



U.S. ARMY

## Parachute Industry Association (PIA) Government Systems Committee Update

Personnel Airdrop Systems Team

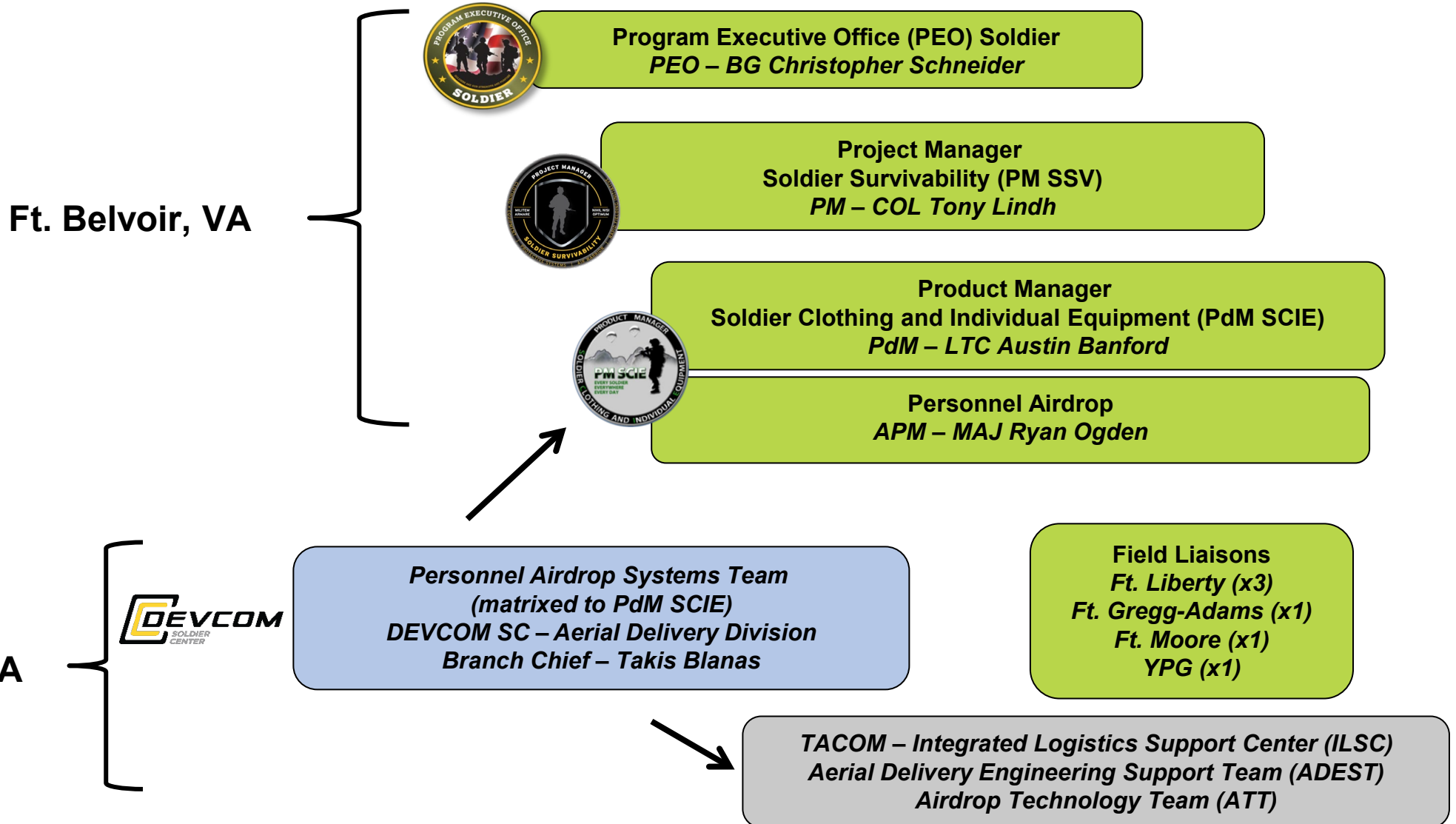
MAJ Ryan Ogden, APM Personnel Airdrop

22 February 2024

APPROVED FOR PUBLIC RELEASE



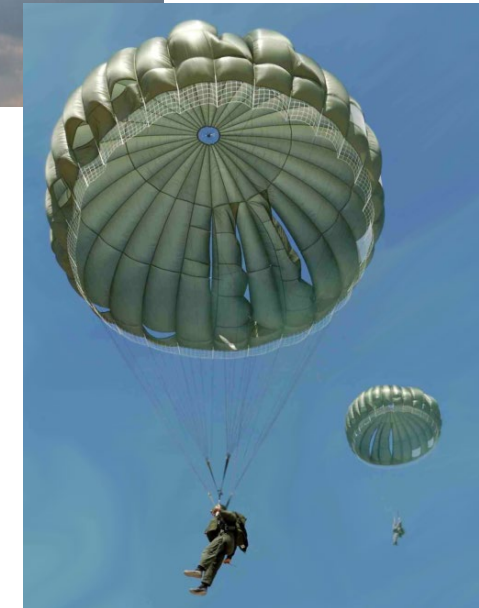
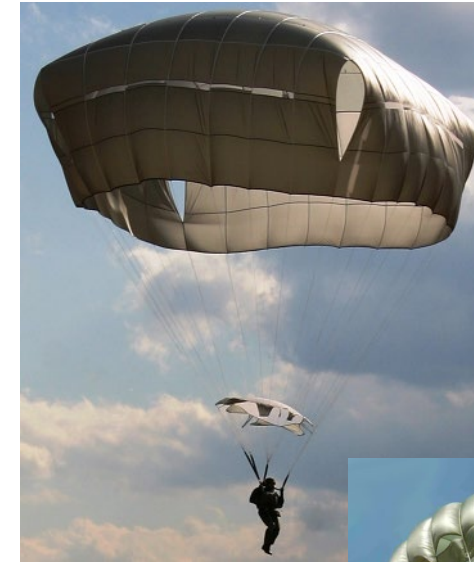
# Personnel Airdrop Organization





# Advanced Tactical Parachute System (ATPS)

- **T-11: Static Line, Non-Maneuverable Troop Parachute**
  - Low rate of descent (18 fps)
  - Capable of supporting 400 lbs. Total Jumper Weight
  - Low oscillation
  - Service life extended to 14 years except for 507<sup>th</sup> due to high use frequency
- **MC-6: Static Line, Maneuverable Troop Parachute**
  - Low rate of descent (18 fps)
  - Capable of supporting 400 lbs. Total Jumper Weight
  - Excellent canopy control and maneuverability
  - Service life extended to 14 years
- Life Cycle Replacement (LCR) fielding under way for both T-11 and MC-6 systems going out of service life
- T-11: PdM SCIE multi-year contract awarded July 2019
  - Contract allows for on-ramping other vendors. Next opportunity 24 July 2025 – 23 July 2026
- MC-6: PdM SCIE multi-year contract awarded June 2020
  - Contract allows for continuous on-ramping when a new vendor is OPL qualified





# T-11 Main Modification

- Cross Corner Inversion (CCI) is an irregular canopy inflation after the deployment sleeve separates from the main canopy
  - Corner arm material crosses over to another portion of canopy, creating bubble-like distortion which disrupts normal deployment sequence
  - Infrequent in occurrence, consequences could be catastrophic if paratrooper does not activate reserve
- Materiel modification under evaluation
  - Introduces one 30-inch slit per gore at the skirt of the canopy along with four horizontal slits and eliminates the slider (proposed by ASNA)
  - Multi-phase testing to include DT and OT (mannequins and test jumper phase) with approximately 3,300 jumps prior to field implementation
  - Mannequin phase projected completion by 4QFY24, live test jumps by FY27
  - Includes comparative malfunction drops with standard T-11 vs. T-11 CCI mod
- **Potential to meet field's Next Generation Static Line intent**
  - Preliminary test results show a performance improvement in altitude loss to full open (faster opening), rate of descent, increased situational awareness due to faster opening, and resistance to CCI



- Anti-Inversion Slits on the T-11  
- Slider removed

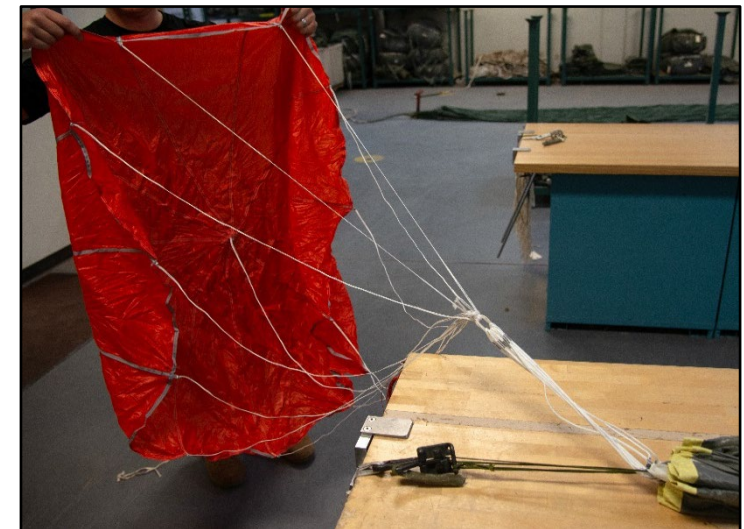


# T-11 Reserve Single Pin (T-11R-SP)

- Modification consists of new pack tray assembly, ripcord assembly, and extractor assembly
  - Pack tray and ripcord mitigate risk of inadvertent activation due to high-speed windblast
  - Extractor modification addresses premature extractor release for 400 LB total rigged weight - no main malfunction
  - Pack tray incorporates features to accommodate future Static Line Automatic Activation Device (SLAAD)
- Implemented via Ground Safety Advisory (GSA) released 7 Jun 22
- Initial phase of fielding retrofit kits targets at-risk population: jumpmasters and #1 jumpers pushing door bundles
- Fielding began Mar 22 and will continue as the T-11R SP retrofit kits are delivered (~12,500 fielded to date)
- Will be fielded with lifecycle replacement (LCR) once PdM legacy stocks are depleted
- Modification being trained using a Train the Trainer approach
  - Allows for representatives from airborne units to receive training and return to train other riggers/jumpmasters at home station
  - NET being held at airborne conferences and at units on as needed request



T-11R New Pack Tray



Modified Extractor Parachute



# Static Line Automatic Activation Device (SLAAD)

- Addresses capability gap to automatically deploy Static Line Reserve in case of jumper incapacitation or loss of altitude awareness
- Initiates reserve parachute activation if necessary to prevent injury and/or death during static line parachute operations
- Provisions in new T-11R-SP pack tray design for a SLAAD without interference
- Concept of Operation
  - **Fire Scenario:** Jumper **Out** of the Aircraft with main parachute malfunction
  - **No-Fire scenarios:** **Towed** Jumper and **In-Aircraft** Jumper
- Acquisition approach incorporates competitive source selection between a Government effort and any Commercially available system
- Request For Information to Industry published 30 Jan 24
- Follow on solicitation for proposals in 3QFY24
- Functionality testing effort to demonstrate system operation in fire and no-fire scenarios and continue technology maturation
  - Phase 1: CASA aircraft in Hearne, TX (completed Aug 2023, validated Government SLAAD design in all test scenarios)
  - Phase 2: C-130 aircraft in Yuma, AZ (planned for 4QFY24)
- Design Validation (DV) effort by Yuma Test Center (YTC) to demonstrate system functionality on final design and establish readiness to enter Developmental Testing (DT)
  - Full testing of all operational conditions for static line operations on USAF C-130
  - DV results will support source selection final downselect to one system





# Parachutist Emergency Release System (PERS)

- Allows for the safe release of a static line jumper in the event that they become towed
- Incorporate a towed jumper detection system
- Materiel Development Decision (MDD) received in August 2021 - approval for initiation of formal program of record (PoR)
- Executed excursion lifts May 23, and ground demonstrations Aug 23 to evaluate PERS for C-130 ramp and troop door deployment with 20 or more jumpers
  - Identified integration issues with aircraft in operational environment
- Released Request for Information 28 Sep 23 seeking capability for identification of towed jumper and integration with aircraft anchor line to allow for deployment of PERS
  - Reviewing proposed in-house and solutions from industry responses
- Projected Timeline
  - Developmental/Operational Testing: FY24-FY25
  - First Unit Equipped (FUE): FY26



PERS



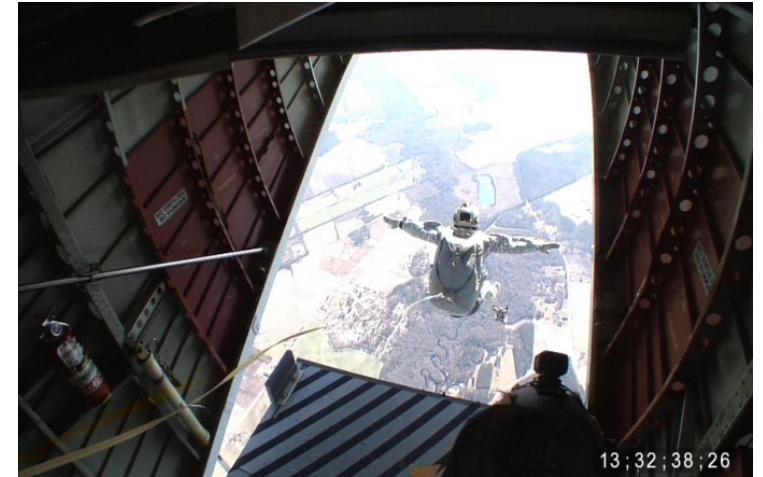
Towed Jumper

PERS Deployed



# RA-1 Advanced Ram Air Parachute System (ARAPS)

- High performance ram air parachute system used to infiltrate small teams into denied areas using High Altitude Low Opening (HALO) and stand-off techniques
- Enhanced canopy performance allows for increased stand-off, thus decreasing aircraft vulnerability
- Enables parachutist to safely carry increased combat load and operate at higher altitudes (450 lbs AUW at 25,000 MSL)
- Lift to Drag Ratio 4:1
- Three methods of deployment:
  - Bottom of the Container (BOC)
  - Over the Shoulder (OTS)
  - Double Bag Static Line (DBSL)
- Next rebuy for LCR systems to initiate in FY25
- RFI to industry in FY24 and Request For Proposal in FY25







# Military Altimeter (MA-1)

- Need exists for an updated, ruggedized MFF altimeter with improved accuracy, data logging and ease of use
- Requirement for Military Altimeter (MA-1) approved January 2021
- Earlier evaluation show that several commercially available altimeters exist meeting User requirements:
  - Assessment for Form, Fit and Function
  - Wind Tunnel testing
  - Altitude Chamber testing
  - Electromagnetic (MIL STD 461) testing
  - Environmental (MIL STD-810) testing
  - User Assessments – Live Jumps
- RFI to Industry projected to be released 2QFY24



# Parachutist Oxygen Delivery System (PODS)

- Parachutist's requirements for oxygen increased for extended High Altitude and stand-off missions
- Enhanced capacity oxygen delivery system is required to support High Altitude and stand-off extended duration missions
- Requirement for PODS approved October 2020
- PODS will consist of five (5) components
  - Individual Oxygen Source
  - Transfer Pump
  - Pre-Breather
  - Parachutist Oxygen Mask
  - System Test Device
- Request for Information to Industry released on 14 Nov 23
  - In the process of reviewing industry responses





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