



WIRELESS GATE RELEASE SYSTEM (WGRS)

OVERVIEW:

The Wireless Gate Release System (WGRS) is an in-aircraft method to command the release of 1 – 16 individuals, 500 – 2400 pound Container Delivery System (CDS) bundles airdropped using unguided or guided airdrop systems.

The WGRS is needed to improve the precision delivery of Container Delivery System (CDS). Historically, malfunctions (off-Drop Zone, load fails to exit) are attributed to the static line retriever winch issues (C-130), dull guillotine knives, cable quick release entanglement with container webbing and premature gate cutting due to load shift against the Type XXVI nylon release gates. WGRS eliminates these risks, reduces aircraft rigging time by 45 minutes and provides a more automated process vs manned JPADS separation, and passive deconfuction.

NSRDEC conceived and managed through Rapid Fielding with USTRASCOM and USAF funding. WGRS is now a USAF program of record.

DESCRIPTION:

There are three components to the WGRS:

The **MCS** is a handheld device used by the Loadmaster to communicate with the WGRMs. This allows the Loadmaster to release the CDS bundles or check the communications or battery status of each WGRM. It allows for the Loadmaster to have full control of payload releases without having to move around in the cargo compartment.

The **WGRMs** are used to restrain each individual CDS bundle. One end clips into the aircraft floor while the other holds a loop of one inch tubular nylon. The WGRMs communicate with the MCS and receive release commands via wireless communication.

The **RA** is a modified Van Zelm ratchet with a divider for the one inch tubular nylon and an extension for the floor hook. This allows each CDS bundle to be individually tightened.

Using WGRS for CDS airdrop operations makes the C-130 Static Line Retriever obsolete and decreases malfunctions, thus increasing airdrop reliability and safety. Use of WGRS eliminates the need for the Loadmaster to access each bundle during the drop, increasing their safety. Additionally, the maximum number of guided payload bundles is doubled (from 8-16 C-130H from 12-24 C-130J) by using WGRS and reduces the number of sorties required to be flown by 50%.

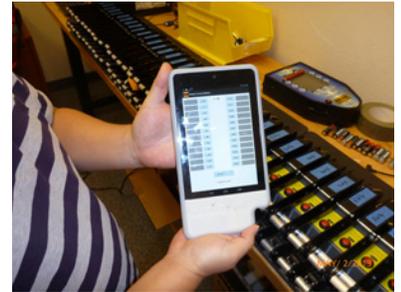
POINT OF CONTACT:

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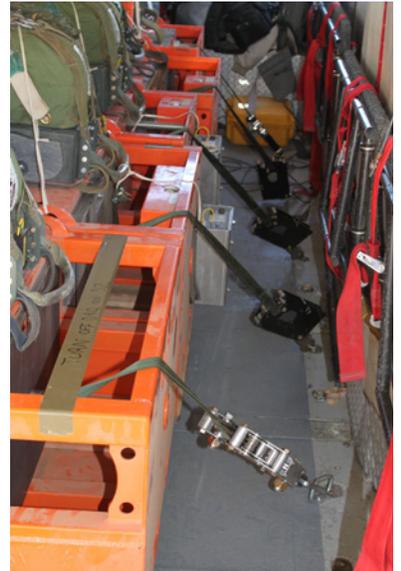
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UNCLASSIFIED



Master Control Station



Wireless Gate Release Mechanism



Ratchet Assembly