Cargo Airdrop Overview
Parachute Industry Association Meeting

Reno, NV
10 Feb 2009

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Equipment Specialist
PM-FSS Cargo Aerial Delivery Team
Agenda

• Organization/Mission
• Program Updates
  • Joint Precision Aerial Delivery System (JPADS) 2K/10K
  • Low Cost Airdrop System (LCADS)
  • Low Cost Low Altitude (LCLA) Airdrop System
  • Advanced Low Velocity Airdrop System (ALVADS) Blocks
    • Advanced Cargo Parachute Release (ACPRS)
    • ALVADS – Light
    • ALVADS - Heavy
    • Rapid Rigging & Derigging Airdrop System (RRDAS)
Organization

PM Force Sustainment Systems

Program Executive Officer
Combat Service & Combat Service Support

Program Manager
Force Projection

Warren/SANG, MI

Natick, MA

Product Manager
Force Sustainment Systems

CARGO AERIAL DELIVERY TEAM
Airdrop APM – Maj Paul Mazure
Team Leader – Gary Thibault

Matrixed Team

Natick Soldier Research Development & Engineering Center
Aerial Delivery & Equipment Systems Division
What We Do

PM Force Sustainment Systems

AERIAL DELIVERY

FORCE PROVIDER

FIELD SERVICES

SHELTER SYSTEMS

FIELD FEEDING
**Cargo Aerial Delivery Team** is the Army’s life cycle manager with responsibility for development, fielding and sustainment of cargo aerial delivery systems and items to support mass airborne assaults, aerial re-supply, special operations, deep-strike concepts and humanitarian relief with improved accuracy and reliability, increased payloads, improved safety and efficiency, and increased operational flexibility.
DESCRIPTION:
- Autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment
- Utilizes two primary components: a decelerator and an Autonomous Guidance Unit (AGU), which interface with the USAF JPADS mission planner

STATISTICS:
- Weight – 150 lbs.
- Max Payload – 2,400 lbs
- Release Altitude – 5,000-25,000 ft
- Surface Area – 1025 ft²
- Offset – >20Km

STATUS:
- Under Contract to Airborne Systems North America
- Systems Urgently Fielded to OEF in Sep 08
- Full Rate Production Decision Expected Mar 09
JOINT PRECISION AIRDROP SYSTEM 10,000 lbs
(JPADS 10K)

• DESCRIPTION:
  – Autonomously navigates along a predetermined glide and flight path to accurately deliver supplies and equipment.
  – Utilizes two primary components: JPADS 10K air vehicle’s decelerator connected to an Autonomous Guided Unit (AGU), which interface with the USAF JPADS Mission Planner. Additionally, it will utilize either an ECDS, 463L pallet or Type V platform.

• STATISTICS:
  – Weight – 427 lbs
  – Max Payload – 10,000 lbs
  – Release Altitude – 5,000-25,000 ft
  – Surface Area – 3,470 ft²
  – Offset – >20Km

• STATUS
  – Under contract to Airborne Systems North America
  – Currently in Development – Production Decision
  – Expected FY 11
LOW COST AERIAL DELIVERY SYSTEM (LCADS)
One Time Use/Expendable Systems

• LOW COST CONTAINER (LCC):
  – Reduces costs by at least 55% over current CDS
  – 2,200 lb. load capacity
  – Delivers serviceable load in 13-knot ground winds

• Low-V & Hi-V:
  – Pre-packed by the manufacturer
  – Simple design, easy to build, able to meet surge requirements
  – Broad manufacturing base
  – Performance Similar to 26-Ft High Velocity and G-12 Low Velocity Parachutes
Low Cost Aerial Delivery System (LCADS)
Low Cost Container (LCC)

- Based on design of A-22 cargo container
- Uses polypropylene webbing
- Over 300 tests performed @ 500 - 2,200 lbs between 15K- 25K feet altitude

New RFP Expected Mar 09
PM Force Sustainment Systems

Low Cost Aerial Delivery System (LCADS)
High Velocity Parachute

- 3-ft wide woven polypropylene strips
- 12 “legs” stitched in triple cross design made of polypropylene used in agriculture and other common applications.
- Nylon rope suspension lines

- 2,200-lbs capacity, 15-25K feet alt.
- Descent velocity 70-90 feet/second

IDIQ Contract Award Pending
Low Cost Aerial Delivery System (LCADS)
Low Velocity Parachute

- Scaled-up version of the HV triple-cross parachute
- Woven polypro 2.7 oz
- 5 legs each side
- Crown 30-ft x 30-ft
- Pre-packed for single time use

- Uses chute-first deployment method to reduce altitude loss.
- 160-lbs
- Descent velocity less than 28 ft/sec

RFP Currently On Street
Closes 12 Feb 09
LOW COST LOW ALTITUDE (LCLA) PARACHUTE:

- Designed to provide very low-altitude aerial re-supply capability to deployed units using small fixed wing and rotary wing aircraft.
- Consists of the following four systems: T-10 Cargo, T-10R, Single Cross, and Triple Cross Parachutes.
- 80-450 lb rigged weight at 150-300 ft AGL

Potential Future Contracts in CY09/10 for T-10/T-10R Packing/Packaging

Cross Parachute Currently in Production on 5 Yr IDIQ Contract
ADVANCED LOW VELOCITY AIRDROP SYSTEM (ALVADS)

• ADVANCED CARGO PARACHUTE RELEASE SYSTEM (ACPRS)
  – Designed to release cargo parachutes on ground impact
  – Replaces existing M-1 and M-2 cargo parachute releases
  – Improves load survivability
  – Airdrop loads at 500 ft AGL

• ALVADS:
  – Light & Heavy—capable of operations at an altitude of 500 ft AGL, increased aircraft survivability, improved accuracy
  – Light—Gross rigged weight of 2,520 - 22,000 lbs.
  – Heavy—Gross rigged weight of 22,001 - 42,000 lbs.
• RAPID RIGGING DE-RIGGING AIRDROP SYSTEM (RRDAS):
  - Creates a roll-on and roll-off capability for rolling stock
  - Reduces exposure time on the drop zone
  - Reduces reliance on energy-dissipating material (Honeycomb), thus reducing rigging and de-rigging time