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Airborne Systems

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AS AIRBORNE SYSTEMS

Combining the resources of the world's leading parachute companies

IRVIN AEROSPACE IRVIN-GQ IRVIN-CANADA PARA-FLITE

Airborne forces were created for lightning fast troop deployment anywhere on the battle front. Formations are only limited by the size and number of aircraft used in the assault and can drop a large capacity force on the enemy in a matter of minutes in an action known as *vertical envelopment.* Typical paratroopers in these airborne assaults use *non-steerable* parachutes to ensure they reach their designated target drop zone safely, quickly and without colliding with one another.

Other smaller units, such as the US Army's Special Forces drop behind enemy lines using *steerable* parachutes. These highly trained soldiers can steer their parachutes to specified target locations behind the enemy, even in total darkness. This capability makes them an especially lethal fighting force.

While training and weaponry technologies have made major changes on the battlefield, parachute technology has not changed much since the 1950's. Recent advances in parachute technology are dramatically reshaping the capabilities of airborne assaults. The company driving many of these new parachute technologies is Airborne Systems. Over the years, Airborne Systems has combined key parachute industry innovators such as the Irvin group of companies and Para-Flite. Combining these companies is bringing new technologies to the military airborne community.

Leslie Irvin, who made the first parachute jump from an airplane in 1919, with his company Irvin Aerospace, produced (T-4, T-5 & T-7) World War II parachutes to help the United States and her allies win the war. During the 1950's, Irvin produced the follow on generation of non-steerable parachutes for the U.S. Army, the T-10, which is still in use today.

This *Non-steerable* parachute technology is about to take a major leap forward with the introduction of the ATPS (Advanced Tactical Parachute System) by another Airborne Systems company; Para-Flite. With an equally impressive history of innovation, Para-Flite is the chief designer of this new generation of *non-steerable* parachute technology. The ATPS (T-11) system includes a complete, newly redesigned reserve parachute and integrated harness system that is suitable for the fifth percentile female to the 95th percentile male soldier. The new parachute will reduce the rate of descent by 25 percent from 21 feet

per second to an incredible rate of 18 feet per second. The T-11 is designed to have an average rate of decent 14% slower than the T-10D thus resulting in lower landing injury rates for jumpers. The decline in rate of descent will reduce the impact energy by almost 25% to lessen the potential for injury.

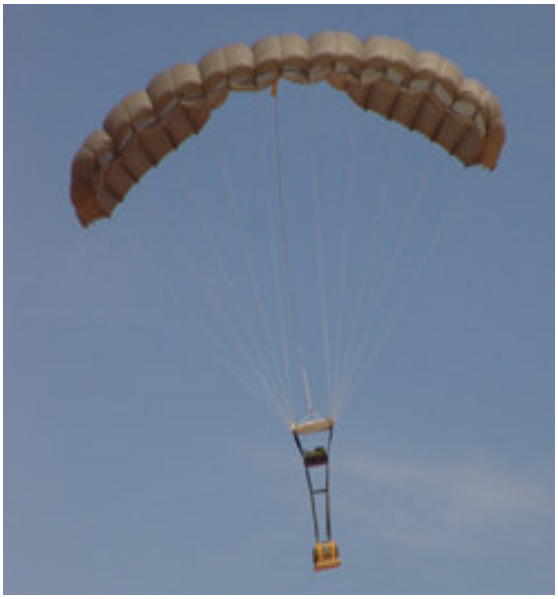
The main canopy is a highly modified version of a cross/ cruciform platform and has increased inflated diameter 14%, and a 28% increase in surface area when compared to the T-10D Assembly. The reserve canopy is a proven derivative of the British low level parachute (LLP) Aero-conical designed that includes apex scoop pockets of the top of the reserve canopy and skirt assist lines at the systems hem to provide fast opening of the reserve system during low speed malfunctions. Unlike the current reserve parachute system, the T-11R reserve is an omni-directional center pull deployment system. The T-11 harness, due to higher placement of the D-rings, is designed to displace the opening shock forces of the reserve parachute equally along the long axis of the jumper's body. Additionally the T-11 main canopy utilizes a slider to reduce the opening shock and control the opening of the canopy contributing to the dramatic reduction in canopy isolation.

Para-Flite is continuing to work with the U.S. Army to complete the testing requirements at Ft. Bragg this year. In December of 2006, the U.S. Army secured the design rights to revolutionary technology and plans to implement it over the next several years. The program is on track to begin the replacement of 52,000 T-10 parachute systems.

The U.S. Army has also made the technological leap to the next generation of *steerable* parachutes with the introduction of the MC-6 system. The MC-6 system is scheduled to begin replacement of the Army's current MC1-1C in large quantities beginning in 2007. The MC-6 system was developed through the Special Operations Forces Tactical Assault Parachute System (SOFTAPS) program and was specifically designed for precision infiltration of Airborne Forces. The MC-6 utilizes the same Irvin designed SF-10A canopy that has been in use by US Special Forces operations. In service for over ten years with over 90,000 jumps, the SF-10A has proven itself to be a safe and reliable design.

"We've standardized both the harness and reserve on both the MC-6 and T-11 so they are interchangeable" said David Roy, Program Manager at the U.S. Army Natick Soldier Center. "By standardizing some of the components, we will reduce inventory costs and space requirements".

While personnel parachutes are dramatically improving, moving troops to the ground, these airborne forces are typically light infantry that lack the supplies and equipment for prolonged combat operations. Therefore, they are more suited for short term objectives and operations rather than long-term occupation. To ensure the troops receive the necessary supplies to sustain their airhead, a variety of *cargo* parachutes have been developed. These include G-11, G-12 and G-14 parachutes which vary in size to allow for higher weight capacity. Multiple parachute canopies are often used to ensure increase weight, slow the rate of descent and ensure redundancy for the cargo.



Another innovation in *cargo* delivery has been developed by the Airborne Systems, Para-Flite division. The system, know as JPADS (Joint Precision Aerial Delivery System) utilizes GPS (Global Positioning Systems) to “steer” the cargo to the target location. Para-Flite has developed a series of these precision cargo delivery systems for use with varying weights and sizes and has standardized the software platform. With this “family” approach, the user interface on the Autonomous Guidance Units and the Mission Planer are identical for Para-Flite’s MicroFly (100-800 lb), FireFly (1,000-2,200 lb), and DragonFly (8,000-10,000 lb). This commonality ensures optimal system performance and minimizes user training requirements.

Airborne Systems is one of the largest parachute manufacturers in the world and is proud to support the men and women of our Armed Forces. Recognized for their innovation, quality and reliability, more information on the Airborne Systems group of companies and their products can be found at www.airbornesystemsgroup.com