

New Airborne System to Save Soldiers' Lives

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Jumping out of a plane may be a routine part of an airborne Soldier's training, but if the equipment doesn't function properly, it can be deadly.

"Generally, there are a handful of towed jumpers per year, which can be potentially dangerous situations," said Samuel Corner, project manager for the U.S. Army Research, Development and Engineering Command (RDECOM) Soldier Center Aerial Delivery Directorate.

Until recently, there were two ways to help a towed jumper, which occurs when the static line attached to the aircraft anchor cable becomes tangled with the jumper and/or the equipment and the parachute is not released — cut the jumper's static line so the Soldier can deploy his or her reserve parachute or pull the Soldier back into the aircraft. Both scenarios are dangerous because the Soldier is dragged alongside or behind the aircraft until he is either released or pulled into the aircraft.

In March 2017, in an effort to eliminate the possibility of a towed jumper situation, the Aerial Delivery Directorate's Airdrop Technology team submitted a project proposal to the U.S. Army Foreign Comparative Testing Program, which is embedded in RDECOM's Global Technology Office, as part of their annual call for proposals. The proposal was selected, enabling the Airdrop Technology Team to purchase 10 Hung Up Parachutist Release Assemblies (HUPRA) from the United Kingdom company IrvinGQ (formally Airborne Systems Europe) for tests and evaluation.

The HUPRA, which includes an emergency parachute that is released once the jumpmaster cuts the aircraft anchor line cable, is used by the UK as well as other nations on C-130 and other military aircraft. By purchasing the system from the UK, the Army saved approximately \$500,000 in non-recurring engineering costs and additional costs to develop, integrate, and validate a new recovery system.

The tests, which were conducted at Yuma Proving Ground (YPG), AZ, used mannequins that "jumped" out from the aircraft's side doors and ramp. The testing was conducted on C-130 aircraft and divided into seven phases; minor changes were made to the system after the first phase was completed.

A complete developmental test was performed on the Towed Jumper Recovery System (TJRS — the Army name for the slightly modified HUPRA) at YPG, including aircraft procedures development, safety evaluation, rigging procedure development, and performance testing.



This series of photos shows a simulated towed jumper scenario with a mannequin that is towed behind an aircraft. The Towed Jumper Recovery System includes an emergency parachute that is released once the jumpmaster cuts the aircraft anchor line cable. (U.S. Army photos)

While standard operating procedures (SOPs) were developed based on the C-130 aircraft that was used during testing, another set of SOPs will be developed for C-17 aircraft, which is a much larger aircraft that the Army uses. “The TJRS program has been positively briefed to the Army Airborne Board,” Corner said. “The next step is to work with the board and TRADOC (U.S. Army Training and Doctrine Command) to develop a formal requirement for a jumper recovery system. After that, the project will transition to PM Soldier Clothing and Individual Equipment, under PEO Soldier.”

Read more at https://www.army.mil/article/209863/new_airborne_system_to_save_soldiers_lives.