — use a highly engineered canopy design developed in the 1960s. Double-surfaced fabric material is sewn closed along the trailing edge and is open across the leading edge. The rectangular-shaped canopy is inflated by "ram" air filling open cells constructed within the canopy. In flight the canopy has the form of an aircraft wing.

The canopy is attached to suspension lines so the leading edge is lower than the trailing edge in flight. That results in horizontal movement of the canopy in addition to ever-present vertical descent. Air flowing from front to rear (as it happens with a fixed-wing plane) results in lower pressure above the canopy upper surface and making lift possible. The canopy can fly horizontally at speeds up to 25 miles a-hour in no-wind conditions. As an additional benefit to a parachutist, such lift lowers the rate of descent, substantially reducing the impact force when landing.

Canopy forward speed can be controlled from full-ahead speed to zero-speed by using hand-operated left and right steering control lines to pull down part or all of the trailing edge of the canopy downward. Pulling down the right or left rear *(continued page 6)*

New Technology Package (from page 4)

sional forecast data produced by supercomputers at the Air Force Weather Agency, weather data gathered locally from GPS-based dropsondes deployed near the drop zone and high-resolution topographic data to create extremely precise local forecasts.

Using the LAPS-generated, three-dimensional forecast wind and density fields, PADS computes the release point for the parachuted cargo by applying a fully-dynamic, payload-release, parachute-opening and descent-trajectory model.

The Army's goal for the system was to reduce the distance between the actual impact point of airdropped cargo and the desired impact area. The Army hoped to be able to consistently drop cargo within 400 meters (roughly 1,300 feet) of a target, rather than the current average of more than 1,000 meters (roughly 3,200 feet).

This integration of the PADS and LAPS technologies allows aircrews to achieve accuracies consistently in the range of 200-400 meters (roughly 650-1,300 feet) from C-130 and C-17 aircraft operating at altitudes between 18,000 and 25,000 feet. Development of PADS was a cooperative effort among government, university laboratories and industry, headed by NSSC.

In addition to NSSC and FSL, the team includes staff from AMC who contributed requirements and test deployments; the Charles Stark Draper Laboratory, Inc., a Cambridge, Mass.-based non-profit, which developed the parachute release and trajectory models and PSI.

Headquartered in Boulder, Colo., the NOAA Forecast Systems Lab conducts applied meteorological research to improve and create short-term warning and weather forecast systems, models, and observing technology, using supercomputing and other leading-edge technologies. FSL then transfers these new scientific and technological advances to its customers, which include the NOAA National Weather Service, commercial and general aviation, the U.S. Air Force, many foreign weather forecasting services and various private interests.

NOAA is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of the nation's coastal and marine resources. NOAA is part of the U.S. Department of Commerce.

The Aerial Delivery Equipment would like to thank the National Oceanic & Atmospheric Administration and the author Peter West for allowing us to reprint this article.

Parachuting Dogs (from page 5)

canopy edge causes right or left aileron-type canopy turns depending on the control line used; releasing the steering line returns the canopy to straight flight. Pulling both control lines down simultaneously serves to brake forward canopy movement. The more the trailing edge is pulled down, the greater the braking action. Raising both control lines, lets the canopy return to full flight. For landings, facing into the wind can result in stand-up landings.

Many military static-line parachutists (using automatically opening parachutes) used sport canopies for making off-duty freefall recreational jumps. They quickly realized the benefits to the military by using civilian canopy designs and parachuting techniques for small-unit tactical missions.

In the late-1960s, using round canopies, specially trained volunteer soldiers made HALO (high altitude, low opening) jumps into enemy areas for clandestine missions. In the next decade, ram-air canopies had been developed, were use worldwide in competitions, and military forces adopted ram-air parachute systems, enabling HALO jumpers to land closer to a target.

Early ram-air canopy configurations evolved during the 1970s with gliding parachutes averaging 4:1 glide ratios (four feet horizontal movement for each foot of vertical descent). Military ram-air designs were modified to produce glide ratios of 6:1 and higher. These changes made it possible for HAHO (high altitude, high opening) parachutists to exit a plane as high as 30,000 feet and several miles from a target, deploy one's parachute within seconds, and fly a long distance to carry out a covert mission.

Clarence "Russ" Steber (left) fastens the dog parachute he donated to the U.S. Air Force Museum on the back of a dog mannequin along with the help of Exhibits Specialist Jerry Miracle (right). Mr. Steber holds the record for flying the most missions during the Berlin Airlift with 415 and shared the cockpit on 131 of those flights with his boxer dog "Vittles". Picture courtesy AFMC Public Affairs

Beyond being pets canines have been trained for a wide range of duties. Pure-bred dogs and "Heinz 57 Variety" pooches alike have proved valuable as sentry dogs, explosives and drug sniffers, and trackers of humans, as examples.

The list goes on.

Military services dating back to the American Revolution used various breeds, with many of the duties highly risky. During World War One, European forces used dogs as sentries, messengers, for carrying or pulling loads over rough terrain, and searching for wounded soldiers. Germany trained 7,000 dogs, with thousands more in reserve. The U.S. did not have such a program, but a few stray dogs roaming battlefields were adopted by random units and proved their worth in various duties.

A year after America entered the war, U.S.forces set a goal of 125,000 dogs for tasks in the U.S. and everywhere Americans were in combat.

In World War Two, European countries used dogs for many roles. The U.S. got a late start in acquiring and training canines for military duties. Though many breeds were used the German shepherd and Doberman Pinscher proved especially suitable. Besides ground duties, U.S. airborne units equipped dogs with harnesses when accompanying paratroopers on jumps. The Quartermaster Corps developed harnesses for supporting dogs safely after they were ejected from an aircraft door; one dog beneath a 24-foot-diameter canopy; two dogs on a 28-foot canopy.

A year after America entered the war, U.S.forces set a goal of 125,000 dogs for tasks in the U.S. and everywhere Americans were in combat. Scout and attack dogs served with front-line troops and their superior senses of hearing, vision, and smell consistently detected enemy soldiers before humans did.

In the 1950s Korean Conflict, war dogs and handlers spent two years carrying on the legacy of canines performing innumerable duties, including combat patrols. However, some time after Korean hostilities ended the U.S. stopped acquiring dogs.

During the Vietnam campaign, dogs were again called to serve American *(continued page 17)*

Aerial Delivery Equipment Group Ft. Bragg Office Growing By Numbers

The Tank-automotive and Armaments Command (TACOM), Aerial Delivery Equipment (ADE) liaison support office Fort Bragg, NC is a satellite office of the Aerial Delivery Equipment Group, Integrated Logistics Support Center (ILSC), Natick, MA. The office was established in October 1997 to provide logistical support of Aerial Delivery Equipment to the airborne community. To be more specific, the ADE liaison support office mission is to provide logistical and technical support to all elements assigned to 18th Airborne Corps, 1st Corps Support Command, U.S. Air Force, and the Airborne Special Operations Test Directorate, an element of the U.S. Army Operational Command. Personnel assigned to the office include two Logistics Management Specialists, one Inventory Management Specialist, one Senior Enlisted Parachute Rigger, and a Transportation Specialist. The office provides around the clock support to the airborne community during no notice and short notice deployments and assists in filling urgent requirements for additional air item supplies to support rigging of equipment. The office can access the Commodity Command Standard System (CCSS) at the wholesale level to answer all urgent questions concerning resupply requisitions submitted by customers. Consequently, feasibility review is on-going to procure a forward storage facility in the Fayetteville, NC area to store consumable and expendable airdrop items. This initiative will allow the ADEG to better serve our customer base.

Aerial Delivery Equipment Liaison Support Office employees, (left to right) Gregory Mansfield, Shawn Davis, MSG William Slaven, Richard McDaniel and Mike Tracy

The forward storage of assets will enhance the availability of airdrop equipment in the event a mass deployment of airdrop equipment is required to be rigged for airdrop. The office maintains an up to date library of Field and Technical Manuals that support Aerial Delivery Equipment and Rigging Procedures, and is accessible to the entire airdrop community. The office chairs Airdrop Technical Manual reviews and participates in all Airdrop Field Manual reviews. The liaison support office also developed an Air Items List by thoroughly reviewing and validating the Repair Parts and Special Tools (RPSL) listed in all 10-Series airdrop technical manuals. The Air Item List has been completed and is broken down by systems. It can be viewed by accessing the ILSC web at http://ilsc.natick.mil. The liaison support office is currently supporting the Logistics Demonstration's for the new MC-6 personnel parachute system. The Aerial Delivery Equipment Group's Fort Bragg, NC liaison support office is committed to providing outstanding logistical support to the war-fighter.

Rick McDaniel is a logistics management specialist at the Aerial Delivery Equipment (ADE) liaison support office Fort Bragg, NC

Defense Distribution Depot (from page 17)

it's a delicate balance to provide one-day turn-around on requisitions and still maintain all other functional areas in regards to our total mission focus. Due to the nature of our mission, the area of responsibilty and professionalism required has our riggers working at least two pay grades up. In the past year, our warehouse received, posted and stowed 1,897 line items; condition code classified (performed by our riggers) 45,386 receipts; picked, packed, and shipped 13,711 material release orders; and re-warehoused 84 line items. We recently completed the inter-depot transfer to our Mechanicsburg site of over $7.7M worth of Type V Platform components that were being improperly stored. This effort involved a 100% technical inspection of each item for condition code classification and re-packaging identification. This project salvaged 95% of the equipment which saved US taxpayers $7.6M. We are fortunate to employ a very unique civilian work force that is "in-tune" to the special demographics of aerial delivery equipment. They provide a vital service to the DoD.

A DDSP employee preforming maintenance on a cargo parachute

ADE Depot Level Repair and Textile Manufacture Programs

The ADE depot level maintenance program, which is the only one in the DoD, repaired 142 cargo and 110 personnel parachutes while manufacturing 4,730 acoustical aircraft blankets. Other recent programs that have just been completed or are still working are: the manufacture of G-11(still working) and G-12E (complete) Cargo Parachute Center Lines, the modification of 1,416 each M1 Releases (complete), and completed almost 5,000 each SLCP MIRPS re-packaging with over 7,000 each left to go. We completed production of 4,730 each Sound Control Blankets on our FY04 Blanket Program and manufactured (337) Aircraft Ground Covers for AMCOM. Our FY05 Sound Control Blankets program represents (46) National Stock Numbers.

G-11 contingency packed parachutes

Closing Remarks

We are coordinating with the ILSC in preparation for the future fielding of the MC-6 and ATTAPS. Our constant interaction with the ILSC item managers as well as their Air Force counterparts has allowed for a 66% reduction of our Frustrated Items. We are available 24/7 to support our Soldiers, Sailors, Corpsmen, Airmen, and Civilian personnel that are either training or engaged in real world missions. We are proud to serve and appreciate the support of not only the ILSC but the joint service agencies that provide valuable input that will upgrade our day to day operations! If your ADE supply logistics are not to your satisfaction, contact us and we will assist you to the best of our ability..... Airborne!

CW3 Kevin D. Wood Aerial Delivery and Textile Section, Chief Warrant Officer for Defense Distribution Depot Susquehanna Pennsylvania (DDSP)

Keeping Stock of Our Items

The classic dilemma for an inventory management specialist is maintaining an inventory balance that meets field requirements, but does not build excess inventory. Aerial Delivery Equipment is especially unique in that the demand can change drastically, often depending on world situations. A prime example of this is the Twenty Five Thousand pound (25K) Helicopter Cargo Sling (NSN 1670-01-027-2900).

As a result of Desert Storm, over 5,600 25K Cargo Slings were procured to replace slings used during the war. Consequently, during the years following Desert Storm (1998-2000), only 13 slings were requested from the field. Therefore, the decrease in demand reduced the need to purchase additional assets.

CH 47 Chinook helicopter transporting troop supplies

With the start of Operation Enduring Freedom in 2001, cargo sling requirements skyrocketed. During the first 24 months, 871 25K Slings were requested from the field. The rapid increase in demand indicated to the item manager that it was time to begin procurement action for additional assets. Unfortunately, the decrease in demand over the previous 10 years caused the manufacturer to stop producing the 25K slings after Desert Storm.

Although a buy for 2000 25K cargo slings was initiated in October 2002, a few problems needed to be resolved before any contracts were awarded. First, the Technical Data Package (TDP) had to be reviewed. Prior to a request for bids from manufacturers, the engineering staff must evaluate the TDP to insure that it is accurate and up to date. Since the previous buy had been eleven years earlier, and by another Command, it became apparent that the drawings were not readily available or maintained to standards. The TDP acquisition review and update took over a year to complete.

Secondly, there were delays in achieving full production. In December 2003, contracts were finally awarded to two manufacturers. However, misunderstandings of how components were to be tested, delayed first article approval. These delays caused full production to be pushed back.

Ultimately, deliveries of the new equipment began arriving in November 2004, just as there was only enough on-hand stock available to support 9 months worth of requirements.

The 25K Cargo sling is just one example of the complexities items managers face daily in managing the fluctuating demands of Aerial Delivery items. Be assured the Aerial Delivery Equipment Group Item Managers are continually working to meet the requirements of the Soldier.

Frank Svoboda is an Item Manager on the Aerial Delivery Equipment Group

Technical Manual Updates

Revised and waiting at Tech Pubs
TM 10-1670-280-23&P

Process of complete revision/conversion to Word Format
TM 10-1670-276-23&P
TM 10-1670-281-23&P
TM 10-1670-295-23&P

Going for a Three-peat Manufacturers' Week 2005

The Aerial Delivery Equipment Group (ADEG), ILSC, SBC Natick, will be hosting our third annual Manufacturers' Week at Ft. Bragg, North Carolina from 3 - 7 October, 2005. This event this year will continue the long standing tradition of providing all parties the opportunity to network and observe U.S. Army Soldiers manipulating Aerial Delivery equipment to include ancillary items.

Manufacturers' and Soldiers will have an opportunity to work and communicate with each other to achieve a common goal as well as gain a better understanding of how each other operate. Several different activities and briefings will be offered this year to include demonstrations from Ft. Bragg Soldiers at the 82nd Airborne Division 34 foot Tower, Pack, Maintenance and Heavy Drop Facility, static display of a C-17 aircraft/CH-47 Chinook Helicopter.

Also, the Clarion Prince Charles Hotel in downtown Fayetteville has been selected to provide lodging for participants due to its historical ambiance. The hotel is centrally located with accessibility to activities within walking distance of the hotel, such as an Italian Restaurant, Husky Brewery, a Coffee Shop, Gotham Blues-Club, and a Movie Theater. The hotel is also in walking distance to the Special Forces Operations Museum.

Manufacturers' will be receiving invitations via e-mail and letters through the U.S. postal service, which will permit early registration beginning in June 2005. The Aerial Delivery Equipment Group encourage Manufacturers' to send employees who have never attended Manufacturers' Week before. This will allow the experience to extend beyond previous attendees by enhancing one's knowledge of how the products they producedirectly impacts Soldiers in the field.

34 foot Jump Tower, Ft. Bragg, NC

A Soldier explaining the packing sequence for the T10-D parachute during Manufacturers' Week 2004

In addition, we are asking all participants that attend this year's event to make departure arrangements for 7 October 2005, because on Thursday evening the ADEG will host a reception/mixer to present awards and reflect on the weeks events, which will heighten the on-going partnership between the Aerial Delivery Equipment Group and the Aerial Delivery Community.

Manufacturers', please be advised that there will be a very limited amount of slots available and all slots will be filled on a first come first serve bases. More detailed information will be forthcoming.

Point of contact for Manufacturer's Week 2005, is Angela J. Hunter. COM 508-233-6220, DSN 256-6220. E-mail angela.hunter@natick.army.mil

Defense Distribution Depot Susquehanna Pennsylvania Supports the Aerial Delivery Equipment Group

Mission

The mission of Depot is multi-purpose. We inspect, pack, repair, modify, and store Federal Stock Class (FSC) 1670 Aerial Delivery Equipment (ADE) and ADE related items for the Department of Defense (DoD). In addition, we manage 5 separate operational sections that provide contingency cargo parachute repack, depot level ADE repair, military free fall and static line airdrop, warehouse operations, and the manufacture of aircraft acoustical blankets for AMCOM. We also advise MACOM's, the Defense Logistics Agency, TACOM, and all item managers on the status of depot aerial delivery assets reserved for war contingency and training.

Cargo Parachute Contingency Pack Mission

The Aerial Delivery and Textile Section has been providing input throughout the past year to DA DCSLOG's War Reserve Manager Mr. Tom O'Hara, in support of his efforts to formulate a new contingency air item requirement. This rigorous task has been most challenging based on the plethora of input required and the multitude of agencies that it affects. We recently hired 5 new civilian parachute packers for our contingency pack program. The Aerial Delivery & Field Services Department at Fort Lee provided SSG Doltz as the instructor charged with providing our new employees with the required Orientation Training the week 03 16-20 May 05. After a six month re-evaluation process and now that our new hires are certified to pack "Live" Parachutes, our Cargo Parachute Contingency Program for DA DCSLOG is now up and running! Based on current demands, we are currently re-packing G-12E Cargo parachutes.

Warehouse Operations

In the past six months, our Army and Civilian riggers assigned to the DDSP were quite busy issuing out Aerial Delivery items in support of the war fighter. Between the roles our service members are playing in support of the Global War on Terrorism (GWOT) and Operations OIF/OEF, the Depot has done its part to provide around the clock logistical support. DDSP has issued 498 contingency packed G-12E's to our joint forces. With only 8 assigned riggers and 21 civilian personnel rotating weekend shifts, *(continued page 18)*

Parachuting Dogs (from page 6)

military forces in 1965. Dogs moved with patrols seeking the enemy and many soldiers' lives were saved when dogs sensed danger ahead. Special-mission parachutists decided that dogs be secured to their handlers and they would jump together.

In 1969 an enlisted dog handler— harnessed dog securely attached — made a six-second freefall jump and reported that "Pal" did not struggle and easily went on with its role on the ground. The sergeant and Pal made seven team-jumps in six months. That solution solved the time-consuming problem of dog and human locating each other in the heat of battle after descending separately.

However, in 1975, with war ended, the army again discontinued its dog program.

Moving into the 21st century, dogs' usefulness expanded: Search and rescue of humans lost in outdoor environments (wilderness, avalanches) or in neighborhood areas (straying children, elderly folk), people buried in the rubble of natural disasters or bombed structures, in police work, and military operations.

Body armor was developed for dogs to help protect their bodies from attacks by blade weapons and firearms. Protective gear was customized to fit working conditions.

Concerted effort made it possible for dogs to be used on military HALO and HAHO missions. Considerations included canine hearing, temperature tolerances, hydration, bloat, and vision. High-altitude equipment includes specially designed items, including an aerial-insertion vest, control lead, collar, muzzle, harness, goggles, booties, oxygen system, and food and water needs. Dozens of high-altitude man/dog jumps have been made by Complete Parachute Solutions (CUPS), of Deland, Florida, and its canine trainer Mike Forsythe. He and his working dog, Cara, hold the world record for highest man/dog parachute deployment of 30,100 feet, both using oxygen.

Man's best friend continues to have important military and civilian roles working with and protecting humans.

We are proud to feature articles by the renowned para-historian Jim Bates. His articles featured in this magazine provide a historical perspective on the evolution of Aerial Delivery.

Nothing But Quality for Our Soldiers

CO3 Quality Assurance of Parachutes Course

Once every three years, representatives from the Army, Navy, Air Force, and Defense Logistics Agency assemble to attend the CO3 Quality Assurance Parachute Course. The course was held at the U.S. Army Natick Soldier Systems Center from 21-25 March, 2005. The course is mandatory for Defense Contracting Management Agency (DCMA) personnel and Quality Assurance Representatives (QAR's) in order to certify individuals to conduct governmental QA inspections on Aerial Delivery Items. The course also familiarize QAR's on how the items they inspect are actually used by U.S. Military personnel in the field.

QA Demonstration

The course concentrated on providing current information on topics related to Army, Navy, Air Force and Forestry Service Aerial Delivery issues; to include personnel parachutes, helicopter sling load, hardware and fabric defects, and manufacturing of textile materials. The topics that sparked the most interest were the Product Quality Deficiency Report (PQDR) process and QA inspections. It appears that all services utilize different reporting systems to gain access to reports detailing user or depot level defective items. Consequently, the Army receives deficiency reports via the Army Electronic Product Support (AEPS) system, while the Air Force employs the Deficiency Reporting and Investigating System (DRIS), and DCMA use the Product Data Reporting and Evaluation Program (PDREP). However, regardless of the system used, it eventually interfaces with the Department of Defense system called Product Quality Deficiency Report Interservice Interface (PQDRII).

SFC Mark Hearn

Through the PQDRII, users of all military services are able to access PQDR's previously submitted on a specific item to search for deficiency trends.

During the course, QAR's addressed reasons for dealing with so many different types of items on an assortment of government contracts. In addition, QAR's do not always know when items are considered critical or life saving. Since item familiarization is one of the main reasons for attending the course, the instructor's emphasized the manner in which one should be able to identify critical items. Therefore, the course gave QAR's the tools necessary to ensure the warfighter receive the very best equipment possible.

After attending the course, QAR's left knowing what the Army, Navy, Air Force, and DLA expect when QAR's conduct Quality Assurance inspections on aerial delivery items. Whether it is a first article test, lot inspection, or a PQDR investigation, the newly certified government inspectors are totally knowledgeable and prepared to perform their duties with the utmost professionalism and confidence.

SFC Mark Hearn is a Quality Assurance NCO with the Aerial Delivery Equipment Group

Military's Energy Bars Hit Open Market

Take a walk down any grocery store aisle and you are likely to see products whipped up in U.S. Army food lab kitchens, such as freeze-dried instant coffee, powdered cake mix and M&Ms.

Coming soon to an outdoor or sporting goods store near you is the latest creation from the U.S. Army Soldier Systems Center in Natick: the Hooah! Bar.

Developed for rapid deployment forces in need of a quick, yet sustained energy boost on combat missions, the Hooah! Bar was made available to the public in some West Coast markets and on the Internet late last year.

Hungry, have a Hooah Bar!

D'Andrea Brothers LLC, which negotiated with the military to market and distribute the bars, will introduce the energy treats to 12,000 retailers this spring and summer, mostly in Ohio, Pennsylvania and upstate New York, according to company co-founder Paul D'Andrea.

D'Andrea said the bars are not sold in Massachusetts, but the company is talking to some local stores and regional chains about carrying the item.

A portion of all sales for the bar -- which sell for $1.99 -- will go back to the Department of Defense's Combat Feeding Directorate to be used for research and development, according to Natick Labs spokesman Jerry Whitaker.

"It's good for the Army and good for the taxpayers," said Whitaker, noting that the Labs have agreements with other private firms for other products.

The bars, named for the gung-ho response Army soldiers give to their commanders ("Hooah" is military slang for Heard, Understand and Acknowledged), were developed at Natick Labs about five years ago when soldiers said they needed energy bars that tasted good and had a long shelf life, according to Gerry Darsch, director of the Department of Defense's Combat Feeding Program at Natick Labs.

"There were many different energy bars available already, so we didn't want to spend taxpayer dollars reinventing the wheel," Darsch said. "So we decided to develop our own (bar) by war fighters for war fighters."

The result is a product that has a three-year shelf life at 80 degrees and six months at 100 degrees, Darsch said.

The rave reviews from soldiers, including an Army Ranger regiment that tested the bars in 2000, have allowed the Army this week to put the Hooah! Bar on its approved list of energy bars for soldiers and, in 2006, select MREs (Meals Ready to Eat) for soldiers will contain Hooah! Bars.

Darsch said the Hooah! Bar will be part of the military's Carbo-Pack, a 400- calorie blast of energy in the form of one Hooah! Bar and two powdered drink mixes, also developed at Natick Labs. The Pentagon is looking into buying 10.2 million Carbo-Packs.

Hooah! Bars come in two flavors, chocolate crisp and apple cinnamon, and are loaded with complex carbohydrates for sustained energy, 17 vitamins and minerals, natural ingredients and small doses of whey and soy protein. The bars do not contain caffeine, though it could be added to future flavors where added alertness is desired, nor do the bars contain creatine or other performance enhancement chemicals.

"If it's good enough for the Rangers, it's probably good enough for most sports enthusiasts," Darsch said.

D'Andrea Brothers could not be happier to distribute the bars they literally stumbled across while filming a documentary about Special Forces soldiers.

After filming, Christian D'Andrea asked one of the soldiers what he was eating. When the reply was "a Hooah! bar," D'Andrea asked where he could get one.

The response from the soldier was, "You can't. You're civilian," Paul D'Andrea recounted from his company's Los Angeles office.

Not anymore.

D'Andrea said the bar will find a niche in the crowded energy bar market.

"Ours is the military's bar, so right away we have a point of differentiation," he said. "We want to steward that military connection ...The guys at Natick (Labs), if you talk to them, are so proud of this thing."

The only difference between the Hooah! Bars available on the Internet or in stores and what is given to soldiers is the wrapping. D'Andrea Brothers, as part of their contract with the military, also agreed to supply bars for shipment to soldiers and military bases if needed.

Darsch and D'Andrea see a big future for Hooah! Bars. *(continued page 10)*

The Backorder Review

In the turbulent world of Aerial Delivery item management, backorders occur for a variety of reasons. To those in need of the items, knowing what the reasons are and when they will be corrected is vital information. As a result, this quarter's magazine marks the addition of a continuing piece highlighting our top backorders. This section will feature details as to what is being done to get the backordered items manufactured and out to the field.

ITEM: Riser Extension T-10D (1670-00-708-4473), Riser Extension MC-1D and MC-1E (1670-01-007-8563).
ISSUE: Both of these Riser Extensions are experiencing the same issue, the inability of the male and female assemblies (made by different contractors) to lock together securely. The root cause of the issue was incorrect technical drawings, which required the drawings be redone ultimately delaying much needed deliveries.
RESOLUTION: New contracts have since been awarded for both items. The first delivery for the T-10D riser extension will commence in November 05, with all subsequent backorders expected to be cleared by July 06. The first delivery for the MC-1 riser extension are also expected in November 05 with all backorders to being satisfied by December 06. In addition, accelerated deliveries have been requested on these contracts.

ITEM: Pack, personnel parachute for the T-10 and MC1-1D (1670-00-086-7780).
ISSUE: An unusually high demand was received for these items and sufficient stock was not on hand to satisfy all requisitions.
RESOLUTION: Contracts have been awarded with first delivery beginning in April 05. As both contractors have agreed to accelerate deliveries, all requisitions should be filled by November 05.

ITEM: Modified Ripcord for the MIRPS (670-01-468-9174).
ISSUE: This item had a Modification Work Order (MWO) applied to it changing the placement of the ripcord handle from the side to the center. As a result, the technical drawings required detailed and time-consuming modifications.
RESOLUTION: Once the technical manuals were changed, two contracts were awarded. The first delivery was scheduled for May 05, with all backorders expected to be filled by November 05.

National stock Number	Nomenclature	Total Backorders	First Delivery Schedule	All backorders filled
1670-00-708-4473	T-10D, Riser Extension	3012	November 05	April 06
1670-01-007-8563	MC1-D/E, Riser Extension	6500	November 05	November 06
1670-00-086-7780	Personnel Parachute Pack	1316	April 05	November 05
1670-01-468-9174	Modified Ripcord	1900	May 05	November 05

Hooah! Bar (from page 9)

"People will always have a favorite, and I believe the Hooah! Bar has a great potential for being a favorite energy bar on the market," Darsch said.

The Aerial Delivery Equipment Group would like to thank Rob Haneisen and the MetroWest Daily News for permisson to reprint this article. Rob Haneisen can be reached at rhaneis@cnc.com

Delivery Schedule

NSN	NOUMENCLATURE	QTY	START	ENDING
1670000634500	RIP CORD,PARACHUTE	200	Jul-05	Sep-05
1670000867780	PACK,PERSONNEL PARA	5486	Jul-05	Jan-06
1670001624981	LINK ASSEMBLY,COUPL	174	Jul-05	Jul-05
1670001761802	CLOTH,PARACHUTE MEN	10000	Aug-05	Aug-05
1670004345783	COUPLING ASSY,AIRDR	190	Jul-05	Aug-05
1670007084473	RISER EXTENSION,PAR	9501	Jul-05	Nov-06
1670007334883	DEPLOYMENT BAG,PARA	722	Jul-05	Feb-06
1670007533928	PAD,ENERGY DISSIPAT	2700	Jul-05	Sep-05
1670009370271	TIE DOWN,CARGO,AIRC	55000	Aug-05	Nov-06
1670010078563	RISER EXTENSION,PAR	240005	Jul-05	Nov-07
1670010087755	SLING,CARGO,AERIAL	976	Jul-05	Oct-05
1670010167841	PARACHUTE,CARGO	619	Jul-05	Aug-06
1670010272900	SLING,CARGO,AERIAL	2550	Jul-05	Oct-07
1670010583810	NET,CARGO,AERIAL DE	420	Sep-05	Sep-05
1670010626304	LINE,MULTI-LOOP	1181	Jul-05	Jul-05
1670010626308	LINE,MULTI-LOOP	866	Jul-05	Jul-05
1670010626313	LINE,MULTI-LOOP	261	Jul-05	Jul-05
1670010653755	PARACHUTE,CARGO	200	Jul-05	Oct-05
1670011622372	CLEVIS ASSY	64995	Jul-05	Aug-06
1670011622383	ROLLER PAD	120	Jul-05	Sep-05
1670011832678	LEAF,EXTRACTION LIN	1499	Jul-05	Sep-05
1670012277992	HARNESS,PARACHUTIST	10251	Oct-05	Sep-06
1670012472389	BRACKET ASSEMBLY,RE	500	Jul-05	Sep-05
1670012477151	CANOPY,PERSONNEL PA	355	Jul-05	Sep-05
1670012721901	HARNESS,PERSONNEL P	5060	Jul-05	Jan-06
1670013043006	PANEL ASSEMBLY,MAIN	850	Jul-05	Dec-05
1670013062100	PARACHUTE,PERSONNEL	1112	Jul-05	Dec-06
1670013070534	SLIDE,TOGGLE LOCK	100	Aug-05	Aug-05
1670013303279	CANOPY,PERSONNEL PA	400	Jul-05	Jan-07
1670013303280	HARNESS,PERSONNEL P	25	Jul-05	Aug-05
1670013303284	RISER EXTENSION,PAR	400	Aug-05	Feb-06
1670013303741	LOOP,CLOSING,MAIN	2700	Jul-05	Mar-06
1670013303742	LOOP,CLOSING,RESERV	7200	Jul-05	Dec-06
1670013303743	RIPCORD,MAIN RELEAS	150	Sep-06	Apr-07
1670013303744	SLIDER,DOME-LIPPED	150	Oct-06	May-07
1670013303745	LINES,CONTROL	280	Jan-07	Mar-08
1670013303747	PILOT CHUTE,MAIN	250	Jul-05	Jul-05
1670013323916	CANOPY,PERSONNEL PA	1150	Jul-05	Oct-09
1670013347597	DEPLOYMENT BAG,PARA	240	Aug-05	Mar-06
1670013425135	TOGGLE,PARACHUTE	100	Aug-05	Dec-05
1670013427686	DEPLOYMENT SYSTEM,R	225	Aug-05	Jul-06
1670014689174	RIPCORD,MODIFIED	8000	Jun-05	Jan-06
1670014842234	PARACHUTE,PERSONNEL	600	Jul-05	Aug-05
1670014936418	LINK ASSEMBLY,SMALL	799	Aug-05	Oct-05
4020010476814	FIBER ROPE ASSEMBLY	3900	Jul-05	Aug-07
4020010476815	FIBER ROPE ASSEMBLY	1900	Jul-05	Jul-07
4030010484045	SHACKLE ASSY	1500	Jul-05	Dec-05
4030010484046	GRAB HOOK ASSY	4000	Jul-05	May-06
4030010484047	GRAB HOOK ASSY	2000	Jul-05	Nov-05
5340000408219	STRAP,WEBBING	499	Jul-05	Jul-05
5340009370273	STRAP,WEBBING	4773	Jul-05	Oct-05

Equipment Forecast

Hardware

NSN	ITEM NAME	QUANTITY
1670013697914	RELEASE, RIPCORD ASSY	238
5340003776642	SNAP HOOK	5100
1670015080398	QUICK RELEASE BUCKLE	1621
1670015039819	CLAMP	1050
7920015027539	BRUSH, WIRE BRISTLE	200
1670013070534	SLIDE, TOGGLE LOCK	100
1670013303282	RIPCORD,PARACHUTE	550
1670013303282	RIP CORD, PARACHUTE	1500
1670000634500	RIP CORD, PARACHUTE	200
1670013336082	TIE DOWN, CARGO	700
1670013041057	PANEL ASSEMBLY	500
1670011699155	ROLLER PAD	43
1670011622382	ROLLER PAD	420
1670000724941	SEPARATOR	100
1670013288014	MODIFICATION KIT	250
1670015080402	CONNECTING LINK	375
1670014577901	SPRING ASSY EJECTOR	1000
1670000867291	TABLE INSPECTION PARA	200
1670000322705	PLATE TENTIONS	200
1670011699154	RAIL TYPE V	79
1670015237246	LOW COST CONATINER	100
1670012595932	PARACHUTE ASSEMBLY	407
4030006788562	SHACKLE	3800

Parachute

NSN	ITEM NAME	QUANTITY
1670012595932	PARACHUTE ASSY	407
1670008426109	PARACHUTE, CARGO	3095
1670010272902	SLING, CARGO, AERIAL	2300
1670010167841	PARACHUTE, CARGO	265
1670010644928	CENTER LINE	1700
5340013646335	STRAP, WEBBING	1000
1670008152727	DEPLOYMENT BAG PARA	950
1670010078563	RISER EXTENSION, PAR	25000
1670003600475	RISER EXTENSION, PAR	50
1670012350923	DEPLOYMENT BAG PARA	295
1670008924218	PARACHUTE RESERVE	1000
1670001686065	HARNESS, PERSONNEL	336
1670014763068	STATIC LINE PERSONNEL	9491
5340000408219	STRAP, WEBBING	2000
1670014994464	STATIC LINE, CARGO	775
1670007084473	RISER EXTENSION, PAR	10000
1670002181185	STRAP PILOT CHUTE	3000
1670014364798	PACK, PERSONNEL PARA	2474
1670014996573	PARACHUTE PERSONNEL	100
1670010583810	NET CARGO	420
1670014396939	DEPLOYMENT BAG PARA	200
1670009992658	PARACHUTE CARGO	800
1670010078559	CANOPY PARACHUTE	30
4020013303308	ROPE ASSY, INSERT	140
4020001685954	FIBER ROPE ASSY	838

Echo Company 782D MSB Field Training Exercise

On March 17, 2005, Phase I (Pre-Deployment), E Company, 782D Main Support Battalion (MSB) deployed to Al Baghdadi (Sicily DZ) with eighty personnel to establish an Intermediate Staging Base (ISB) for the 782D MSB. This phase of the operation required an enormous amount of coordination and logistical support. In order to deploy an element of this size using convoy operations, it would have taken four High-Mobility Multipurpose Wheeled Vehicles (HMMWV's) and seven Light Medium Tactical Vehicles (LMTV's) for personnel, thirty tractors with trailers for equipment/ supplies, and five lowboy trailers for material handling equipment.

Heavy Drop Riggers positioning a M998 HMMWV on a 16ft platform

Phase II (RSO&I). Echo Company's mission was to establish an ISB to perform Receiving, Staging, Onward Movement, and Integration (RSO&I), Set up an Airdrop Operating Platoon, Parachute Packing Section, and Outload Operations. On 17 March, 1LT Dustin Menhart (Airdrop Platoon Leader) conducted RSO& I duties for the entire Main Support Battalion enroute to Forward Operating Base (FOB) Spartan (Maury DZ). These duties included security briefings, enemy situations, rules of engagement, tracking vehicles/personnel, zero range, and the issuing of numerous classes of supply which included ammo and food.

Phase III (Rigging Operations). This phase began on 18 March with the initiation of priorities of work at Al Baghdadi. Priorities of work consisted of setup and establish sleeping area, setup heavy drop rig site, and setup packing facility. The Airdrop (AD) Platoon established assembly line rigging in an austere location to accomplish their task to "Provide Airdrop Rigging Support." Utilizing a 22 ton crane and 10K forklifts, the AD Platoon rigged four HMMWV's and sixteen Container Delivery System (CDS) Bundles. The parachute pack platoon established a packing facility using one GP Large and one GP Medium tent to run two pack lanes. The pack platoon packed over four hundred T-10D personnel parachutes and 25 soft loop center pull reserve parachutes by running 24-hour operations. All of the personnel parachutes, CDS bundles, and airdrop loads were rigged for the Joint Forcible Entry Exercise (JFEX), formerly known as Large Package Week (LPW), for the month of April. All airborne operations were successful.

Phase IV (Sustainment Operations). During this phase, Echo Company provided support from Al Baghdadi to FOB Spartan with daily convoy operations and MHE support. The supply section was responsible for transporting rigged vehicles and packed parachutes to the departure airfield for storage until the day of operations.

Phase V (Re-Deployment). This phase began on March 23 upon receipt of the redeployment orders. All elements of Echo Company, 782D MSB departed Al Baghdadi (Sicily DZ) and returned to Ft. Bragg, North Carolina.

Lessons learned; These tasks are identical to our fellow Rigger units that are deployed in support of Operation Iraq Freedom/Operation Enduring Freedom (OIF/OEF). Pre-deployment *(continued page 13)*

The Nationals

Competition is often conceded to be the life-blood of sporting activities — including foot races, swimming, baseball, football, soccer, hockey, cricket, boxing, flying, ballooning; the list is long. Skydiving individuals and teams with competitive natures are no different.

Competition has been a part of parachuting since its beginnings in the 1920s. Informal dares at first — "I'll bet you a beer I can land closer to the target than you can!" led to one-on-one accuracy showdown leaps made by a couple of parachutists, to see who could land closest to a predetermined target on the ground, mostly to satisfy themselves.

Those beer bets went on for some time. However, when exhibition jumps started being part of national air races as a drawing card to attract more paying spectators, organizers decided to have competition between the parachutists to make the air show more exciting for visitors. The air races drew large audiences, but the planes were often out of sight of watchers as aircraft raced around widely spaced pylons marking the race course. Parachute jumpers, on the other hand, would land in plain view of spectators!

In those days, competitors — generally men — had little canopy-handling knowledge or skills, and used hard-opening, body-bruising nonsteerable hemispheric dome-shaped canopies that were at the mercy of winds. Theirs was not a genteel activity.

Parachuting contests grew too larger group of jumpers as air shows became more popular and drew increasing numbers of spectators. An early competition was called a "jump to the line" contest. Lime was used to draw a broad line on the ground some 25 feet long a short distance from spectators. A parachutist's goal was to maneuver one's canopy to land near the target line, anywhere along the length of that line. A contest winner would have the shortest distance between the landing point and the line.

Without the benefit of easily steerable canopies (far in the future, following development of "sport parachuting"), a jumper could only attempt to "slip" a descending canopy in the direction of the target by forcefully pulling down any of the four harness "risers" (to which groups of suspension lines were attached), thereby pulling down part of the lower skirt of the canopy and allowing air to escape from inside the tilted canopy. That escaping air would then move the canopy in an opposite direction, providing horizontal canopy movement, and allow "slipping" a canopy in a desired direction. The procedure was primitive and difficult to perform skillfully.

As a jumper's parachuting experience increased the technique became easier to do, and target accuracy slowly improved. Later, targets became circular with a "dead center" disc in the middle, presenting a much more difficult task for parachute jumpers. The days of betting a beer on the closest distance were relegated to history. Cash from passing a hat among spectators — and later from show sponsors — was a better incentive.

From a half-dozen contestants in a single event on a two-day weekend in the early 1920s to numerous individual and team competitors in several disciplines and numerous events in 2004 clearly shows the liking for competition events and growing participants for modern U.S. national parachuting championships — and at similar international events, with categories for males and females at intermediate and advanced skill levels.

The United States Parachute Association (USPA) is America's self-regulating body for sport parachuting enthusiasts and for many FAA-Certified Senior and Master Parachute Riggers. Membership currently exceeds 34,000 annual and life members. The USPA Constitution defines one of its many roles is "to sanction skydiving competitions, to document officially all national and world skydiving records set by citizens of the U.S., and to select and train the United States Parachute Team for world competitions. The USPA's Skydiver's Competition Manual prescribes procedures by which national competitions are selected and conducted, how judges are rated, how records are set, and how teams are selected.

Currently, the USPA conducts National Skydiving championships in four categories: (a) Freefall Style and Accuracy Landings; (b) Formation Skydiving; (c) Canopy Formation; and (d) Artistic Events. The tests of skills for these events far exceed landing nearest to a long line scrawled on the bare ground or striving for a bullseye target.

Style and Accuracy are known as the classic competition events because they were the first used to prove parachuting abilities. Since the 1960s little has changed in determining winners. For Style competition a jumper leaves an airplane at 7,300 feet and in freefall does a prescribed sequence of four 360-degree turns and two back loops in the quickest time, penalized for over- and under-shooting maneuvers. For the Accuracy event, ten jumps are made from 3,000 feet. Under an open descending canopy a contestant maneuvers the canopy, aiming to strike a three-centimeter disc. Measurements are to 15 centimeters and the winner has the lowest cumulative score. (For the first eight jumps individuals can combine their scores with three other persons to submit a four-person score for a team accuracy event.)

Formation Skydiving is a team freefall jump during which designated formations (selected from a "dive pool") are performed by teams in sequential event categories for four-member teams (Open, Advanced, and Intermediate); and for ten-member and sixteen-member teams.

Canopy Formation calls for jumpers under open canopies to fly them in linked formations. Prescribed formations can have any number of canopies in such formations — from a couple to dozens. Categories include four-member Team Rotation (individuals changing positions within a formation) and Team Sequential (transitions to different formations).

Artistic Events include Freeflying in vertical freefall in head-down, stand-up, or sitting body positions, with transition movements, emphasizing fluid ballet-like moves; and Skysurfing, requiring sequential maneuvers during freefall, for compulsory and creative points, using short surfing boards for making spins and flips.

(The USPA also conducts annual National Collegiate Parachuting Championships in December; in the 2004 Nationals a two-class Canopy Piloting "test event" was held to fill eight available slots as U.S. representatives in the U.S. World Cup of Canopy Piloting in Florida during February.

Para-skiing originated in Europe to demonstrate mountain-area parachuting accuracy followed by donning skis to carry out a simulated rescue mission. Today the two activities are performed separately in sport events. International para-ski meets have been held since 1964 and World Championships since 1987.)

Worth noting is that all but one of the remarkable advances had effects on freefall parachuting, little of which can be seen in real time by spectators. They usually have to wait for videotapes made by freefall camera flyers accompanying competitors to be shown on monitors in judging sites and public viewing areas. However, accuracy landings done "in plain view of spectators!" lets watchers see smoothly maneuvered gliding parachutes bring intensely concentrating competitors to their three-centimeter targets. At events such as national championships a high-tech electronic pad — graduated from a "dead center 00" outward to 15 centimeters — has scores flashed onto a nearby display in 12-inch numbers, all as it occurs.

What's been described above only presents the highlights of current skydiving competitions. It took decades for competitors to experiment with and learn how to control their freefalling body positions so they had complete control in every high-speed falling attitude. The results have been outstanding achievements that make parachuting exciting and challenging for enthusiasts.

We are proud to feature articles by the renowned para-historian Jim Bates. His articles featured in this magazine provide a historical perspective on the evolution of Aerial Delivery.

Field Training Exercise (from page 11)

checklists of air items were complete and very critical to the success of the mission. The 782 MSB is committed to providing realistic exercises to ensure peace time training emulates combat operations. This

PFC Jack Perry packing a T10-D parachue

operation was a complete success due to the hard work and professionalism of the Officers, NCO's, and Soldiers of the Mighty Echo Company, 782D MSB and is true to the parachute rigger motto, I WILL BE SURE ALWAYS!!!

The Aerial Delivery Equipment Group would like to thank CW3 Frank Bowden (Division Parachute Office) and CW3 Cortez Frazier (Chief, Heavy Drop Rigging Site) for providing this article